

TOPASeq-report.R

maneat

Fri Oct 30 10:08:51 2015

```
### R code from vignette source 'ToPASeq.Rnw'

#####
### code chunk number 1: ToPASeq.Rnw:66-70
#####
library(ToPASeq)
```

```
## Loading required package: graphite
## Loading required package: BiocGenerics
## Loading required package: parallel
##
## Attaching package: 'BiocGenerics'
##
## The following objects are masked from 'package:parallel':
##
##     clusterApply, clusterApplyLB, clusterCall, clusterEvalQ,
##     clusterExport, clusterMap, parApply, parCapply, parLapply,
##     parLapplyLB, parRapply, parSapply, parSapplyLB
##
## The following objects are masked from 'package:stats':
##
##     IQR, mad, xtabs
##
## The following objects are masked from 'package:base':
##
##     anyDuplicated, append, as.data.frame, as.vector, cbind,
##     colnames, do.call, duplicated, eval, evalq, Filter, Find, get,
##     grep, grepl, intersect, is.unsorted, lapply, lengths, Map,
##     mapply, match, mget, order, paste, pmax, pmax.int, pmin,
##     pmin.int, Position, rank, rbind, Reduce, rownames, sapply,
##     setdiff, sort, table, tapply, union, unique, unlist, unsplit
##
## Loading required package: gRbase
## Loading required package: graph
## Loading required package: locfit
## locfit 1.5-9.1    2013-03-22
## Loading required package: Rgraphviz
## Loading required package: grid
```

```
pathways<-pathways("hsapiens", "kegg")[1:5]
pathways[[1]]
```

```
## "Acute myeloid leukemia" pathway
## Native ID      = hsa:05221
## Database       = KEGG
## Species        = hsapiens
## Type of identifiers = ENTREZID
## Number of nodes   = 57
## Number of edges    = 177
## Retrieved on     = 07-10-2015
```

```
str(pathways[[1]])
```

```
## Formal class 'Pathway' [package "graphite"] with 7 slots
## ..@ id      : chr "hsa:05221"
## ..@ title   : chr "Acute myeloid leukemia"
## ..@ edges   : 'data.frame': 177 obs. of 4 variables:
## ... $ src    : chr [1:177] "10000" "10000" "10000" "10000" ...
## ... $ dest   : chr [1:177] "1147" "1147" "2475" "2475" ...
## ... $ direction: Factor w/ 1 level "directed": 1 1 1 1 1 1 1 1 1 ...
## ... $ type    : chr [1:177] "Process(activation)" "Process(phosphorylation)" "Pr
ocess(activation)" "Process(phosphorylation)" ...
## ..@ database : chr "KEGG"
## ..@ species  : chr "hsapiens"
## ..@ identifier: chr "ENTREZID"
## ..@ timestamp: Date[1:1], format: "2015-10-07"
```

```
#####
### code chunk number 2: ToPASeq.Rnw:120-121
#####
options(width=60)
```

```
#####
### code chunk number 3: lib
#####
library(ToPASeq)
library(DEGraph)
```

```
## Loading required package: R.utils
## Loading required package: R.oo
## Loading required package: R.methodsS3
## R.methodsS3 v1.7.0 (2015-02-19) successfully loaded. See ?R.methodsS3 for help.
## R.oo v1.19.0 (2015-02-27) successfully loaded. See ?R.oo for help.
##
## Attaching package: 'R.oo'
##
## The following object is masked from 'package:gRbase':
##
##      compile
##
## The following objects are masked from 'package:methods':
##
##      getClasses, getMethods
##
## The following objects are masked from 'package:base':
##
##      attach, detach, gc, load, save
##
## R.utils v2.1.0 (2015-05-27) successfully loaded. See ?R.utils for help.
##
## Attaching package: 'R.utils'
##
## The following object is masked from 'package:utils':
##
##      timestamp
##
## The following objects are masked from 'package:base':
##
##      cat, commandArgs, getopt, inherits, isOpen,
##      parse, warnings
```

```
data(Loi2008_DEGraphVignette)
pathways<-pathways("hsapiens", "kegg")[1:5]
ls()
```

```
## [1] "annLoi2008"    "classLoi2008" "exprLoi2008"
## [4] "grListKEGG"    "pathways"
```

```
#####
### code chunk number 4: ToPASeq.Rnw:142-174 (eval = FALSE)
#####
## top<-TopologyGSA(exprLoi2008, classLoi2008, pathways, type="MA", perms=200)
## #99 node Labels mapped to the expression data
## #Average coverage 31.47657 %
## #0 (out of 5) pathways without a mapped node
## #Acute myeloid leukemia
## #Adherens junction
## #Adipocytokine signaling pathway
## #Adrenergic signaling in cardiomyocytes
## #African trypanosomiasis
## res(top)
## #$results
## #
## #                                         t.value df.mean1 df.mean2 p.value
## #Acute myeloid leukemia           3024.796    30     224      0
## #Adherens junction              1102.830    10     244      0
## #Adipocytokine signaling pathway 3196.432    25     229      0
## #Adrenergic signaling in cardiomyocytes 2178.476    26     228      0
## #African trypanosomiasis       1404.259     8     246      0
## #
## #                                         Lambda.value df.var p.value.var
## #Acute myeloid leukemia          213.01437   156 1.649509e-03
## #Adherens junction              39.92094    10 1.749659e-05
## #Adipocytokine signaling pathway 192.81336   121 3.595452e-05
## #Adrenergic signaling in cardiomyocytes 169.47418   80 2.211953e-08
## #African trypanosomiasis        13.02808    12 3.670031e-01
## #
## #                                         qchisq.value var.equal q.value
## #Acute myeloid leukemia          186.14575    1      0
## #Adherens junction              18.30704    1      0
## #Adipocytokine signaling pathway 147.67353    1      0
## #Adrenergic signaling in cardiomyocytes 101.87947    1      0
## #African trypanosomiasis        21.02607    0      0
## #
## #$errors
## #named List()

#####
### code chunk number 5: ToPASeq.Rnw:184-186
#####
deg<-DEGraph(exprLoi2008, classLoi2008, pathways, type="MA")
```

```
## 98 node labels mapped to the expression data
## Average coverage 31.36501 %
## 0 (out of 5) pathways without a mapped node
```

```
## 0 pathways were filtered out
```

```
## 0 denoted as 0
## 1 denoted as 1
## Contrasts: 1 - 0
```

```
res(deg)
```

```

## $results
## $results[[1]]
##                                         Overall.p
## Acute myeloid leukemia          0.026081586
## Adherens junction              NA
## Adipocytokine signaling pathway  0.008440407
## Adrenergic signaling in cardiomyocytes 0.057391182
## African trypanosomiasis       0.234212387
##                                         Overall.q.value
## Acute myeloid leukemia          0.05216317
## Adherens junction              NA
## Adipocytokine signaling pathway  0.03376163
## Adrenergic signaling in cardiomyocytes 0.07652158
## African trypanosomiasis       0.23421239
##                                         Comp1.p
## Acute myeloid leukemia          0.09184337
## Adherens junction              NA
## Adipocytokine signaling pathway  0.03920983
## Adrenergic signaling in cardiomyocytes 0.15382925
## African trypanosomiasis       0.04727610
##                                         Comp1.pFourier
## Acute myeloid leukemia          0.026081586
## Adherens junction              NA
## Adipocytokine signaling pathway  0.008440407
## Adrenergic signaling in cardiomyocytes 0.057391182
## African trypanosomiasis       0.234212387
##                                         Comp1.k      Comp2.p
## Acute myeloid leukemia          4 0.006982534
## Adherens junction              NA      NA
## Adipocytokine signaling pathway  1      NA
## Adrenergic signaling in cardiomyocytes 3 0.492055041
## African trypanosomiasis       1      NA
##                                         Comp2.pFourier
## Acute myeloid leukemia          0.0004994694
## Adherens junction              NA
## Adipocytokine signaling pathway  NA
## Adrenergic signaling in cardiomyocytes 0.7744589408
## African trypanosomiasis       NA
##                                         Comp2.k
## Acute myeloid leukemia          1
## Adherens junction              NA
## Adipocytokine signaling pathway  NA
## Adrenergic signaling in cardiomyocytes 1
## African trypanosomiasis       NA
## 
## $results$graphs
##                                         Comp1.graph
## Acute myeloid leukemia          ?
## Adherens junction              NA
## Adipocytokine signaling pathway  ?
## Adrenergic signaling in cardiomyocytes ?
## African trypanosomiasis       ?
##                                         Comp2.graph

```

```

## Acute myeloid leukemia ?
## Adherens junction NA
## Adipocytokine signaling pathway NA
## Adrenergic signaling in cardiomyocytes ?
## African trypanosomiasis NA
##
##
## $errors
## named list()

```

```

#####
### code chunk number 6: ToPASeq.Rnw:197-226 (eval = FALSE)
#####
## cli<-clipper( exprLoi2008, classLoi2008, pathways, type="MA", method="mean" )
## #99 node Labels mapped to the expression data
## #Average coverage 31.47657 %
## #0 (out of 5) pathways without a mapped node
## #0 pathways were filtered out
## #Analysing pathway:
## #
## #Acute myeloid leukemia
## #Adherens junction
## #Adipocytokine signaling pathway
## #Adrenergic signaling in cardiomyocytes
## #African trypanosomiasis
## #0 denoted as 0
## # 1 denoted as 1
## # Contrasts: 1 - 0
## #Warning messages:
## #1: In getJunctionTreePaths(graph, root) :
## # The DAG presents cliques that are not connected.
## #2: In prunePaths(clipped, pruneLevel) : pathSummary is NULL
## #3: In getJunctionTreePaths(graph, root) :
## # The DAG presents cliques that are not connected.
## #4: In prunePaths(clipped, pruneLevel) : pathSummary is NULL
## res(cli)$results[[1]]
## #
alphaVar alphaMean mean.q.value var.q.value
## #Acute myeloid leukemia 0.735 0.009 0.0150 0.91875
## #Adherens junction 0.101 0.022 0.0275 0.26500
## #Adipocytokine signaling pathway 0.656 0.001 0.0050 0.91875
## #Adrenergic signaling in cardiomyocytes 0.106 0.061 0.0610 0.26500
## #African trypanosomiasis 0.953 0.007 0.0150 0.95300

```

```

#####
### code chunk number 7: ToPASeq.Rnw:237-239
#####
spic->SPIA(exprLoi2008, classLoi2008, pathways , type="MA", logFC.th=-1)
```

```

## 0 denoted as 0
## 1 denoted as 1
## Contrasts: 1 - 0
```

```
## Found 40 differentially expressed genes
```

```
## 98 node labels mapped to the expression data
## Average coverage 31.36501 %
## 0 (out of 5) pathways without a mapped node
```

```
## 0 pathways were filtered out
```

```
## 0 denoted as 0
## 1 denoted as 1
## Contrasts: 1 - 0
```

```
res(spi)
```

```
## $results
##                                     pSize NDE   pNDE
## Acute myeloid leukemia           30    5 0.643
## Adherens junction               10    3 0.249
## Adipocytokine signaling pathway  25    8 0.049
## Adrenergic signaling in cardiomyocytes 25    4 0.679
## African trypanosomiasis        8     3 0.150
##                                     tA pPERT   pG
## Acute myeloid leukemia          -0.497 0.284 0.493
## Adherens junction              -0.265 0.604 0.435
## Adipocytokine signaling pathway  0.153 0.674 0.146
## Adrenergic signaling in cardiomyocytes -0.310 0.522 0.722
## African trypanosomiasis        -0.068 0.926 0.413
##                                     pGFdr pGFWER
## Acute myeloid leukemia          0.61625 1.00
## Adherens junction              0.61625 1.00
## Adipocytokine signaling pathway  0.61625 0.73
## Adrenergic signaling in cardiomyocytes 0.72200 1.00
## African trypanosomiasis        0.61625 1.00
##                                     Status
## Acute myeloid leukemia          Inhibited
## Adherens junction              Inhibited
## Adipocytokine signaling pathway Activated
## Adrenergic signaling in cardiomyocytes Inhibited
## African trypanosomiasis        Inhibited
## 
## $errors
## named list()
```

```
#####
### code chunk number 8: ToPASeq.Rnw:254-256
#####
tap<-TAPPA(exprLoi2008, classLoi2008, pathways, type="MA")
```

```
## 98 node labels mapped to the expression data  
## Average coverage 31.36501 %  
## 0 (out of 5) pathways without a mapped node
```

```
## 0 pathways were filtered out
```

```
## 0 denoted as 0  
## 1 denoted as 1  
## Contrasts: 1 - 0
```

```
res(tap)
```

```

## $results
## X0.N X0.Min.
## Acute myeloid leukemia 68 -0.2909
## Adherens junction 68 -0.1521
## Adipocytokine signaling pathway 68 -0.3464
## Adrenergic signaling in cardiomyocytes 68 -0.1848
## African trypanosomiasis 68 -0.2150
## X0.1st.Qu. X0.Median
## Acute myeloid leukemia -0.07893 0.034980
## Adherens junction -0.05562 -0.021800
## Adipocytokine signaling pathway -0.13940 -0.002325
## Adrenergic signaling in cardiomyocytes -0.06417 0.006781
## African trypanosomiasis -0.08672 -0.037130
## X0.Mean X0.3rd.Qu.
## Acute myeloid leukemia 0.019060 0.12270
## Adherens junction -0.016930 0.02244
## Adipocytokine signaling pathway -0.011370 0.09997
## Adrenergic signaling in cardiomyocytes -0.007017 0.04800
## African trypanosomiasis -0.023710 0.03819
## X0.Max. X1.N X1.Min.
## Acute myeloid leukemia 0.3199 187 -0.4077
## Adherens junction 0.1334 187 -0.1536
## Adipocytokine signaling pathway 0.3573 187 -0.4469
## Adrenergic signaling in cardiomyocytes 0.1527 187 -0.2247
## African trypanosomiasis 0.1801 187 -0.2400
## X1.1st.Qu.
## Acute myeloid leukemia -0.15430
## Adherens junction -0.03624
## Adipocytokine signaling pathway -0.12690
## Adrenergic signaling in cardiomyocytes -0.05528
## African trypanosomiasis -0.05886
## X1.Median X1.Mean
## Acute myeloid leukemia -0.0490500 -0.046460
## Adherens junction -0.0027600 -0.006503
## Adipocytokine signaling pathway 0.0009355 0.008730
## Adrenergic signaling in cardiomyocytes -0.0147700 -0.014400
## African trypanosomiasis -0.0036970 0.010750
## X1.3rd.Qu. X1.Max.
## Acute myeloid leukemia 0.06715 0.3696
## Adherens junction 0.02827 0.1240
## Adipocytokine signaling pathway 0.14160 0.5097
## Adrenergic signaling in cardiomyocytes 0.03123 0.1951
## African trypanosomiasis 0.06799 0.4001
## p.value
## Acute myeloid leukemia 0.001672774
## Adherens junction 0.209738211
## Adipocytokine signaling pathway 0.405572919
## Adrenergic signaling in cardiomyocytes 0.514258706
## African trypanosomiasis 0.014492732
## q.value
## Acute myeloid leukemia 0.008363871
## Adherens junction 0.349563684
## Adipocytokine signaling pathway 0.506966149

```

```
## Adrenergic signaling in cardiomyocytes 0.514258706
## African trypanosomiasis 0.036231830
##
## $errors
## named list()
```

```
#####
### code chunk number 9: ToPASeq.Rnw:265-268
#####
Prs<-PRS( exprLoi2008, classLoi2008, pathways, type="MA", logFC.th=-1, nperm=100)
```

```
## 0 denoted as 0
## 1 denoted as 1
## Contrasts: 1 - 0
```

```
## Found 40 differentially expressed genes
```

```
## 98 node labels mapped to the expression data
## Average coverage 31.36501 %
## 0 (out of 5) pathways without a mapped node
```

```
## 0 pathways were filtered out
```

```
## 0 denoted as 0
## 1 denoted as 1
## Contrasts: 1 - 0
```

```
res(Prs)
```

```
## $results
##                                     nPRS p.value
## Acute myeloid leukemia           -0.5774441 0.95
## Adherens junction                2.0192439 0.05
## Adipocytokine signaling pathway   0.4749611 0.21
## Adrenergic signaling in cardiomyocytes -0.7115269 0.83
## African trypanosomiasis         1.5706357 0.03
##                                     q.value
## Acute myeloid leukemia            0.950
## Adherens junction                 0.125
## Adipocytokine signaling pathway    0.350
## Adrenergic signaling in cardiomyocytes 0.950
## African trypanosomiasis          0.125
##
## $errors
## named list()
```

```
#####
### code chunk number 10: ToPASeq.Rnw:284-304 (eval = FALSE)
#####
## pwe<-PWEA(exprLoi2008, classLoi2008, pathways, type="MA", nperm=100)
## #0 denoted as 0
## # 1 denoted as 1
## # Contrasts: 1 - 0
## #29 node Labels mapped to the expression data
## #Average coverage 5.752782 %
## #1 (out of 5) pathways without a mapped node
## #1 pathways were filtered out
## # Preparing permutations..
## res(pwe)
## #$results
## #
## #Acute myeloid Leukemia           ES p.value   q.value
## #Adherens junction                -0.1516072  0.36  0.5066667
## #Adipocytokine signaling pathway    0.2576037  1.00  1.0000000
## #Adrenergic signaling in cardiomyocytes 0.2221782  0.38  0.5066667
## #Adrenergic signaling in cardiomyocytes -0.2265755  0.05  0.2000000
## #
## #$errors
## #named list()
## 
```

#####

```
### code chunk number 11: seq1
#####
library(gageData)
data(hnrnp.cnts)
hnrnp.cnts<-hnrnp.cnts[rowSums(hnrnp.cnts)>0,]
group<-c(rep("sample",4), rep("control",4))
pathways<-pathways("hsapiens", "kegg")
```

#####

```
### code chunk number 12: seq2 (eval = FALSE)
#####
## top<-TopologyGSA(hnrnp.cnts, group, pathways[1:3], type="RNASeq", nperm=1000)
## #528 node Labels mapped to the expression data
## #Average coverage 83.16538
## #0 (out of 10) pathways without a mapped node
## #Normalization method was not specified. TMM used as default
## #Acute myeloid leukemia
## #Adherens junction
## #Adipocytokine signaling pathway
## 
## 
## res(top)
## #data frame with 0 columns and 1 rows
## 
```

```
#####
### code chunk number 13: seq3
#####
deg<-DEGraph(hnrnp.cnts, group, pathways, type="RNASeq")
```

```
## 13438 node labels mapped to the expression data
## Average coverage 84.29152 %
## 0 (out of 250) pathways without a mapped node
```

```
## 22 pathways were filtered out
```

```
res(deg)[[1]][[1]]
```

##	Overall.p
## Acute myeloid leukemia	2.683394e-02
## Adherens junction	1.343409e-01
## Adipocytokine signaling pathway	8.665537e-02
## African trypanosomiasis	2.078754e-01
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	1.738535e-01
## Aldosterone synthesis and secretion	1.269940e-02
## Allograft rejection	8.546771e-01
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	1.276149e-04
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	9.186695e-03
## Amoebiasis	6.280109e-02
## AMPK signaling pathway	2.345083e-03
## Amyotrophic lateral sclerosis (ALS)	4.057960e-03
## Antigen processing and presentation	1.196358e-01
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	1.858306e-01
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	1.193991e-03
## Ascorbate and aldarate metabolism	NA
## Asthma	2.734131e-01
## Autoimmune thyroid disease	8.546771e-01
## B cell receptor signaling pathway	1.407039e-01
## beta-Alanine metabolism	4.594303e-02
## Bile secretion	3.022706e-02
## Biotin metabolism	NA
## Bladder cancer	6.071317e-04
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	6.730337e-04
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	8.138020e-02
## Chagas disease (American trypanosomiasis)	8.702790e-04
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	2.612321e-01
## Chronic myeloid leukemia	5.581007e-02
## Circadian rhythm	5.341162e-02
## Citrate cycle (TCA cycle)	1.796427e-03
## Cocaine addiction	6.684496e-03
## Colorectal cancer	8.763833e-02
## Cysteine and methionine metabolism	1.023640e-01
## Cytosolic DNA-sensing pathway	3.299765e-02
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	1.527982e-03
## Dorso-ventral axis formation	2.675513e-02
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	5.465861e-01
## Endometrial cancer	3.359916e-02
## Epstein-Barr virus infection	3.434329e-01
## Ether lipid metabolism	NA

## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	1.418699e-02
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	1.983813e-02
## Gastric acid secretion	8.445878e-03
## Glucagon signaling pathway	1.713701e-02
## Glutathione metabolism	NA
## Glycerolipid metabolism	3.922077e-03
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	1.938295e-04
## Glycolysis / Gluconeogenesis	6.199374e-03
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	9.608565e-01
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	3.813981e-06
## GnRH signaling pathway	3.515292e-01
## Graft-versus-host disease	8.546771e-01
## Hedgehog signaling pathway	5.897501e-01
## Hepatitis C	1.605871e-02
## Herpes simplex infection	4.689919e-02
## Histidine metabolism	NA
## Huntington's disease	1.576390e-03
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	7.856899e-01
## Inflammatory mediator regulation of TRP channels	1.691544e-01
## Influenza A	1.365372e-01
## Inositol phosphate metabolism	NA
## Insulin resistance	8.889484e-02
## Insulin secretion	2.152774e-01
## Insulin signaling pathway	3.825402e-02
## Intestinal immune network for IgA production	2.279272e-01
## Legionellosis	3.846843e-01
## Leishmaniasis	9.648594e-01
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	7.552792e-01
## Maturity onset diabetes of the young	8.656706e-01
## Measles	2.467815e-01
## Melanogenesis	3.257857e-02
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	3.950384e-01
## mTOR signaling pathway	4.081232e-03
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	7.259594e-01
## Neurotrophin signaling pathway	4.308852e-01

## N-Glycan biosynthesis	4.306460e-01
## Nicotinate and nicotinamide metabolism	1.104539e-02
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	1.438629e-02
## Non-alcoholic fatty liver disease (NAFLD)	1.115275e-01
## One carbon pool by folate	1.128339e-03
## Oocyte meiosis	7.217088e-02
## Osteoclast differentiation	1.019221e-02
## Ovarian steroidogenesis	8.075149e-01
## Oxidative phosphorylation	NA
## Pancreatic cancer	2.747913e-01
## Pancreatic secretion	3.022706e-02
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	3.731617e-03
## Pathogenic Escherichia coli infection	4.183095e-01
## Pentose and glucuronate interconversions	1.689197e-01
## Pentose phosphate pathway	9.607221e-01
## Pertussis	1.710487e-02
## Phenylalanine metabolism	1.766262e-02
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	3.377759e-03
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	6.085264e-03
## Progesterone-mediated oocyte maturation	8.405478e-03
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	5.563929e-05
## Pyruvate metabolism	3.017727e-03
## Regulation of lipolysis in adipocytes	2.270281e-01
## Renal cell carcinoma	2.426642e-02
## Renin-angiotensin system	3.720312e-01
## Renin secretion	3.308961e-03
## Retinol metabolism	NA
## Rheumatoid arthritis	8.546771e-01
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	7.688811e-01
## Salivary secretion	8.569712e-01
## Salmonella infection	6.001921e-02
## Selenocompound metabolism	NA
## Shigellosis	3.666778e-01
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	1.553210e-01
## Starch and sucrose metabolism	3.103412e-03
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	2.073505e-02
## Taste transduction	3.215493e-01
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	4.019857e-02

## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	2.335354e-04
## Thyroid hormone synthesis	4.534803e-01
## Tight junction	1.371003e-01
## TNF signaling pathway	2.000467e-01
## Toxoplasmosis	9.648594e-01
## Transcriptional misregulation in cancer	8.000109e-02
## Tryptophan metabolism	NA
## Type I diabetes mellitus	8.546771e-01
## Type II diabetes mellitus	1.590204e-01
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	1.049775e-01
## Vasopressin-regulated water reabsorption	8.245162e-03
## VEGF signaling pathway	4.728829e-02
## Vibrio cholerae infection	3.317853e-01
## Viral carcinogenesis	1.429658e-03
## Viral myocarditis	4.157033e-01
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	1.032858e-01
##	Overall.q.va
lue	
## Acute myeloid leukemia	0.0725736
012	
## Adherens junction	0.2265962
990	
## Adipocytokine signaling pathway	0.1652888
471	
## African trypanosomiasis	0.3053971
479	
## Alanine, aspartate and glutamate metabolism	
NA	
## Aldosterone-regulated sodium reabsorption	0.2652380
817	
## Aldosterone synthesis and secretion	0.0457947
967	
## Allograft rejection	0.8945576
085	
## alpha-Linolenic acid metabolism	
NA	
## Alzheimer's disease	0.0050620
568	
## Aminoacyl-tRNA biosynthesis	
NA	
## Amino sugar and nucleotide sugar metabolism	0.0364405
587	
## Amoebiasis	0.1288505
121	
## AMPK signaling pathway	0.0186043
262	
## Amyotrophic lateral sclerosis (ALS)	0.0211159
387	
## Antigen processing and presentation	0.2063284

513		
## Arachidonic acid metabolism		
NA		
## Arginine and proline metabolism	0.2799220	
652		
## Arginine biosynthesis		
NA		
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.0142084	
906		
## Ascorbate and aldarate metabolism		
NA		
## Asthma	0.3715927	
205		
## Autoimmune thyroid disease	0.8945576	
085		
## B cell receptor signaling pathway	0.2293665	
778		
## beta-Alanine metabolism	0.1042093	
759		
## Bile secretion	0.0781960	
920		
## Biotin metabolism		
NA		
## Bladder cancer	0.0114415	
732		
## Butanoate metabolism		
NA		
## Caffeine metabolism		
NA		
## Carbohydrate digestion and absorption	0.0114415	
732		
## Cardiac muscle contraction		
NA		
## Cell adhesion molecules (CAMs)	0.1587580	
999		
## Chagas disease (American trypanosomiasis)	0.0129454	
004		
## Chemical carcinogenesis		
NA		
## Choline metabolism in cancer	0.3614723	
372		
## Chronic myeloid leukemia	0.1185963	
897		
## Circadian rhythm	0.1155633	
169		
## Citrate cycle (TCA cycle)	0.0152696	
276		
## Cocaine addiction	0.0305944	
231		
## Colorectal cancer	0.1652888	
471		
## Cysteine and methionine metabolism	0.1862274	
317		
## Cytosolic DNA-sensing pathway	0.0815979	

625	
## D-Glutamine and D-glutamate metabolism	
NA	
## Dilated cardiomyopathy	0.0144300
329	
## Dorso-ventral axis formation	0.0725736
012	
## Drug metabolism - cytochrome P450	
NA	
## Drug metabolism - other enzymes	
NA	
## Endocrine and other factor-regulated calcium reabsorption	0.6376837
502	
## Endometrial cancer	0.0815979
625	
## Epstein-Barr virus infection	0.4491045
529	
## Ether lipid metabolism	
NA	
## Fat digestion and absorption	
NA	
## Fatty acid biosynthesis	
NA	
## Fatty acid degradation	0.0489133
721	
## Fatty acid elongation	
NA	
## Folate biosynthesis	
NA	
## Fructose and mannose metabolism	
NA	
## Galactose metabolism	0.0590184
362	
## Gastric acid secretion	0.0346572
254	
## Glucagon signaling pathway	0.0536659
139	
## Glutathione metabolism	
NA	
## Glycerolipid metabolism	0.0211159
387	
## Glycerophospholipid metabolism	
NA	
## Glycine, serine and threonine metabolism	0.0055581
421	
## Glycolysis / Gluconeogenesis	0.0295090
200	
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	
NA	
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	
NA	
## Glycosaminoglycan degradation	
NA	
## Glycosphingolipid biosynthesis - ganglio series	

```

NA
## Glycosphingolipid biosynthesis - globo series 0.9648593
562
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism 0.0004538
637
## GnRH signaling pathway 0.4546954
095
## Graft-versus-host disease 0.8945576
085
## Hedgehog signaling pathway 0.6813618
060
## Hepatitis C 0.0530829
466
## Herpes simplex infection 0.1042093
759
## Histidine metabolism
NA
## Huntington's disease 0.0144300
329
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD) 0.8738046
471
## Inflammatory mediator regulation of TRP channels 0.2614204
620
## Influenza A 0.2265962
990
## Inositol phosphate metabolism
NA
## Insulin resistance 0.1652888
471
## Insulin secretion 0.3124148
188
## Insulin signaling pathway 0.0910445
583
## Intestinal immune network for IgA production 0.3228968
133
## Legionellosis 0.4818676
876
## Leishmaniasis 0.9648593
562
## Linoleic acid metabolism
NA
## Lipoic acid metabolism
NA
## Lysine biosynthesis
NA
## Lysine degradation
NA
## Malaria 0.8559830

```

763		
	## Maturity onset diabetes of the young	0.8957808
776		
	## Measles	0.3454941
504		
	## Melanogenesis	0.0815979
625		
	## Metabolism of xenobiotics by cytochrome P450	
NA		
	## Mineral absorption	0.4896829
635		
	## mTOR signaling pathway	0.0211159
387		
	## Mucin type O-Glycan biosynthesis	
NA		
	## Neuroactive ligand-receptor interaction	0.8306650
495		
	## Neurotrophin signaling pathway	0.5127534
103		
	## N-Glycan biosynthesis	0.5127534
103		
	## Nicotinate and nicotinamide metabolism	0.0410750
423		
	## Nitrogen metabolism	
NA		
	## NOD-like receptor signaling pathway	0.0489133
721		
	## Non-alcoholic fatty liver disease (NAFLD)	0.1951730
445		
	## One carbon pool by folate	0.0142084
906		
	## Oocyte meiosis	0.1455649
876		
	## Osteoclast differentiation	0.0391249
513		
	## Ovarian steroidogenesis	0.8897617
529		
	## Oxidative phosphorylation	
NA		
	## Pancreatic cancer	0.3715927
205		
	## Pancreatic secretion	0.0781960
920		
	## Pantothenate and CoA biosynthesis	
NA		
	## Parkinson's disease	0.0211159
387		
	## Pathogenic Escherichia coli infection	0.5079472
888		
	## Pentose and glucuronate interconversions	0.2614204
620		
	## Pentose phosphate pathway	0.9648593
562		
	## Pertussis	0.0536659

139		
## Phenylalanine metabolism		0.0538936
343		
## Phenylalanine, tyrosine and tryptophan biosynthesis		
NA		
## Phosphatidylinositol signaling system		
NA		
## Phototransduction		0.0211159
387		
## Porphyrin and chlorophyll metabolism		
NA		
## Primary bile acid biosynthesis		
NA		
## Prion diseases		0.0295090
200		
## Progesterone-mediated oocyte maturation		0.0346572
254		
## Propanoate metabolism		
NA		
## Proximal tubule bicarbonate reclamation		
NA		
## Pyrimidine metabolism		0.0033105
376		
## Pyruvate metabolism		0.0211159
387		
## Regulation of lipolysis in adipocytes		0.3228968
133		
## Renal cell carcinoma		0.0687548
571		
## Renin-angiotensin system		0.4709757
246		
## Renin secretion		0.0211159
387		
## Retinol metabolism		
NA		
## Rheumatoid arthritis		0.8945576
085		
## Riboflavin metabolism		
NA		
## RIG-I-like receptor signaling pathway		0.8631778
466		
## Salivary secretion		0.8945576
085		
## Salmonella infection		0.1253032
601		
## Selenocompound metabolism		
NA		
## Shigellosis		0.4691899
099		
## Sphingolipid metabolism		
NA		
## Staphylococcus aureus infection		0.2497730
232		
## Starch and sucrose metabolism		0.0211159

387	
## Steroid biosynthesis	
NA	
## Steroid hormone biosynthesis	
NA	
## Sulfur metabolism	
NA	
## Synaptic vesicle cycle	
NA	
## Synthesis and degradation of ketone bodies	
NA	
## Systemic lupus erythematosus	0.0601822
244	
## Taste transduction	0.4299366
451	
## Taurine and hypotaurine metabolism	
NA	
## T cell receptor signaling pathway	0.0937966
730	
## Terpenoid backbone biosynthesis	
NA	
## Thiamine metabolism	
NA	
## Thyroid cancer	0.0055581
421	
## Thyroid hormone synthesis	0.5342986
124	
## Tight junction	0.2265962
990	
## TNF signaling pathway	0.2975694
846	
## Toxoplasmosis	0.9648593
562	
## Transcriptional misregulation in cancer	0.1586688
363	
## Tryptophan metabolism	
NA	
## Type I diabetes mellitus	0.8945576
085	
## Type II diabetes mellitus	0.2523123
157	
## Tyrosine metabolism	
NA	
## Ubiquinone and other terpenoid-quinone biosynthesis	
NA	
## Valine, leucine and isoleucine degradation	0.1864525
009	
## Vasopressin-regulated water reabsorption	0.0346572
254	
## VEGF signaling pathway	0.1042093
759	
## Vibrio cholerae infection	0.4386938
717	
## Viral carcinogenesis	0.0144300

329		
## Viral myocarditis		0.5079472
888		
## Vitamin B6 metabolism		
NA		
## Vitamin digestion and absorption		0.1862274
317		
##	Comp1.p	
## Acute myeloid leukemia		NA
## Adherens junction		NA
## Adipocytokine signaling pathway		NA
## African trypanosomiasis		3.321571e-01
## Alanine, aspartate and glutamate metabolism		NA
## Aldosterone-regulated sodium reabsorption		NA
## Aldosterone synthesis and secretion		NA
## Allograft rejection		7.337280e-01
## alpha-Linolenic acid metabolism		NA
## Alzheimer's disease		NA
## Aminoacyl-tRNA biosynthesis		NA
## Amino sugar and nucleotide sugar metabolism		4.755887e-02
## Amoebiasis		NA
## AMPK signaling pathway		NA
## Amyotrophic lateral sclerosis (ALS)		6.922096e-03
## Antigen processing and presentation		NA
## Arachidonic acid metabolism		NA
## Arginine and proline metabolism		2.409016e-02
## Arginine biosynthesis		NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)		4.625094e-02
## Ascorbate and aldarate metabolism		NA
## Asthma		9.033627e-02
## Autoimmune thyroid disease		7.337280e-01
## B cell receptor signaling pathway		NA
## beta-Alanine metabolism		9.137767e-02
## Bile secretion		NA
## Biotin metabolism		NA
## Bladder cancer		1.684380e-01
## Butanoate metabolism		NA
## Caffeine metabolism		NA
## Carbohydrate digestion and absorption		4.851462e-03
## Cardiac muscle contraction		NA
## Cell adhesion molecules (CAMs)		NA
## Chagas disease (American trypanosomiasis)		NA
## Chemical carcinogenesis		NA
## Choline metabolism in cancer		NA
## Chronic myeloid leukemia		NA
## Circadian rhythm		NA
## Citrate cycle (TCA cycle)		1.306564e-02
## Cocaine addiction		NA
## Colorectal cancer		NA
## Cysteine and methionine metabolism		1.886335e-04
## Cytosolic DNA-sensing pathway		1.973568e-03
## D-Glutamine and D-glutamate metabolism		NA
## Dilated cardiomyopathy		NA
## Dorso-ventral axis formation		5.540730e-03

## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	2.779362e-03
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	9.739993e-02
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	6.812957e-05
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	2.725203e-01
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	4.975241e-05
## GnRH signaling pathway	NA
## Graft-versus-host disease	7.337280e-01
## Hedgehog signaling pathway	NA
## Hepatitis C	NA
## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	NA
## Inositol phosphate metabolism	NA
## Insulin resistance	NA
## Insulin secretion	NA
## Insulin signaling pathway	NA
## Intestinal immune network for IgA production	2.520118e-01
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	7.793022e-01
## Maturity onset diabetes of the young	4.820172e-01
## Measles	NA
## Melanogenesis	NA

## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	5.837847e-03
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	1.274495e-03
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	NA
## One carbon pool by folate	7.946070e-04
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	2.003296e-04
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	4.659743e-01
## Pentose phosphate pathway	6.671947e-02
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propionate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	9.307516e-05
## Pyruvate metabolism	7.213830e-05
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	3.785431e-01
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	7.337280e-01
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	9.048986e-02
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	7.428724e-04
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA

## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	3.693798e-02
## Taste transduction	1.708324e-01
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	9.869721e-02
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	7.341611e-02
## Tryptophan metabolism	NA
## Type I diabetes mellitus	7.337280e-01
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	4.321249e-02
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	1.083861e-04
## Viral carcinogenesis	8.268046e-03
## Viral myocarditis	3.240477e-01
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	3.001528e-01
##	Comp1.pFourier
## Acute myeloid leukemia	2.683394e-02
## Adherens junction	1.343409e-01
## Adipocytokine signaling pathway	8.665537e-02
## African trypanosomiasis	2.078754e-01
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	1.738535e-01
## Aldosterone synthesis and secretion	1.269940e-02
## Allograft rejection	8.546771e-01
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	1.276149e-04
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	9.186695e-03
## Amoebiasis	6.280109e-03

02		
## AMPK signaling pathway		2.345083e-
03		
## Amyotrophic lateral sclerosis (ALS)		4.057960e-
03		
## Antigen processing and presentation		1.196358e-
01		
## Arachidonic acid metabolism		
NA		
## Arginine and proline metabolism		1.858306e-
01		
## Arginine biosynthesis		
NA		
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)		1.193991e-
03		
## Ascorbate and aldarate metabolism		
NA		
## Asthma		2.734131e-
01		
## Autoimmune thyroid disease		8.546771e-
01		
## B cell receptor signaling pathway		1.407039e-
01		
## beta-Alanine metabolism		4.594303e-
02		
## Bile secretion		3.022706e-
02		
## Biotin metabolism		
NA		
## Bladder cancer		6.071317e-
04		
## Butanoate metabolism		
NA		
## Caffeine metabolism		
NA		
## Carbohydrate digestion and absorption		6.730337e-
04		
## Cardiac muscle contraction		
NA		
## Cell adhesion molecules (CAMs)		8.138020e-
02		
## Chagas disease (American trypanosomiasis)		8.702790e-
04		
## Chemical carcinogenesis		
NA		
## Choline metabolism in cancer		2.612321e-
01		
## Chronic myeloid leukemia		5.581007e-
02		
## Circadian rhythm		5.341162e-
02		
## Citrate cycle (TCA cycle)		1.796427e-
03		
## Cocaine addiction		6.684496e-

03		
## Colorectal cancer		8.763833e-
02		
## Cysteine and methionine metabolism		1.023640e-
01		
## Cytosolic DNA-sensing pathway		3.299765e-
02		
## D-Glutamine and D-glutamate metabolism		
NA		
## Dilated cardiomyopathy		1.527982e-
03		
## Dorso-ventral axis formation		2.675513e-
02		
## Drug metabolism - cytochrome P450		
NA		
## Drug metabolism - other enzymes		
NA		
## Endocrine and other factor-regulated calcium reabsorption		5.465861e-
01		
## Endometrial cancer		3.359916e-
02		
## Epstein-Barr virus infection		3.434329e-
01		
## Ether lipid metabolism		
NA		
## Fat digestion and absorption		
NA		
## Fatty acid biosynthesis		
NA		
## Fatty acid degradation		1.418699e-
02		
## Fatty acid elongation		
NA		
## Folate biosynthesis		
NA		
## Fructose and mannose metabolism		
NA		
## Galactose metabolism		1.983813e-
02		
## Gastric acid secretion		8.445878e-
03		
## Glucagon signaling pathway		1.713701e-
02		
## Glutathione metabolism		
NA		
## Glycerolipid metabolism		3.922077e-
03		
## Glycerophospholipid metabolism		
NA		
## Glycine, serine and threonine metabolism		1.938295e-
04		
## Glycolysis / Gluconeogenesis		6.199374e-
03		
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate		

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NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin
NA
## Glycosaminoglycan degradation
NA
## Glycosphingolipid biosynthesis - ganglio series
NA
## Glycosphingolipid biosynthesis - globo series 9.608565e-
01
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism 3.813981e-
06
## GnRH signaling pathway 3.515292e-
01
## Graft-versus-host disease 8.546771e-
01
## Hedgehog signaling pathway 5.897501e-
01
## Hepatitis C 1.605871e-
02
## Herpes simplex infection 4.689919e-
02
## Histidine metabolism
NA
## Huntington's disease 1.576390e-
03
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD) 7.856899e-
01
## Inflammatory mediator regulation of TRP channels 1.691544e-
01
## Influenza A 1.365372e-
01
## Inositol phosphate metabolism
NA
## Insulin resistance 8.889484e-
02
## Insulin secretion 2.152774e-
01
## Insulin signaling pathway 3.825402e-
02
## Intestinal immune network for IgA production 2.279272e-
01
## Legionellosis 3.846843e-
01
## Leishmaniasis 9.648594e-
01
## Linoleic acid metabolism
NA
## Lipoic acid metabolism

```

```

NA
## Lysine biosynthesis
NA
## Lysine degradation
NA
## Malaria 7.552792e-
01
## Maturity onset diabetes of the young 8.656706e-
01
## Measles 2.467815e-
01
## Melanogenesis 3.257857e-
02
## Metabolism of xenobiotics by cytochrome P450
NA
## Mineral absorption 3.950384e-
01
## mTOR signaling pathway 4.081232e-
03
## Mucin type O-Glycan biosynthesis
NA
## Neuroactive ligand-receptor interaction 7.259594e-
01
## Neurotrophin signaling pathway 4.308852e-
01
## N-Glycan biosynthesis 4.306460e-
01
## Nicotinate and nicotinamide metabolism 1.104539e-
02
## Nitrogen metabolism
NA
## NOD-like receptor signaling pathway 1.438629e-
02
## Non-alcoholic fatty liver disease (NAFLD) 1.115275e-
01
## One carbon pool by folate 1.128339e-
03
## Oocyte meiosis 7.217088e-
02
## Osteoclast differentiation 1.019221e-
02
## Ovarian steroidogenesis 8.075149e-
01
## Oxidative phosphorylation
NA
## Pancreatic cancer 2.747913e-
01
## Pancreatic secretion 3.022706e-
02
## Pantothenate and CoA biosynthesis
NA
## Parkinson's disease 3.731617e-
03
## Pathogenic Escherichia coli infection 4.183095e-

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01	## Pentose and glucuronate interconversions	1.689197e-
01	## Pentose phosphate pathway	9.607221e-
01	## Pertussis	1.710487e-
02	## Phenylalanine metabolism	1.766262e-
02	## Phenylalanine, tyrosine and tryptophan biosynthesis	
NA		
## Phosphatidylinositol signaling system		
NA		
## Phototransduction		3.377759e-
03		
## Porphyrin and chlorophyll metabolism		
NA		
## Primary bile acid biosynthesis		
NA		
## Prion diseases		6.085264e-
03		
## Progesterone-mediated oocyte maturation		8.405478e-
03		
## Propanoate metabolism		
NA		
## Proximal tubule bicarbonate reclamation		
NA		
## Pyrimidine metabolism		5.563929e-
05		
## Pyruvate metabolism		3.017727e-
03		
## Regulation of lipolysis in adipocytes		2.270281e-
01		
## Renal cell carcinoma		2.426642e-
02		
## Renin-angiotensin system		3.720312e-
01		
## Renin secretion		3.308961e-
03		
## Retinol metabolism		
NA		
## Rheumatoid arthritis		8.546771e-
01		
## Riboflavin metabolism		
NA		
## RIG-I-like receptor signaling pathway		7.688811e-
01		
## Salivary secretion		8.569712e-
01		
## Salmonella infection		6.001921e-
02		
## Selenocompound metabolism		
NA		
## Shigellosis		3.666778e-

```

01
## Sphingolipid metabolism
NA
## Staphylococcus aureus infection 1.553210e-
01
## Starch and sucrose metabolism 3.103412e-
03
## Steroid biosynthesis
NA
## Steroid hormone biosynthesis
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus 2.073505e-
02
## Taste transduction 3.215493e-
01
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway 4.019857e-
02
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism
NA
## Thyroid cancer 2.335354e-
04
## Thyroid hormone synthesis 4.534803e-
01
## Tight junction 1.371003e-
01
## TNF signaling pathway 2.000467e-
01
## Toxoplasmosis 9.648594e-
01
## Transcriptional misregulation in cancer 8.000109e-
02
## Tryptophan metabolism
NA
## Type I diabetes mellitus 8.546771e-
01
## Type II diabetes mellitus 1.590204e-
01
## Tyrosine metabolism
NA
## Ubiquinone and other terpenoid-quinone biosynthesis
NA
## Valine, leucine and isoleucine degradation 1.049775e-
01
## Vasopressin-regulated water reabsorption 8.245162e-

```

03		4.728829e-
## VEGF signaling pathway		
02		3.317853e-
## Vibrio cholerae infection		
01		1.429658e-
## Viral carcinogenesis		
03		4.157033e-
## Viral myocarditis		
01		
## Vitamin B6 metabolism		
NA		
## Vitamin digestion and absorption		1.032858e-
01		
##	Comp1.k	
## Acute myeloid leukemia		3
## Adherens junction		4
## Adipocytokine signaling pathway		3
## African trypanosomiasis		1
## Alanine, aspartate and glutamate metabolism		NA
## Aldosterone-regulated sodium reabsorption		3
## Aldosterone synthesis and secretion		3
## Allograft rejection		1
## alpha-Linolenic acid metabolism		NA
## Alzheimer's disease		2
## Aminoacyl-tRNA biosynthesis		NA
## Amino sugar and nucleotide sugar metabolism		1
## Amoebiasis		2
## AMPK signaling pathway		3
## Amyotrophic lateral sclerosis (ALS)		1
## Antigen processing and presentation		2
## Arachidonic acid metabolism		NA
## Arginine and proline metabolism		1
## Arginine biosynthesis		NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)		1
## Ascorbate and aldarate metabolism		NA
## Asthma		1
## Autoimmune thyroid disease		1
## B cell receptor signaling pathway		3
## beta-Alanine metabolism		1
## Bile secretion		2
## Biotin metabolism		NA
## Bladder cancer		2
## Butanoate metabolism		NA
## Caffeine metabolism		NA
## Carbohydrate digestion and absorption		1
## Cardiac muscle contraction		NA
## Cell adhesion molecules (CAMs)		2
## Chagas disease (American trypanosomiasis)		2
## Chemical carcinogenesis		NA
## Choline metabolism in cancer		6
## Chronic myeloid leukemia		6
## Circadian rhythm		4
## Citrate cycle (TCA cycle)		1
## Cocaine addiction		3

## Colorectal cancer	5
## Cysteine and methionine metabolism	1
## Cytosolic DNA-sensing pathway	1
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	4
## Dorso-ventral axis formation	1
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	2
## Endometrial cancer	4
## Epstein-Barr virus infection	2
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	2
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	1
## Gastric acid secretion	3
## Glucagon signaling pathway	5
## Glutathione metabolism	NA
## Glycerolipid metabolism	2
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	1
## Glycolysis / Gluconeogenesis	2
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	1
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	1
## GnRH signaling pathway	4
## Graft-versus-host disease	1
## Hedgehog signaling pathway	6
## Hepatitis C	2
## Herpes simplex infection	2
## Histidine metabolism	NA
## Huntington's disease	2
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	3
## Inflammatory mediator regulation of TRP channels	4
## Influenza A	3
## Inositol phosphate metabolism	NA
## Insulin resistance	2
## Insulin secretion	5
## Insulin signaling pathway	4
## Intestinal immune network for IgA production	1
## Legionellosis	2
## Leishmaniasis	2
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA

## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	1
## Maturity onset diabetes of the young	1
## Measles	2
## Melanogenesis	3
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	1
## mTOR signaling pathway	2
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	2
## Neurotrophin signaling pathway	5
## N-Glycan biosynthesis	2
## Nicotinate and nicotinamide metabolism	1
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	2
## Non-alcoholic fatty liver disease (NAFLD)	4
## One carbon pool by folate	1
## Oocyte meiosis	4
## Osteoclast differentiation	2
## Ovarian steroidogenesis	3
## Oxidative phosphorylation	NA
## Pancreatic cancer	6
## Pancreatic secretion	2
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	1
## Pathogenic Escherichia coli infection	3
## Pentose and glucuronate interconversions	2
## Pentose phosphate pathway	1
## Pertussis	2
## Phenylalanine metabolism	2
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	2
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	2
## Progesterone-mediated oocyte maturation	2
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	1
## Pyruvate metabolism	1
## Regulation of lipolysis in adipocytes	4
## Renal cell carcinoma	4
## Renin-angiotensin system	1
## Renin secretion	2
## Retinol metabolism	NA
## Rheumatoid arthritis	1
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	2
## Salivary secretion	2
## Salmonella infection	3
## Selenocompound metabolism	NA
## Shigellosis	1

## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	3
## Starch and sucrose metabolism	1
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	2
## Taste transduction	2
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	3
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	2
## Thyroid hormone synthesis	4
## Tight junction	2
## TNF signaling pathway	6
## Toxoplasmosis	2
## Transcriptional misregulation in cancer	1
## Tryptophan metabolism	NA
## Type I diabetes mellitus	1
## Type II diabetes mellitus	3
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	1
## Vasopressin-regulated water reabsorption	3
## VEGF signaling pathway	2
## Vibrio cholerae infection	1
## Viral carcinogenesis	1
## Viral myocarditis	1
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	1
##	Comp2.p
## Acute myeloid leukemia	NA
## Adherens junction	1.481186e-03
## Adipocytokine signaling pathway	1.374063e-02
## African trypanosomiasis	3.743224e-02
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	9.033627e-02
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	1.493874e-02
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	7.524637e-02
## AMPK signaling pathway	NA
## Amyotrophic lateral sclerosis (ALS)	1.388958e-02
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA

## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	9.033627e-02
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	3.453946e-01
## Biotin metabolism	NA
## Bladder cancer	2.652803e-07
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	NA
## Chagas disease (American trypanosomiasis)	NA
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	4.655277e-03
## Chronic myeloid leukemia	2.429064e-02
## Circadian rhythm	4.771821e-03
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	5.007935e-03
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	1.812216e-03
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	6.102416e-02
## Endometrial cancer	9.869721e-02
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	1.767816e-01
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	3.651105e-05
## Glycolysis / Gluconeogenesis	2.017917e-03
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	2.126348e-03
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	2.697094e-02

## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	8.092130e-03
## Hepatitis C	4.408723e-02
## Herpes simplex infection	7.392980e-03
## Histidine metabolism	NA
## Huntington's disease	2.559033e-02
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	1.461611e-02
## Inositol phosphate metabolism	NA
## Insulin resistance	NA
## Insulin secretion	NA
## Insulin signaling pathway	1.667720e-01
## Intestinal immune network for IgA production	NA
## Legionellosis	7.113984e-01
## Leishmaniasis	3.887577e-01
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	8.607069e-01
## Maturity onset diabetes of the young	NA
## Measles	1.772913e-01
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	1.572668e-03
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	3.503275e-02
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	5.956817e-03
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	2.896892e-02
## Non-alcoholic fatty liver disease (NAFLD)	NA
## One carbon pool by folate	5.527719e-02
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	1.521317e-01
## Oxidative phosphorylation	NA
## Pancreatic cancer	1.089600e-03
## Pancreatic secretion	6.307811e-02
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	2.848925e-01
## Pathogenic Escherichia coli infection	1.128429e-01
## Pentose and glucuronate interconversions	2.931817e-02
## Pentose phosphate pathway	8.149323e-04
## Pertussis	2.016979e-01
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	1.063318e-01

## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	2.175494e-05
## Progesterone-mediated oocyte maturation	5.785675e-03
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	3.362306e-02
## Selenocompound metabolism	NA
## Shigellosis	2.896892e-02
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	5.462572e-02
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	7.337280e-01
## Taste transduction	3.383983e-02
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	6.226573e-03
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	2.009437e-03
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	1.255121e-03
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	1.264990e-02
## VEGF signaling pathway	NA
## Vibrio cholerae infection	8.646299e-02
## Viral carcinogenesis	5.896532e-02
## Viral myocarditis	4.189248e-02
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp2.pFourier

```

er                                         8.546789e-
## Acute myeloid leukemia
01                                         5.196806e-
## Adherens junction
04                                         4.230508e-
## Adipocytokine signaling pathway
02                                         2.922056e-
## African trypanosomiasis
02                                         2.922056e-
## Alanine, aspartate and glutamate metabolism
NA
## Aldosterone-regulated sodium reabsorption
01                                         1.750243e-
## Aldosterone synthesis and secretion
01                                         2.105152e-
## Allograft rejection
01                                         2.734131e-
## alpha-Linolenic acid metabolism
NA
## Alzheimer's disease
02                                         4.394902e-
## Aminoacyl-tRNA biosynthesis
NA
## Amino sugar and nucleotide sugar metabolism
NA
## Amoebiasis
02                                         1.974748e-
## AMPK signaling pathway
02                                         4.581910e-
## Amyotrophic lateral sclerosis (ALS)
01                                         2.391120e-
## Antigen processing and presentation
01                                         3.023482e-
## Arachidonic acid metabolism
NA
## Arginine and proline metabolism
NA
## Arginine biosynthesis
NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
NA
## Ascorbate and aldarate metabolism
NA
## Asthma
NA
## Autoimmune thyroid disease
01                                         2.734131e-
## B cell receptor signaling pathway
02                                         3.948262e-
## beta-Alanine metabolism
NA
## Bile secretion
01                                         7.805723e-
## Biotin metabolism

```

```

NA
## Bladder cancer                                         1.033828e-
02
## Butanoate metabolism
NA
## Caffeine metabolism
NA
## Carbohydrate digestion and absorption
NA
## Cardiac muscle contraction
NA
## Cell adhesion molecules (CAMs)                         9.822004e-
01
## Chagas disease (American trypanosomiasis)           8.475496e-
02
## Chemical carcinogenesis
NA
## Choline metabolism in cancer                           7.119866e-
01
## Chronic myeloid leukemia                            6.038602e-
02
## Circadian rhythm                                     3.360055e-
01
## Citrate cycle (TCA cycle)
NA
## Cocaine addiction                                    7.260976e-
01
## Colorectal cancer                                    5.946140e-
03
## Cysteine and methionine metabolism
NA
## Cytosolic DNA-sensing pathway                        6.826353e-
03
## D-Glutamine and D-glutamate metabolism
NA
## Dilated cardiomyopathy                             7.306609e-
02
## Dorso-ventral axis formation                      1.023159e-
01
## Drug metabolism - cytochrome P450
NA
## Drug metabolism - other enzymes
NA
## Endocrine and other factor-regulated calcium reabsorption 1.163920e-
01
## Endometrial cancer                                2.335354e-
04
## Epstein-Barr virus infection                      3.696621e-
03
## Ether lipid metabolism
NA
## Fat digestion and absorption
NA
## Fatty acid biosynthesis

```

```

NA
## Fatty acid degradation 4.361522e-
01
## Fatty acid elongation
NA
## Folate biosynthesis
NA
## Fructose and mannose metabolism
NA
## Galactose metabolism
NA
## Gastric acid secretion 1.629596e-
01
## Glucagon signaling pathway 5.354515e-
02
## Glutathione metabolism
NA
## Glycerolipid metabolism
NA
## Glycerophospholipid metabolism
NA
## Glycine, serine and threonine metabolism 2.772092e-
06
## Glycolysis / Gluconeogenesis 2.488998e-
02
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate
NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin
NA
## Glycosaminoglycan degradation
NA
## Glycosphingolipid biosynthesis - ganglio series
NA
## Glycosphingolipid biosynthesis - globo series 7.575652e-
02
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism 1.894697e-
02
## GnRH signaling pathway 1.808112e-
03
## Graft-versus-host disease
NA
## Hedgehog signaling pathway 2.067583e-
01
## Hepatitis C 1.098787e-
02
## Herpes simplex infection 1.198945e-
02
## Histidine metabolism
NA
## Huntington's disease 6.140781e-

```

```

01
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD) 3.089862e-
01
## Inflammatory mediator regulation of TRP channels 6.205323e-
03
## Influenza A 8.594545e-
04
## Inositol phosphate metabolism
NA
## Insulin resistance 3.896294e-
03
## Insulin secretion 8.556072e-
02
## Insulin signaling pathway 3.383035e-
02
## Intestinal immune network for IgA production
NA
## Legionellosis 1.287291e-
01
## Leishmaniasis 6.191867e-
01
## Linoleic acid metabolism
NA
## Lipoic acid metabolism
NA
## Lysine biosynthesis
NA
## Lysine degradation
NA
## Malaria 6.785390e-
01
## Maturity onset diabetes of the young
NA
## Measles 8.070942e-
02
## Melanogenesis 1.788867e-
01
## Metabolism of xenobiotics by cytochrome P450
NA
## Mineral absorption
NA
## mTOR signaling pathway 4.267400e-
04
## Mucin type O-Glycan biosynthesis
NA
## Neuroactive ligand-receptor interaction 9.669939e-
01
## Neurotrophin signaling pathway 1.967410e-
02
## N-Glycan biosynthesis 2.261001e-
01
## Nicotinate and nicotinamide metabolism

```

NA
Nitrogen metabolism
NA
NOD-like receptor signaling pathway 5.104709e-
02
Non-alcoholic fatty liver disease (NAFLD) 3.438317e-
03
One carbon pool by folate 2.197171e-
01
Oocyte meiosis 1.827773e-
02
Osteoclast differentiation 4.134982e-
01
Ovarian steroidogenesis 7.138747e-
01
Oxidative phosphorylation
NA
Pancreatic cancer 3.095555e-
03
Pancreatic secretion 6.968137e-
01
Pantothenate and CoA biosynthesis
NA
Parkinson's disease 4.952981e-
01
Pathogenic Escherichia coli infection 6.738207e-
01
Pentose and glucuronate interconversions 1.873539e-
03
Pentose phosphate pathway 2.154682e-
03
Pertussis 1.333941e-
03
Phenylalanine metabolism
NA
Phenylalanine, tyrosine and tryptophan biosynthesis
NA
Phosphatidylinositol signaling system
NA
Phototransduction 1.146469e-
01
Porphyrin and chlorophyll metabolism
NA
Primary bile acid biosynthesis
NA
Prion diseases 1.648858e-
05
Progesterone-mediated oocyte maturation 1.192789e-
01
Propanoate metabolism
NA
Proximal tubule bicarbonate reclamation
NA
Pyrimidine metabolism

```

NA
## Pyruvate metabolism
NA
## Regulation of lipolysis in adipocytes 7.061067e-
03
## Renal cell carcinoma 2.205904e-
03
## Renin-angiotensin system
NA
## Renin secretion 1.276149e-
04
## Retinol metabolism
NA
## Rheumatoid arthritis
NA
## Riboflavin metabolism
NA
## RIG-I-like receptor signaling pathway 1.639718e-
02
## Salivary secretion 1.966754e-
01
## Salmonella infection 3.407628e-
02
## Selenocompound metabolism
NA
## Shigellosis 5.104709e-
02
## Sphingolipid metabolism
NA
## Staphylococcus aureus infection 2.509147e-
02
## Starch and sucrose metabolism
NA
## Steroid biosynthesis
NA
## Steroid hormone biosynthesis
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus 8.546771e-
01
## Taste transduction 7.791481e-
01
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway 6.678164e-
03
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism

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NA		
## Thyroid cancer		3.714533e-
04		
## Thyroid hormone synthesis		2.430070e-
01		
## Tight junction		1.763080e-
01		
## TNF signaling pathway		2.793647e-
01		
## Toxoplasmosis		4.107125e-
02		
## Transcriptional misregulation in cancer		9.587589e-
01		
## Tryptophan metabolism		
NA		
## Type I diabetes mellitus		
NA		
## Type II diabetes mellitus		
NA		
## Tyrosine metabolism		
NA		
## Ubiquinone and other terpenoid-quinone biosynthesis		
NA		
## Valine, leucine and isoleucine degradation		
NA		
## Vasopressin-regulated water reabsorption		5.772512e-
01		
## VEGF signaling pathway		3.494582e-
03		
## Vibrio cholerae infection		9.807019e-
01		
## Viral carcinogenesis		4.027179e-
02		
## Viral myocarditis		2.894027e-
01		
## Vitamin B6 metabolism		
NA		
## Vitamin digestion and absorption		
NA		
##		Comp2.k
## Acute myeloid leukemia		2
## Adherens junction		1
## Adipocytokine signaling pathway		1
## African trypanosomiasis		1
## Alanine, aspartate and glutamate metabolism		NA
## Aldosterone-regulated sodium reabsorption		2
## Aldosterone synthesis and secretion		3
## Allograft rejection		1
## alpha-Linolenic acid metabolism		NA
## Alzheimer's disease		1
## Aminoacyl-tRNA biosynthesis		NA
## Amino sugar and nucleotide sugar metabolism		NA
## Amoebiasis		1
## AMPK signaling pathway		3

## Amyotrophic lateral sclerosis (ALS)	1
## Antigen processing and presentation	2
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	1
## B cell receptor signaling pathway	2
## beta-Alanine metabolism	NA
## Bile secretion	1
## Biotin metabolism	NA
## Bladder cancer	1
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMS)	2
## Chagas disease (American trypanosomiasis)	2
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	1
## Chronic myeloid leukemia	2
## Circadian rhythm	1
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	2
## Colorectal cancer	2
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	1
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	2
## Dorso-ventral axis formation	1
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	2
## Endometrial cancer	2
## Epstein-Barr virus infection	2
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	2
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	3
## Glucagon signaling pathway	2
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	1
## Glycolysis / Gluconeogenesis	2
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA

## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	1
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	1
## GnRH signaling pathway	2
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	1
## Hepatitis C	1
## Herpes simplex infection	1
## Histidine metabolism	NA
## Huntington's disease	1
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	2
## Inflammatory mediator regulation of TRP channels	3
## Influenza A	1
## Inositol phosphate metabolism	NA
## Insulin resistance	2
## Insulin secretion	2
## Insulin signaling pathway	2
## Intestinal immune network for IgA production	NA
## Legionellosis	1
## Leishmaniasis	1
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	1
## Maturity onset diabetes of the young	NA
## Measles	2
## Melanogenesis	2
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	1
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	1
## Neurotrophin signaling pathway	4
## N-Glycan biosynthesis	1
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	1
## Non-alcoholic fatty liver disease (NAFLD)	2
## One carbon pool by folate	1
## Oocyte meiosis	3
## Osteoclast differentiation	2
## Ovarian steroidogenesis	1
## Oxidative phosphorylation	NA
## Pancreatic cancer	1
## Pancreatic secretion	2
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	1
## Pathogenic Escherichia coli infection	1
## Pentose and glucuronate interconversions	1

## Pentose phosphate pathway	1
## Pertussis	2
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	2
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	1
## Progesterone-mediated oocyte maturation	1
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	2
## Renal cell carcinoma	3
## Renin-angiotensin system	NA
## Renin secretion	2
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	2
## Salivary secretion	2
## Salmonella infection	1
## Selenocompound metabolism	NA
## Shigellosis	1
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	1
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	1
## Taste transduction	1
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	1
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	1
## Thyroid hormone synthesis	3
## Tight junction	2
## TNF signaling pathway	3
## Toxoplasmosis	2
## Transcriptional misregulation in cancer	1
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	1
## VEGF signaling pathway	2

## Vibrio cholerae infection	1
## Viral carcinogenesis	1
## Viral myocarditis	1
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp3.p
## Acute myeloid leukemia	4.904284e-02
## Adherens junction	2.292748e-05
## Adipocytokine signaling pathway	1.147263e-02
## African trypanosomiasis	9.670449e-01
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	2.559033e-02
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	6.397253e-03
## AMPK signaling pathway	NA
## Amyotrophic lateral sclerosis (ALS)	2.003296e-04
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	6.171019e-04
## beta-Alanine metabolism	NA
## Bile secretion	7.812008e-06
## Biotin metabolism	NA
## Bladder cancer	7.564743e-05
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	6.501366e-02
## Chagas disease (American trypanosomiasis)	1.040329e-02
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	8.665990e-02
## Chronic myeloid leukemia	5.859868e-04
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	6.827015e-02
## Colorectal cancer	1.642179e-05
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA

## Endocrine and other factor-regulated calcium reabsorption	1.156150e-02
## Endometrial cancer	1.100060e-01
## Epstein-Barr virus infection	5.587546e-02
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	6.307811e-02
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1.772990e-01
## Herpes simplex infection	5.089027e-02
## Histidine metabolism	NA
## Huntington's disease	4.221786e-04
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	1.499595e-02
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	5.904718e-02
## Inositol phosphate metabolism	NA
## Insulin resistance	1.446356e-01
## Insulin secretion	NA
## Insulin signaling pathway	7.626221e-03
## Intestinal immune network for IgA production	NA
## Legionellosis	2.003296e-04
## Leishmaniasis	3.502073e-02
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	5.045211e-02
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA

## mTOR signaling pathway	1.736289e-02
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	3.606624e-02
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	6.726537e-02
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	3.210491e-01
## Non-alcoholic fatty liver disease (NAFLD)	1.853509e-02
## One carbon pool by folate	NA
## Oocyte meiosis	NA
## Osteoclast differentiation	7.315402e-02
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	4.271506e-04
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	6.397253e-03
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	2.850790e-01
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	5.276505e-01
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	4.892182e-02
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	5.410172e-03
## Renal cell carcinoma	1.987117e-02
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	1.139148e-02
## Salivary secretion	5.409121e-01
## Salmonella infection	7.113984e-01
## Selenocompound metabolism	NA
## Shigellosis	1.596866e-01
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA

## Systemic lupus erythematosus	9.033627e-02
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	6.171019e-04
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	3.730385e-01
## Tight junction	9.440231e-03
## TNF signaling pathway	1.820035e-02
## Toxoplasmosis	2.921922e-03
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	1.362697e-03
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	4.198956e-05
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
## Acute myeloid leukemia	8.403137e-02
## Adherens junction	6.690442e-02
## Adipocytokine signaling pathway	1.279352e-01
## African trypanosomiasis	7.953202e-01
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	7.282288e-02
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	6.140781e-01
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	9.778295e-02
## AMPK signaling pathway	5.242030e-02

```

01
## Amyotrophic lateral sclerosis (ALS)          3.731617e-
03
## Antigen processing and presentation        1.067731e-
01
## Arachidonic acid metabolism
NA
## Arginine and proline metabolism
NA
## Arginine biosynthesis
NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
NA
## Ascorbate and aldarate metabolism
NA
## Asthma
NA
## Autoimmune thyroid disease
NA
## B cell receptor signaling pathway          3.033232e-
01
## beta-Alanine metabolism
NA
## Bile secretion                           1.508331e-
03
## Biotin metabolism
NA
## Bladder cancer                          4.356788e-
01
## Butanoate metabolism
NA
## Caffeine metabolism
NA
## Carbohydrate digestion and absorption
NA
## Cardiac muscle contraction
NA
## Cell adhesion molecules (CAMs)           5.519550e-
02
## Chagas disease (American trypanosomiasis) 9.491520e-
01
## Chemical carcinogenesis
NA
## Choline metabolism in cancer             5.595241e-
01
## Chronic myeloid leukemia                1.186274e-
03
## Circadian rhythm
NA
## Citrate cycle (TCA cycle)
NA
## Cocaine addiction                      4.391963e-
01
## Colorectal cancer                      3.759383e-

```

02
Cysteine and methionine metabolism
NA
Cytosolic DNA-sensing pathway
NA
D-Glutamine and D-glutamate metabolism
NA
Dilated cardiomyopathy
NA
Dorso-ventral axis formation
NA
Drug metabolism - cytochrome P450
NA
Drug metabolism - other enzymes
NA
Endocrine and other factor-regulated calcium reabsorption 2.780326e-02
Endometrial cancer 3.626109e-01
Epstein-Barr virus infection 4.253858e-02
Ether lipid metabolism
NA
Fat digestion and absorption
NA
Fatty acid biosynthesis
NA
Fatty acid degradation
NA
Fatty acid elongation
NA
Folate biosynthesis
NA
Fructose and mannose metabolism
NA
Galactose metabolism
NA
Gastric acid secretion 6.968137e-01
Glucagon signaling pathway 8.931956e-01
Glutathione metabolism
NA
Glycerolipid metabolism
NA
Glycerophospholipid metabolism
NA
Glycine, serine and threonine metabolism
NA
Glycolysis / Gluconeogenesis
NA
Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate NA
Glycosaminoglycan biosynthesis - heparan sulfate / heparin

```

NA
## Glycosaminoglycan degradation
NA
## Glycosphingolipid biosynthesis - ganglio series
NA
## Glycosphingolipid biosynthesis - globo series
NA
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism
NA
## GnRH signaling pathway 1.571789e-
01
## Graft-versus-host disease
NA
## Hedgehog signaling pathway
NA
## Hepatitis C 3.200578e-
01
## Herpes simplex infection 5.412498e-
03
## Histidine metabolism
NA
## Huntington's disease 7.621257e-
03
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD) 3.691518e-
03
## Inflammatory mediator regulation of TRP channels 2.375714e-
01
## Influenza A 1.308912e-
02
## Inositol phosphate metabolism
NA
## Insulin resistance 2.938004e-
02
## Insulin secretion 2.881541e-
01
## Insulin signaling pathway 1.046551e-
02
## Intestinal immune network for IgA production
NA
## Legionellosis 3.731617e-
03
## Leishmaniasis 5.826237e-
01
## Linoleic acid metabolism
NA
## Lipoic acid metabolism
NA
## Lysine biosynthesis

```

```

NA
## Lysine degradation
NA
## Malaria
NA
## Maturity onset diabetes of the young
NA
## Measles                                         4.911423e-
01
## Melanogenesis                                    4.848867e-
02
## Metabolism of xenobiotics by cytochrome P450
NA
## Mineral absorption
NA
## mTOR signaling pathway                         5.362409e-
02
## Mucin type O-Glycan biosynthesis
NA
## Neuroactive ligand-receptor interaction        5.023725e-
02
## Neurotrophin signaling pathway                 1.571789e-
01
## N-Glycan biosynthesis                          7.188636e-
02
## Nicotinate and nicotinamide metabolism
NA
## Nitrogen metabolism
NA
## NOD-like receptor signaling pathway           1.417019e-
01
## Non-alcoholic fatty liver disease (NAFLD)      8.441988e-
06
## One carbon pool by folate
NA
## Oocyte meiosis                                7.073635e-
02
## Osteoclast differentiation                     3.058004e-
02
## Ovarian steroidogenesis
NA
## Oxidative phosphorylation
NA
## Pancreatic cancer                            8.096576e-
02
## Pancreatic secretion
NA
## Pantothenate and CoA biosynthesis
NA
## Parkinson's disease
NA
## Pathogenic Escherichia coli infection         9.778295e-
02
## Pentose and glucuronate interconversions

```

NA	
## Pentose phosphate pathway	
NA	
## Pertussis	7.128266e-
02	
## Phenylalanine metabolism	
NA	
## Phenylalanine, tyrosine and tryptophan biosynthesis	
NA	
## Phosphatidylinositol signaling system	
NA	
## Phototransduction	3.789732e-
01	
## Porphyrin and chlorophyll metabolism	
NA	
## Primary bile acid biosynthesis	
NA	
## Prion diseases	
NA	
## Progesterone-mediated oocyte maturation	1.039989e-
02	
## Propanoate metabolism	
NA	
## Proximal tubule bicarbonate reclamation	
NA	
## Pyrimidine metabolism	
NA	
## Pyruvate metabolism	
NA	
## Regulation of lipolysis in adipocytes	2.562359e-
03	
## Renal cell carcinoma	1.021018e-
03	
## Renin-angiotensin system	
NA	
## Renin secretion	9.329192e-
01	
## Retinol metabolism	
NA	
## Rheumatoid arthritis	
NA	
## Riboflavin metabolism	
NA	
## RIG-I-like receptor signaling pathway	8.002334e-
04	
## Salivary secretion	8.479994e-
01	
## Salmonella infection	1.287291e-
01	
## Selenocompound metabolism	
NA	
## Shigellosis	2.107395e-
01	
## Sphingolipid metabolism	

```
NA
## Staphylococcus aureus infection
NA
## Starch and sucrose metabolism
NA
## Steroid biosynthesis
NA
## Steroid hormone biosynthesis
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus          2.734131e-
01
## Taste transduction
NA
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway      3.033232e-
01
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism
NA
## Thyroid cancer
NA
## Thyroid hormone synthesis             4.026018e-
01
## Tight junction                      8.748215e-
01
## TNF signaling pathway                 4.675764e-
03
## Toxoplasmosis                       8.016575e-
01
## Transcriptional misregulation in cancer
NA
## Tryptophan metabolism
NA
## Type I diabetes mellitus
NA
## Type II diabetes mellitus
NA
## Tyrosine metabolism
NA
## Ubiquinone and other terpenoid-quinone biosynthesis
NA
## Valine, leucine and isoleucine degradation
NA
## Vasopressin-regulated water reabsorption
NA
## VEGF signaling pathway                2.349180e-
```

01		
## Vibrio cholerae infection		
NA		
## Viral carcinogenesis		
NA		
## Viral myocarditis	1.356273e-	
04		
## Vitamin B6 metabolism		
NA		
## Vitamin digestion and absorption		
NA		
##	Comp3.k	
## Acute myeloid leukemia	1	
## Adherens junction	1	
## Adipocytokine signaling pathway	1	
## African trypanosomiasis	1	
## Alanine, aspartate and glutamate metabolism	NA	
## Aldosterone-regulated sodium reabsorption	NA	
## Aldosterone synthesis and secretion	2	
## Allograft rejection	NA	
## alpha-Linolenic acid metabolism	NA	
## Alzheimer's disease	1	
## Aminoacyl-tRNA biosynthesis	NA	
## Amino sugar and nucleotide sugar metabolism	NA	
## Amoebiasis	1	
## AMPK signaling pathway	3	
## Amyotrophic lateral sclerosis (ALS)	1	
## Antigen processing and presentation	2	
## Arachidonic acid metabolism	NA	
## Arginine and proline metabolism	NA	
## Arginine biosynthesis	NA	
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA	
## Ascorbate and aldarate metabolism	NA	
## Asthma	NA	
## Autoimmune thyroid disease	NA	
## B cell receptor signaling pathway	1	
## beta-Alanine metabolism	NA	
## Bile secretion	1	
## Biotin metabolism	NA	
## Bladder cancer	1	
## Butanoate metabolism	NA	
## Caffeine metabolism	NA	
## Carbohydrate digestion and absorption	NA	
## Cardiac muscle contraction	NA	
## Cell adhesion molecules (CAMs)	1	
## Chagas disease (American trypanosomiasis)	2	
## Chemical carcinogenesis	NA	
## Choline metabolism in cancer	1	
## Chronic myeloid leukemia	2	
## Circadian rhythm	NA	
## Citrate cycle (TCA cycle)	NA	
## Cocaine addiction	1	
## Colorectal cancer	1	
## Cysteine and methionine metabolism	NA	

## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	1
## Endometrial cancer	1
## Epstein-Barr virus infection	1
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	2
## Glucagon signaling pathway	2
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	2
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1
## Herpes simplex infection	1
## Histidine metabolism	NA
## Huntington's disease	1
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	1
## Inflammatory mediator regulation of TRP channels	2
## Influenza A	1
## Inositol phosphate metabolism	NA
## Insulin resistance	2
## Insulin secretion	2
## Insulin signaling pathway	1
## Intestinal immune network for IgA production	NA
## Legionellosis	1
## Leishmaniasis	1
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA

## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	1
## Melanogenesis	2
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	1
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	1
## Neurotrophin signaling pathway	2
## N-Glycan biosynthesis	1
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	1
## Non-alcoholic fatty liver disease (NAFLD)	1
## One carbon pool by folate	NA
## Oocyte meiosis	3
## Osteoclast differentiation	2
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	1
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	1
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	1
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	1
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	1
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	1
## Renal cell carcinoma	2
## Renin-angiotensin system	NA
## Renin secretion	2
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	1
## Salivary secretion	1
## Salmonella infection	1
## Selenocompound metabolism	NA
## Shigellosis	1
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA

## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	1
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	1
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	1
## Tight junction	1
## TNF signaling pathway	1
## Toxoplasmosis	1
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	2
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	1
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp4.p
## Acute myeloid leukemia	0.1028037044
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	0.1165044772
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	0.0023446943
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	NA
## Amyotrophic lateral sclerosis (ALS)	0.0664524475
## Antigen processing and presentation	0.0105250744
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA

## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	0.0289689238
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	0.0030029610
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	0.1778522302
## Chagas disease (American trypanosomiasis)	0.0069582588
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	0.0165556603
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	0.0972827518
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	0.0042520141
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	0.0054101722
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA

## Hedgehog signaling pathway	NA
## Hepatitis C	0.0289689238
## Herpes simplex infection	0.0028533350
## Histidine metabolism	NA
## Huntington's disease	0.0006918987
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	0.2182500129
## Inositol phosphate metabolism	NA
## Insulin resistance	0.0731754117
## Insulin secretion	NA
## Insulin signaling pathway	0.0042489869
## Intestinal immune network for IgA production	NA
## Legionellosis	0.0653135251
## Leishmaniasis	0.0609946529
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	0.1772989782
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	0.0936906504
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	0.4099728734
## Neurotrophin signaling pathway	0.1219609340
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	0.0010590124
## Non-alcoholic fatty liver disease (NAFLD)	0.0768456266
## One carbon pool by folate	NA
## Oocyte meiosis	0.0782474607
## Osteoclast differentiation	0.0020589939
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	0.0165556603
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	0.2209078568
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	0.3296079460
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA

## Prion diseases	NA
## Progesterone-mediated oocyte maturation	0.0043324978
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	0.1356989861
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	0.0035455987
## Salivary secretion	NA
## Salmonella infection	0.0653135251
## Selenocompound metabolism	NA
## Shigellosis	0.0126620392
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	0.0289689238
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	0.0030945278
## TNF signaling pathway	0.0040275539
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	0.0056768404
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	0.7337279566
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp4.pFourier
##	
## Acute myeloid leukemia	9.865616e-

01	
## Adherens junction	
NA	
## Adipocytokine signaling pathway	
NA	
## African trypanosomiasis	
NA	
## Alanine, aspartate and glutamate metabolism	
NA	
## Aldosterone-regulated sodium reabsorption	
NA	
## Aldosterone synthesis and secretion	1.496570e-
01	
## Allograft rejection	
NA	
## alpha-Linolenic acid metabolism	
NA	
## Alzheimer's disease	2.018559e-
06	
## Aminoacyl-tRNA biosynthesis	
NA	
## Amino sugar and nucleotide sugar metabolism	
NA	
## Amoebiasis	
NA	
## AMPK signaling pathway	8.862120e-
03	
## Amyotrophic lateral sclerosis (ALS)	4.430039e-
01	
## Antigen processing and presentation	7.350070e-
02	
## Arachidonic acid metabolism	
NA	
## Arginine and proline metabolism	
NA	
## Arginine biosynthesis	
NA	
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	
NA	
## Ascorbate and aldarate metabolism	
NA	
## Asthma	
NA	
## Autoimmune thyroid disease	
NA	
## B cell receptor signaling pathway	5.104709e-
02	
## beta-Alanine metabolism	
NA	
## Bile secretion	
NA	
## Biotin metabolism	
NA	
## Bladder cancer	9.155713e-

```
02
## Butanoate metabolism
NA
## Caffeine metabolism
NA
## Carbohydrate digestion and absorption
NA
## Cardiac muscle contraction
NA
## Cell adhesion molecules (CAMs)           1.085773e-
01
## Chagas disease (American trypanosomiasis) 3.639962e-
02
## Chemical carcinogenesis
NA
## Choline metabolism in cancer
NA
## Chronic myeloid leukemia                1.279443e-
03
## Circadian rhythm
NA
## Citrate cycle (TCA cycle)
NA
## Cocaine addiction
NA
## Colorectal cancer                      2.282664e-
02
## Cysteine and methionine metabolism
NA
## Cytosolic DNA-sensing pathway
NA
## D-Glutamine and D-glutamate metabolism
NA
## Dilated cardiomyopathy
NA
## Dorso-ventral axis formation
NA
## Drug metabolism - cytochrome P450
NA
## Drug metabolism - other enzymes
NA
## Endocrine and other factor-regulated calcium reabsorption
NA
## Endometrial cancer
NA
## Epstein-Barr virus infection            3.619171e-
01
## Ether lipid metabolism
NA
## Fat digestion and absorption
NA
## Fatty acid biosynthesis
NA
## Fatty acid degradation
```

```
NA
## Fatty acid elongation
NA
## Folate biosynthesis
NA
## Fructose and mannose metabolism
NA
## Galactose metabolism
NA
## Gastric acid secretion
NA
## Glucagon signaling pathway 2.562359e-
03
## Glutathione metabolism
NA
## Glycerolipid metabolism
NA
## Glycerophospholipid metabolism
NA
## Glycine, serine and threonine metabolism
NA
## Glycolysis / Gluconeogenesis
NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate
NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin
NA
## Glycosaminoglycan degradation
NA
## Glycosphingolipid biosynthesis - ganglio series
NA
## Glycosphingolipid biosynthesis - globo series
NA
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism
NA
## GnRH signaling pathway
NA
## Graft-versus-host disease
NA
## Hedgehog signaling pathway
NA
## Hepatitis C 5.104709e-
02
## Herpes simplex infection 1.151402e-
02
## Histidine metabolism
NA
## Huntington's disease 4.334308e-
02
## Hypertrophic cardiomyopathy (HCM)
```

```
NA
## Inflammatory bowel disease (IBD)
NA
## Inflammatory mediator regulation of TRP channels 7.786257e-
02
## Influenza A 1.263807e-
01
## Inositol phosphate metabolism
NA
## Insulin resistance 1.079104e-
02
## Insulin secretion
NA
## Insulin signaling pathway 2.094260e-
01
## Intestinal immune network for IgA production
NA
## Legionellosis 3.088718e-
01
## Leishmaniasis 1.664549e-
01
## Linoleic acid metabolism
NA
## Lipoic acid metabolism
NA
## Lysine biosynthesis
NA
## Lysine degradation
NA
## Malaria
NA
## Maturity onset diabetes of the young
NA
## Measles 3.200578e-
01
## Melanogenesis 1.571789e-
01
## Metabolism of xenobiotics by cytochrome P450
NA
## Mineral absorption
NA
## mTOR signaling pathway 3.644533e-
02
## Mucin type O-Glycan biosynthesis
NA
## Neuroactive ligand-receptor interaction 1.633723e-
01
## Neurotrophin signaling pathway 2.412372e-
02
## N-Glycan biosynthesis
NA
## Nicotinate and nicotinamide metabolism
NA
## Nitrogen metabolism
```

NA	
## NOD-like receptor signaling pathway	3.718071e-
02	
## Non-alcoholic fatty liver disease (NAFLD)	2.523456e-
02	
## One carbon pool by folate	
NA	
## Oocyte meiosis	9.149224e-
01	
## Osteoclast differentiation	1.677263e-
02	
## Ovarian steroidogenesis	
NA	
## Oxidative phosphorylation	
NA	
## Pancreatic cancer	1.279443e-
03	
## Pancreatic secretion	
NA	
## Pantothenate and CoA biosynthesis	
NA	
## Parkinson's disease	
NA	
## Pathogenic Escherichia coli infection	
NA	
## Pentose and glucuronate interconversions	
NA	
## Pentose phosphate pathway	
NA	
## Pertussis	1.640716e-
01	
## Phenylalanine metabolism	
NA	
## Phenylalanine, tyrosine and tryptophan biosynthesis	
NA	
## Phosphatidylinositol signaling system	
NA	
## Phototransduction	7.988713e-
01	
## Porphyrin and chlorophyll metabolism	
NA	
## Primary bile acid biosynthesis	
NA	
## Prion diseases	
NA	
## Progesterone-mediated oocyte maturation	5.441836e-
01	
## Propanoate metabolism	
NA	
## Proximal tubule bicarbonate reclamation	
NA	
## Pyrimidine metabolism	
NA	
## Pyruvate metabolism	

```
NA
## Regulation of lipolysis in adipocytes
NA
## Renal cell carcinoma
NA
## Renin-angiotensin system
NA
## Renin secretion                                         2.564463e-
01
## Retinol metabolism
NA
## Rheumatoid arthritis
NA
## Riboflavin metabolism
NA
## RIG-I-like receptor signaling pathway                  4.765610e-
02
## Salivary secretion
NA
## Salmonella infection                                    3.088718e-
01
## Selenocompound metabolism
NA
## Shigellosis                                            2.373188e-
03
## Sphingolipid metabolism
NA
## Staphylococcus aureus infection
NA
## Starch and sucrose metabolism
NA
## Steroid biosynthesis
NA
## Steroid hormone biosynthesis
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus
NA
## Taste transduction
NA
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway                     5.104709e-
02
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism
NA
## Thyroid cancer
```

```

NA
## Thyroid hormone synthesis
NA
## Tight junction                                         3.080366e-
03
## TNF signaling pathway                                5.684114e-
05
## Toxoplasmosis
NA
## Transcriptional misregulation in cancer
NA
## Tryptophan metabolism
NA
## Type I diabetes mellitus
NA
## Type II diabetes mellitus
NA
## Tyrosine metabolism
NA
## Ubiquinone and other terpenoid-quinone biosynthesis
NA
## Valine, leucine and isoleucine degradation
NA
## Vasopressin-regulated water reabsorption
NA
## VEGF signaling pathway                               2.970863e-
06
## Vibrio cholerae infection
NA
## Viral carcinogenesis
NA
## Viral myocarditis                                 8.546771e-
01
## Vitamin B6 metabolism
NA
## Vitamin digestion and absorption
NA
##                                         Comp4.k
## Acute myeloid leukemia                           1
## Adherens junction                                NA
## Adipocytokine signaling pathway                  NA
## African trypanosomiasis                        NA
## Alanine, aspartate and glutamate metabolism    NA
## Aldosterone-regulated sodium reabsorption      NA
## Aldosterone synthesis and secretion             2
## Allograft rejection                             NA
## alpha-Linolenic acid metabolism                NA
## Alzheimer's disease                            1
## Aminoacyl-tRNA biosynthesis                     NA
## Amino sugar and nucleotide sugar metabolism    NA
## Amoebiasis                                     NA
## AMPK signaling pathway                          2
## Amyotrophic lateral sclerosis (ALS)            1
## Antigen processing and presentation           1

```

## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	1
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	1
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	1
## Chagas disease (American trypanosomiasis)	1
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	1
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	1
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	1
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	1
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA

## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1
## Herpes simplex infection	1
## Histidine metabolism	NA
## Huntington's disease	1
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	2
## Influenza A	1
## Inositol phosphate metabolism	NA
## Insulin resistance	1
## Insulin secretion	NA
## Insulin signaling pathway	1
## Intestinal immune network for IgA production	NA
## Legionellosis	1
## Leishmaniasis	1
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	1
## Melanogenesis	2
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	1
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	1
## Neurotrophin signaling pathway	1
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	1
## Non-alcoholic fatty liver disease (NAFLD)	1
## One carbon pool by folate	NA
## Oocyte meiosis	1
## Osteoclast differentiation	1
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	1
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	1

## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	1
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	1
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	2
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	1
## Salivary secretion	NA
## Salmonella infection	1
## Selenocompound metabolism	NA
## Shigellosis	1
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	1
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	1
## TNF signaling pathway	1
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	1
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA

## Viral myocarditis	1
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp5.p
## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	2.003296e-04
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	2.889050e-03
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	5.123194e-02
## Chagas disease (American trypanosomiasis)	5.404006e-04
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA

## Epstein-Barr virus infection	1.946053e-04
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1.397149e-03
## Herpes simplex infection	2.609499e-03
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	3.114562e-01
## Inositol phosphate metabolism	NA
## Insulin resistance	3.078118e-03
## Insulin secretion	NA
## Insulin signaling pathway	6.813498e-02
## Intestinal immune network for IgA production	NA
## Legionellosis	2.227131e-02
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	7.392980e-03
## Melanogenesis	4.655827e-02
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA

## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	4.655277e-03
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	6.051296e-04
## One carbon pool by folate	NA
## Oocyte meiosis	3.274527e-03
## Osteoclast differentiation	1.993417e-01
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	3.635533e-04
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	1.521317e-01
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	8.023023e-05
## Salivary secretion	NA
## Salmonella infection	6.099465e-02
## Selenocompound metabolism	NA
## Shigellosis	1.387118e-02
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA

## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	5.501854e-03
## TNF signaling pathway	3.966609e-03
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	1.398632e-04
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	2.578241e-04
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp5.pFourier
## Acute myeloid leukemia	
NA	
## Adherens junction	
NA	
## Adipocytokine signaling pathway	
NA	
## African trypanosomiasis	
NA	
## Alanine, aspartate and glutamate metabolism	
NA	
## Aldosterone-regulated sodium reabsorption	
NA	
## Aldosterone synthesis and secretion	
NA	
## Allograft rejection	
NA	
## alpha-Linolenic acid metabolism	
NA	
## Alzheimer's disease	3.731617e-03
## Aminoacyl-tRNA biosynthesis	
NA	
## Amino sugar and nucleotide sugar metabolism	
NA	
## Amoebiasis	
NA	
## AMPK signaling pathway	4.260475e-02
## Amyotrophic lateral sclerosis (ALS)	

```
NA
## Antigen processing and presentation
NA
## Arachidonic acid metabolism
NA
## Arginine and proline metabolism
NA
## Arginine biosynthesis
NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
NA
## Ascorbate and aldarate metabolism
NA
## Asthma
NA
## Autoimmune thyroid disease
NA
## B cell receptor signaling pathway
NA
## beta-Alanine metabolism
NA
## Bile secretion
NA
## Biotin metabolism
NA
## Bladder cancer
NA
## Butanoate metabolism
NA
## Caffeine metabolism
NA
## Carbohydrate digestion and absorption
NA
## Cardiac muscle contraction
NA
## Cell adhesion molecules (CAMs)          2.836896e-
01
## Chagas disease (American trypanosomiasis) 1.011855e-
03
## Chemical carcinogenesis
NA
## Choline metabolism in cancer
NA
## Chronic myeloid leukemia
NA
## Circadian rhythm
NA
## Citrate cycle (TCA cycle)
NA
## Cocaine addiction
NA
## Colorectal cancer
NA
## Cysteine and methionine metabolism
```

```
NA
## Cytosolic DNA-sensing pathway
NA
## D-Glutamine and D-glutamate metabolism
NA
## Dilated cardiomyopathy
NA
## Dorso-ventral axis formation
NA
## Drug metabolism - cytochrome P450
NA
## Drug metabolism - other enzymes
NA
## Endocrine and other factor-regulated calcium reabsorption
NA
## Endometrial cancer
NA
## Epstein-Barr virus infection 5.583817e-
01
## Ether lipid metabolism
NA
## Fat digestion and absorption
NA
## Fatty acid biosynthesis
NA
## Fatty acid degradation
NA
## Fatty acid elongation
NA
## Folate biosynthesis
NA
## Fructose and mannose metabolism
NA
## Galactose metabolism
NA
## Gastric acid secretion
NA
## Glucagon signaling pathway
NA
## Glutathione metabolism
NA
## Glycerolipid metabolism
NA
## Glycerophospholipid metabolism
NA
## Glycine, serine and threonine metabolism
NA
## Glycolysis / Gluconeogenesis
NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate
NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin
NA
## Glycosaminoglycan degradation
```

```
NA
## Glycosphingolipid biosynthesis - ganglio series
NA
## Glycosphingolipid biosynthesis - globo series
NA
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism
NA
## GnRH signaling pathway
NA
## Graft-versus-host disease
NA
## Hedgehog signaling pathway
NA
## Hepatitis C 1.537225e-
01
## Herpes simplex infection 4.620056e-
01
## Histidine metabolism
NA
## Huntington's disease
NA
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD)
NA
## Inflammatory mediator regulation of TRP channels 1.571789e-
01
## Influenza A 2.451161e-
01
## Inositol phosphate metabolism
NA
## Insulin resistance 1.720397e-
03
## Insulin secretion
NA
## Insulin signaling pathway 7.800867e-
01
## Intestinal immune network for IgA production
NA
## Legionellosis 8.164932e-
01
## Leishmaniasis
NA
## Linoleic acid metabolism
NA
## Lipoic acid metabolism
NA
## Lysine biosynthesis
NA
## Lysine degradation
```

```
NA
## Malaria
NA
## Maturity onset diabetes of the young
NA
## Measles                                         1.198945e-
02
## Melanogenesis                                    9.602093e-
03
## Metabolism of xenobiotics by cytochrome P450
NA
## Mineral absorption
NA
## mTOR signaling pathway
NA
## Mucin type O-Glycan biosynthesis
NA
## Neuroactive ligand-receptor interaction
NA
## Neurotrophin signaling pathway                 7.119866e-
01
## N-Glycan biosynthesis
NA
## Nicotinate and nicotinamide metabolism
NA
## Nitrogen metabolism
NA
## NOD-like receptor signaling pathway
NA
## Non-alcoholic fatty liver disease (NAFLD)      5.371660e-
03
## One carbon pool by folate
NA
## Oocyte meiosis                                     1.605020e-
04
## Osteoclast differentiation                        7.383287e-
02
## Ovarian steroidogenesis
NA
## Oxidative phosphorylation
NA
## Pancreatic cancer                                1.534091e-
01
## Pancreatic secretion
NA
## Pantothenate and CoA biosynthesis
NA
## Parkinson's disease
NA
## Pathogenic Escherichia coli infection
NA
## Pentose and glucuronate interconversions
NA
## Pentose phosphate pathway
```

```
NA
## Pertussis
NA
## Phenylalanine metabolism
NA
## Phenylalanine, tyrosine and tryptophan biosynthesis
NA
## Phosphatidylinositol signaling system
NA
## Phototransduction
NA
## Porphyrin and chlorophyll metabolism
NA
## Primary bile acid biosynthesis
NA
## Prion diseases
NA
## Progesterone-mediated oocyte maturation 7.138747e-
01
## Propanoate metabolism
NA
## Proximal tubule bicarbonate reclamation
NA
## Pyrimidine metabolism
NA
## Pyruvate metabolism
NA
## Regulation of lipolysis in adipocytes
NA
## Renal cell carcinoma
NA
## Renin-angiotensin system
NA
## Renin secretion
NA
## Retinol metabolism
NA
## Rheumatoid arthritis
NA
## Riboflavin metabolism
NA
## RIG-I-like receptor signaling pathway 2.369698e-
01
## Salivary secretion
NA
## Salmonella infection 1.664549e-
01
## Selenocompound metabolism
NA
## Shigellosis 5.209966e-
03
## Sphingolipid metabolism
NA
## Staphylococcus aureus infection
```

```
NA
## Starch and sucrose metabolism
NA
## Steroid biosynthesis
NA
## Steroid hormone biosynthesis
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus
NA
## Taste transduction
NA
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway
NA
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism
NA
## Thyroid cancer
NA
## Thyroid hormone synthesis
NA
## Tight junction
6.287270e-01
## TNF signaling pathway
7.641047e-01
## Toxoplasmosis
NA
## Transcriptional misregulation in cancer
NA
## Tryptophan metabolism
NA
## Type I diabetes mellitus
NA
## Type II diabetes mellitus
NA
## Tyrosine metabolism
NA
## Ubiquinone and other terpenoid-quinone biosynthesis
NA
## Valine, leucine and isoleucine degradation
NA
## Vasopressin-regulated water reabsorption
NA
## VEGF signaling pathway
7.591212e-06
## Vibrio cholerae infection
```

NA	
## Viral carcinogenesis	
NA	
## Viral myocarditis	2.014797e-
04	
## Vitamin B6 metabolism	
NA	
## Vitamin digestion and absorption	
NA	
##	Comp5.k
## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	1
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	1
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	1
## Chagas disease (American trypanosomiasis)	1
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA

## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	1
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1
## Herpes simplex infection	1
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	2
## Influenza A	1
## Inositol phosphate metabolism	NA
## Insulin resistance	1
## Insulin secretion	NA
## Insulin signaling pathway	1
## Intestinal immune network for IgA production	NA
## Legionellosis	1
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA

## Measles	1
## Melanogenesis	1
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	1
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	1
## One carbon pool by folate	NA
## Oocyte meiosis	1
## Osteoclast differentiation	1
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	1
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	1
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	1
## Salivary secretion	NA
## Salmonella infection	1
## Selenocompound metabolism	NA
## Shigellosis	1
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA

## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	1
## TNF signaling pathway	1
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	1
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	1
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp6.p
## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	1.537627e-04
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	6.079290e-03
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA

## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	8.612618e-03
## Chagas disease (American trypanosomiasis)	9.728275e-02
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	1.755161e-01
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	7.712749e-03

## Herpes simplex infection	9.670449e-01
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	2.270304e-02
## Influenza A	1.105806e-02
## Inositol phosphate metabolism	NA
## Insulin resistance	1.854994e-03
## Insulin secretion	NA
## Insulin signaling pathway	1.572668e-03
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	2.609499e-03
## Melanogenesis	1.971067e-03
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	3.114995e-02
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	3.525411e-05
## One carbon pool by folate	NA
## Oocyte meiosis	3.314963e-03
## Osteoclast differentiation	5.998769e-02
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA

## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	1.721992e-04
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	1.512026e-02
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	9.033627e-02
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	
er	Comp6.pFourier
## Acute myeloid leukemia	
NA	
## Adherens junction	

```
NA
## Adipocytokine signaling pathway
NA
## African trypanosomiasis
NA
## Alanine, aspartate and glutamate metabolism
NA
## Aldosterone-regulated sodium reabsorption
NA
## Aldosterone synthesis and secretion
NA
## Allograft rejection
NA
## alpha-Linolenic acid metabolism
NA
## Alzheimer's disease 2.069767e-02
## Aminoacyl-tRNA biosynthesis
NA
## Amino sugar and nucleotide sugar metabolism
NA
## Amoebiasis
NA
## AMPK signaling pathway 2.166146e-03
## Amyotrophic lateral sclerosis (ALS)
NA
## Antigen processing and presentation
NA
## Arachidonic acid metabolism
NA
## Arginine and proline metabolism
NA
## Arginine biosynthesis
NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
NA
## Ascorbate and aldarate metabolism
NA
## Asthma
NA
## Autoimmune thyroid disease
NA
## B cell receptor signaling pathway
NA
## beta-Alanine metabolism
NA
## Bile secretion
NA
## Biotin metabolism
NA
## Bladder cancer
NA
## Butanoate metabolism
```

```
NA
## Caffeine metabolism
NA
## Carbohydrate digestion and absorption
NA
## Cardiac muscle contraction
NA
## Cell adhesion molecules (CAMs)      5.808492e-
01
## Chagas disease (American trypanosomiasis) 2.282664e-
02
## Chemical carcinogenesis
NA
## Choline metabolism in cancer
NA
## Chronic myeloid leukemia
NA
## Circadian rhythm
NA
## Citrate cycle (TCA cycle)
NA
## Cocaine addiction
NA
## Colorectal cancer
NA
## Cysteine and methionine metabolism
NA
## Cytosolic DNA-sensing pathway
NA
## D-Glutamine and D-glutamate metabolism
NA
## Dilated cardiomyopathy
NA
## Dorso-ventral axis formation
NA
## Drug metabolism - cytochrome P450
NA
## Drug metabolism - other enzymes
NA
## Endocrine and other factor-regulated calcium reabsorption
NA
## Endometrial cancer
NA
## Epstein-Barr virus infection          8.144986e-
02
## Ether lipid metabolism
NA
## Fat digestion and absorption
NA
## Fatty acid biosynthesis
NA
## Fatty acid degradation
NA
## Fatty acid elongation
```

```
NA
## Folate biosynthesis
NA
## Fructose and mannose metabolism
NA
## Galactose metabolism
NA
## Gastric acid secretion
NA
## Glucagon signaling pathway
NA
## Glutathione metabolism
NA
## Glycerolipid metabolism
NA
## Glycerophospholipid metabolism
NA
## Glycine, serine and threonine metabolism
NA
## Glycolysis / Gluconeogenesis
NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate
NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin
NA
## Glycosaminoglycan degradation
NA
## Glycosphingolipid biosynthesis - ganglio series
NA
## Glycosphingolipid biosynthesis - globo series
NA
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism
NA
## GnRH signaling pathway
NA
## Graft-versus-host disease
NA
## Hedgehog signaling pathway
NA
## Hepatitis C 6.073678e-
01
## Herpes simplex infection 7.953202e-
01
## Histidine metabolism
NA
## Huntington's disease
NA
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD)
```

```

NA
## Inflammatory mediator regulation of TRP channels          1.641130e-
04
## Influenza A                                         6.218025e-
01
## Inositol phosphate metabolism
NA
## Insulin resistance                                     1.704876e-
01
## Insulin secretion
NA
## Insulin signaling pathway                           4.267400e-
04
## Intestinal immune network for IgA production
NA
## Legionellosis
NA
## Leishmaniasis
NA
## Linoleic acid metabolism
NA
## Lipoic acid metabolism
NA
## Lysine biosynthesis
NA
## Lysine degradation
NA
## Malaria
NA
## Maturity onset diabetes of the young
NA
## Measles                                              4.620056e-
01
## Melanogenesis                                         1.861212e-
04
## Metabolism of xenobiotics by cytochrome P450
NA
## Mineral absorption
NA
## mTOR signaling pathway
NA
## Mucin type O-Glycan biosynthesis
NA
## Neuroactive ligand-receptor interaction
NA
## Neurotrophin signaling pathway                      1.507586e-
03
## N-Glycan biosynthesis
NA
## Nicotinate and nicotinamide metabolism
NA
## Nitrogen metabolism
NA
## NOD-like receptor signaling pathway

```

```
NA
## Non-alcoholic fatty liver disease (NAFLD)          2.045709e-
06
## One carbon pool by folate
NA
## Oocyte meiosis                                     9.429127e-
04
## Osteoclast differentiation                         6.458810e-
02
## Ovarian steroidogenesis
NA
## Oxidative phosphorylation
NA
## Pancreatic cancer
NA
## Pancreatic secretion
NA
## Pantothenate and CoA biosynthesis
NA
## Parkinson's disease
NA
## Pathogenic Escherichia coli infection
NA
## Pentose and glucuronate interconversions
NA
## Pentose phosphate pathway
NA
## Pertussis
NA
## Phenylalanine metabolism
NA
## Phenylalanine, tyrosine and tryptophan biosynthesis
NA
## Phosphatidylinositol signaling system
NA
## Phototransduction
NA
## Porphyrin and chlorophyll metabolism
NA
## Primary bile acid biosynthesis
NA
## Prion diseases
NA
## Progesterone-mediated oocyte maturation
NA
## Propanoate metabolism
NA
## Proximal tubule bicarbonate reclamation
NA
## Pyrimidine metabolism
NA
## Pyruvate metabolism
NA
## Regulation of lipolysis in adipocytes
```

```
NA
## Renal cell carcinoma
NA
## Renin-angiotensin system
NA
## Renin secretion
NA
## Retinol metabolism
NA
## Rheumatoid arthritis
NA
## Riboflavin metabolism
NA
## RIG-I-like receptor signaling pathway 2.239921e-
03
## Salivary secretion
NA
## Salmonella infection
NA
## Selenocompound metabolism
NA
## Shigellosis
NA
## Sphingolipid metabolism
NA
## Staphylococcus aureus infection
NA
## Starch and sucrose metabolism
NA
## Steroid biosynthesis
NA
## Steroid hormone biosynthesis
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus
NA
## Taste transduction
NA
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway
NA
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism
NA
## Thyroid cancer
NA
## Thyroid hormone synthesis
```

```

NA
## Tight junction
NA
## TNF signaling pathway
03
## Toxoplasmosis
NA
## Transcriptional misregulation in cancer
NA
## Tryptophan metabolism
NA
## Type I diabetes mellitus
NA
## Type II diabetes mellitus
NA
## Tyrosine metabolism
NA
## Ubiquinone and other terpenoid-quinone biosynthesis
NA
## Valine, leucine and isoleucine degradation
NA
## Vasopressin-regulated water reabsorption
NA
## VEGF signaling pathway
NA
## Vibrio cholerae infection
NA
## Viral carcinogenesis
NA
## Viral myocarditis
01
## Vitamin B6 metabolism
NA
## Vitamin digestion and absorption
NA
##
## Acute myeloid leukemia
## Adherens junction
## Adipocytokine signaling pathway
## African trypanosomiasis
## Alanine, aspartate and glutamate metabolism
## Aldosterone-regulated sodium reabsorption
## Aldosterone synthesis and secretion
## Allograft rejection
## alpha-Linolenic acid metabolism
## Alzheimer's disease
## Aminoacyl-tRNA biosynthesis
## Amino sugar and nucleotide sugar metabolism
## Amoebiasis
## AMPK signaling pathway
## Amyotrophic lateral sclerosis (ALS)
## Antigen processing and presentation
## Arachidonic acid metabolism
## Arginine and proline metabolism

```

5.739834e-

2.734131e-

Comp6.k

NA

## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	1
## Chagas disease (American trypanosomiasis)	1
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	1
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA

## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1
## Herpes simplex infection	1
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	1
## Influenza A	1
## Inositol phosphate metabolism	NA
## Insulin resistance	1
## Insulin secretion	NA
## Insulin signaling pathway	1
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	1
## Melanogenesis	1
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	1
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	1
## One carbon pool by folate	NA
## Oocyte meiosis	1
## Osteoclast differentiation	1
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA

## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	1
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	1
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	1
## Vitamin B6 metabolism	NA

## Vitamin digestion and absorption	NA
##	Comp7.p
## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	2.138043e-04
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	1.147263e-02
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	4.284359e-02
## Chagas disease (American trypanosomiasis)	4.767311e-06
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA

## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	3.519424e-05
## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	1.027267e-01
## Influenza A	4.592931e-01
## Inositol phosphate metabolism	NA
## Insulin resistance	5.954206e-03
## Insulin secretion	NA
## Insulin signaling pathway	5.271242e-02
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	2.416589e-05

## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	1.147263e-02
## One carbon pool by folate	NA
## Oocyte meiosis	1.521317e-01
## Osteoclast differentiation	1.049829e-01
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	7.702696e-03
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA

## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp7.pFourier
er	
## Acute myeloid leukemia	
NA	
## Adherens junction	
NA	
## Adipocytokine signaling pathway	
NA	
## African trypanosomiasis	
NA	
## Alanine, aspartate and glutamate metabolism	
NA	
## Aldosterone-regulated sodium reabsorption	
NA	
## Aldosterone synthesis and secretion	
NA	
## Allograft rejection	
NA	
## alpha-Linolenic acid metabolism	
NA	
## Alzheimer's disease	2.084033e-02
## Aminoacyl-tRNA biosynthesis	
NA	
## Amino sugar and nucleotide sugar metabolism	
NA	
## Amoebiasis	
NA	
## AMPK signaling pathway	1.279352e-01
## Amyotrophic lateral sclerosis (ALS)	
NA	
## Antigen processing and presentation	

```
NA
## Arachidonic acid metabolism
NA
## Arginine and proline metabolism
NA
## Arginine biosynthesis
NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
NA
## Ascorbate and aldarate metabolism
NA
## Asthma
NA
## Autoimmune thyroid disease
NA
## B cell receptor signaling pathway
NA
## beta-Alanine metabolism
NA
## Bile secretion
NA
## Biotin metabolism
NA
## Bladder cancer
NA
## Butanoate metabolism
NA
## Caffeine metabolism
NA
## Carbohydrate digestion and absorption
NA
## Cardiac muscle contraction
NA
## Cell adhesion molecules (CAMs)          4.043465e-
01
## Chagas disease (American trypanosomiasis) 9.057618e-
05
## Chemical carcinogenesis
NA
## Choline metabolism in cancer
NA
## Chronic myeloid leukemia
NA
## Circadian rhythm
NA
## Citrate cycle (TCA cycle)
NA
## Cocaine addiction
NA
## Colorectal cancer
NA
## Cysteine and methionine metabolism
NA
## Cytosolic DNA-sensing pathway
```

```
NA
## D-Glutamine and D-glutamate metabolism
NA
## Dilated cardiomyopathy
NA
## Dorso-ventral axis formation
NA
## Drug metabolism - cytochrome P450
NA
## Drug metabolism - other enzymes
NA
## Endocrine and other factor-regulated calcium reabsorption
NA
## Endometrial cancer
NA
## Epstein-Barr virus infection
NA
## Ether lipid metabolism
NA
## Fat digestion and absorption
NA
## Fatty acid biosynthesis
NA
## Fatty acid degradation
NA
## Fatty acid elongation
NA
## Folate biosynthesis
NA
## Fructose and mannose metabolism
NA
## Galactose metabolism
NA
## Gastric acid secretion
NA
## Glucagon signaling pathway
NA
## Glutathione metabolism
NA
## Glycerolipid metabolism
NA
## Glycerophospholipid metabolism
NA
## Glycine, serine and threonine metabolism
NA
## Glycolysis / Gluconeogenesis
NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate
NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin
NA
## Glycosaminoglycan degradation
NA
## Glycosphingolipid biosynthesis - ganglio series
```

```
NA
## Glycosphingolipid biosynthesis - globo series
NA
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism
NA
## GnRH signaling pathway
NA
## Graft-versus-host disease
NA
## Hedgehog signaling pathway
NA
## Hepatitis C
NA
## Herpes simplex infection
NA
## Histidine metabolism
NA
## Huntington's disease
NA
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD)
NA
## Inflammatory mediator regulation of TRP channels
NA
## Influenza A
NA
## Inositol phosphate metabolism
NA
## Insulin resistance
NA
## Insulin secretion
NA
## Insulin signaling pathway
NA
## Intestinal immune network for IgA production
NA
## Legionellosis
NA
## Leishmaniasis
NA
## Linoleic acid metabolism
NA
## Lipoic acid metabolism
NA
## Lysine biosynthesis
NA
## Lysine degradation
NA
## Malaria
```

```
NA
## Maturity onset diabetes of the young
NA
## Measles
NA
## Melanogenesis
NA
## Metabolism of xenobiotics by cytochrome P450
NA
## Mineral absorption
NA
## mTOR signaling pathway
NA
## Mucin type O-Glycan biosynthesis
NA
## Neuroactive ligand-receptor interaction
NA
## Neurotrophin signaling pathway 3.637256e-
06
## N-Glycan biosynthesis
NA
## Nicotinate and nicotinamide metabolism
NA
## Nitrogen metabolism
NA
## NOD-like receptor signaling pathway
NA
## Non-alcoholic fatty liver disease (NAFLD) 1.279352e-
01
## One carbon pool by folate
NA
## Oocyte meiosis 7.138747e-
01
## Osteoclast differentiation 1.157787e-
01
## Ovarian steroidogenesis
NA
## Oxidative phosphorylation
NA
## Pancreatic cancer
NA
## Pancreatic secretion
NA
## Pantothenate and CoA biosynthesis
NA
## Parkinson's disease
NA
## Pathogenic Escherichia coli infection
NA
## Pentose and glucuronate interconversions
NA
## Pentose phosphate pathway
NA
## Pertussis
```

```
NA
## Phenylalanine metabolism
NA
## Phenylalanine, tyrosine and tryptophan biosynthesis
NA
## Phosphatidylinositol signaling system
NA
## Phototransduction
NA
## Porphyrin and chlorophyll metabolism
NA
## Primary bile acid biosynthesis
NA
## Prion diseases
NA
## Progesterone-mediated oocyte maturation
NA
## Propanoate metabolism
NA
## Proximal tubule bicarbonate reclamation
NA
## Pyrimidine metabolism
NA
## Pyruvate metabolism
NA
## Regulation of lipolysis in adipocytes
NA
## Renal cell carcinoma
NA
## Renin-angiotensin system
NA
## Renin secretion
NA
## Retinol metabolism
NA
## Rheumatoid arthritis
NA
## Riboflavin metabolism
NA
## RIG-I-like receptor signaling pathway      2.002900e-
03
## Salivary secretion
NA
## Salmonella infection
NA
## Selenocompound metabolism
NA
## Shigellosis
NA
## Sphingolipid metabolism
NA
## Staphylococcus aureus infection
NA
## Starch and sucrose metabolism
```

```
NA
## Steroid biosynthesis
NA
## Steroid hormone biosynthesis
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus
NA
## Taste transduction
NA
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway
NA
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism
NA
## Thyroid cancer
NA
## Thyroid hormone synthesis
NA
## Tight junction
NA
## TNF signaling pathway
NA
## Toxoplasmosis
NA
## Transcriptional misregulation in cancer
NA
## Tryptophan metabolism
NA
## Type I diabetes mellitus
NA
## Type II diabetes mellitus
NA
## Tyrosine metabolism
NA
## Ubiquinone and other terpenoid-quinone biosynthesis
NA
## Valine, leucine and isoleucine degradation
NA
## Vasopressin-regulated water reabsorption
NA
## VEGF signaling pathway
NA
## Vibrio cholerae infection
NA
## Viral carcinogenesis
```

NA	
## Viral myocarditis	
NA	
## Vitamin B6 metabolism	
NA	
## Vitamin digestion and absorption	
NA	
##	Comp7.k
## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	1
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	1
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	1
## Chagas disease (American trypanosomiasis)	1
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA

## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1
## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	1
## Influenza A	1
## Inositol phosphate metabolism	NA
## Insulin resistance	1
## Insulin secretion	NA
## Insulin signaling pathway	1
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA

## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	1
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	1
## One carbon pool by folate	NA
## Oocyte meiosis	1
## Osteoclast differentiation	1
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propionate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	1
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA

## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp8.p
## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	0.014168963
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	0.044182378
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA

## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	0.170398904
## Chagas disease (American trypanosomiasis)	NA
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	0.005007935
## Herpes simplex infection	NA
## Histidine metabolism	NA

## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	0.061724757
## Influenza A	0.002921922
## Inositol phosphate metabolism	NA
## Insulin resistance	0.108534881
## Insulin secretion	NA
## Insulin signaling pathway	NA
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	0.036066242
## One carbon pool by folate	NA
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA

## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp8.pFourier
##	er
## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA

```
NA
## African trypanosomiasis
NA
## Alanine, aspartate and glutamate metabolism
NA
## Aldosterone-regulated sodium reabsorption
NA
## Aldosterone synthesis and secretion
NA
## Allograft rejection
NA
## alpha-Linolenic acid metabolism
NA
## Alzheimer's disease 0.0166146
55
## Aminoacyl-tRNA biosynthesis
NA
## Amino sugar and nucleotide sugar metabolism
NA
## Amoebiasis
NA
## AMPK signaling pathway 0.0324294
11
## Amyotrophic lateral sclerosis (ALS)
NA
## Antigen processing and presentation
NA
## Arachidonic acid metabolism
NA
## Arginine and proline metabolism
NA
## Arginine biosynthesis
NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
NA
## Ascorbate and aldarate metabolism
NA
## Asthma
NA
## Autoimmune thyroid disease
NA
## B cell receptor signaling pathway
NA
## beta-Alanine metabolism
NA
## Bile secretion
NA
## Biotin metabolism
NA
## Bladder cancer
NA
## Butanoate metabolism
NA
## Caffeine metabolism
```

```
NA
## Carbohydrate digestion and absorption
NA
## Cardiac muscle contraction
NA
## Cell adhesion molecules (CAMs) 0.8957194
64
## Chagas disease (American trypanosomiasis)
NA
## Chemical carcinogenesis
NA
## Choline metabolism in cancer
NA
## Chronic myeloid leukemia
NA
## Circadian rhythm
NA
## Citrate cycle (TCA cycle)
NA
## Cocaine addiction
NA
## Colorectal cancer
NA
## Cysteine and methionine metabolism
NA
## Cytosolic DNA-sensing pathway
NA
## D-Glutamine and D-glutamate metabolism
NA
## Dilated cardiomyopathy
NA
## Dorso-ventral axis formation
NA
## Drug metabolism - cytochrome P450
NA
## Drug metabolism - other enzymes
NA
## Endocrine and other factor-regulated calcium reabsorption
NA
## Endometrial cancer
NA
## Epstein-Barr virus infection
NA
## Ether lipid metabolism
NA
## Fat digestion and absorption
NA
## Fatty acid biosynthesis
NA
## Fatty acid degradation
NA
## Fatty acid elongation
NA
## Folate biosynthesis
```

```
NA
## Fructose and mannose metabolism
NA
## Galactose metabolism
NA
## Gastric acid secretion
NA
## Glucagon signaling pathway
NA
## Glutathione metabolism
NA
## Glycerolipid metabolism
NA
## Glycerophospholipid metabolism
NA
## Glycine, serine and threonine metabolism
NA
## Glycolysis / Gluconeogenesis
NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate
NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin
NA
## Glycosaminoglycan degradation
NA
## Glycosphingolipid biosynthesis - ganglio series
NA
## Glycosphingolipid biosynthesis - globo series
NA
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism
NA
## GnRH signaling pathway
NA
## Graft-versus-host disease
NA
## Hedgehog signaling pathway
NA
## Hepatitis C 0.0068263
53
## Herpes simplex infection
NA
## Histidine metabolism
NA
## Huntington's disease
NA
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD)
NA
## Inflammatory mediator regulation of TRP channels 0.0984682
```

41	
## Influenza A	0.8016575
47	
## Inositol phosphate metabolism	
NA	
## Insulin resistance	0.3976652
52	
## Insulin secretion	
NA	
## Insulin signaling pathway	
NA	
## Intestinal immune network for IgA production	
NA	
## Legionellosis	
NA	
## Leishmaniasis	
NA	
## Linoleic acid metabolism	
NA	
## Lipoic acid metabolism	
NA	
## Lysine biosynthesis	
NA	
## Lysine degradation	
NA	
## Malaria	
NA	
## Maturity onset diabetes of the young	
NA	
## Measles	
NA	
## Melanogenesis	
NA	
## Metabolism of xenobiotics by cytochrome P450	
NA	
## Mineral absorption	
NA	
## mTOR signaling pathway	
NA	
## Mucin type O-Glycan biosynthesis	
NA	
## Neuroactive ligand-receptor interaction	
NA	
## Neurotrophin signaling pathway	
NA	
## N-Glycan biosynthesis	
NA	
## Nicotinate and nicotinamide metabolism	
NA	
## Nitrogen metabolism	
NA	
## NOD-like receptor signaling pathway	
NA	
## Non-alcoholic fatty liver disease (NAFLD)	0.0502372

```
54
## One carbon pool by folate
NA
## Oocyte meiosis
NA
## Osteoclast differentiation
NA
## Ovarian steroidogenesis
NA
## Oxidative phosphorylation
NA
## Pancreatic cancer
NA
## Pancreatic secretion
NA
## Pantothenate and CoA biosynthesis
NA
## Parkinson's disease
NA
## Pathogenic Escherichia coli infection
NA
## Pentose and glucuronate interconversions
NA
## Pentose phosphate pathway
NA
## Pertussis
NA
## Phenylalanine metabolism
NA
## Phenylalanine, tyrosine and tryptophan biosynthesis
NA
## Phosphatidylinositol signaling system
NA
## Phototransduction
NA
## Porphyrin and chlorophyll metabolism
NA
## Primary bile acid biosynthesis
NA
## Prion diseases
NA
## Progesterone-mediated oocyte maturation
NA
## Propanoate metabolism
NA
## Proximal tubule bicarbonate reclamation
NA
## Pyrimidine metabolism
NA
## Pyruvate metabolism
NA
## Regulation of lipolysis in adipocytes
NA
## Renal cell carcinoma
```

```
NA
## Renin-angiotensin system
NA
## Renin secretion
NA
## Retinol metabolism
NA
## Rheumatoid arthritis
NA
## Riboflavin metabolism
NA
## RIG-I-like receptor signaling pathway
NA
## Salivary secretion
NA
## Salmonella infection
NA
## Selenocompound metabolism
NA
## Shigellosis
NA
## Sphingolipid metabolism
NA
## Staphylococcus aureus infection
NA
## Starch and sucrose metabolism
NA
## Steroid biosynthesis
NA
## Steroid hormone biosynthesis
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus
NA
## Taste transduction
NA
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway
NA
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism
NA
## Thyroid cancer
NA
## Thyroid hormone synthesis
NA
## Tight junction
```

```
NA
## TNF signaling pathway
NA
## Toxoplasmosis
NA
## Transcriptional misregulation in cancer
NA
## Tryptophan metabolism
NA
## Type I diabetes mellitus
NA
## Type II diabetes mellitus
NA
## Tyrosine metabolism
NA
## Ubiquinone and other terpenoid-quinone biosynthesis
NA
## Valine, leucine and isoleucine degradation
NA
## Vasopressin-regulated water reabsorption
NA
## VEGF signaling pathway
NA
## Vibrio cholerae infection
NA
## Viral carcinogenesis
NA
## Viral myocarditis
NA
## Vitamin B6 metabolism
NA
## Vitamin digestion and absorption
NA
##
## Acute myeloid leukemia
## Adherens junction
## Adipocytokine signaling pathway
## African trypanosomiasis
## Alanine, aspartate and glutamate metabolism
## Aldosterone-regulated sodium reabsorption
## Aldosterone synthesis and secretion
## Allograft rejection
## alpha-Linolenic acid metabolism
## Alzheimer's disease
## Aminoacyl-tRNA biosynthesis
## Amino sugar and nucleotide sugar metabolism
## Amoebiasis
## AMPK signaling pathway
## Amyotrophic lateral sclerosis (ALS)
## Antigen processing and presentation
## Arachidonic acid metabolism
## Arginine and proline metabolism
## Arginine biosynthesis
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
```

Comp8.k

NA

## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	1
## Chagas disease (American trypanosomiasis)	NA
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA

## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1
## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	1
## Influenza A	1
## Inositol phosphate metabolism	NA
## Insulin resistance	1
## Insulin secretion	NA
## Insulin signaling pathway	NA
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	1
## One carbon pool by folate	NA
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA

## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp9.p

## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	NA
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	3.606624e-02
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	1.574914e-01
## Chagas disease (American trypanosomiasis)	NA
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA

## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	2.609499e-03
## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	2.383015e-05
## Inositol phosphate metabolism	NA
## Insulin resistance	NA
## Insulin secretion	NA
## Insulin signaling pathway	NA
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA

## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	2.578241e-04
## One carbon pool by folate	NA
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA

## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp9.pFourier
## Acute myeloid leukemia	
NA	
## Adherens junction	
NA	
## Adipocytokine signaling pathway	
NA	
## African trypanosomiasis	
NA	
## Alanine, aspartate and glutamate metabolism	
NA	
## Aldosterone-regulated sodium reabsorption	
NA	
## Aldosterone synthesis and secretion	
NA	
## Allograft rejection	
NA	
## alpha-Linolenic acid metabolism	
NA	
## Alzheimer's disease	
NA	
## Aminoacyl-tRNA biosynthesis	
NA	
## Amino sugar and nucleotide sugar metabolism	
NA	
## Amoebiasis	
NA	
## AMPK signaling pathway	0.05023725
36	
## Amyotrophic lateral sclerosis (ALS)	
NA	
## Antigen processing and presentation	
NA	
## Arachidonic acid metabolism	

```
NA
## Arginine and proline metabolism
NA
## Arginine biosynthesis
NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
NA
## Ascorbate and aldarate metabolism
NA
## Asthma
NA
## Autoimmune thyroid disease
NA
## B cell receptor signaling pathway
NA
## beta-Alanine metabolism
NA
## Bile secretion
NA
## Biotin metabolism
NA
## Bladder cancer
NA
## Butanoate metabolism
NA
## Caffeine metabolism
NA
## Carbohydrate digestion and absorption
NA
## Cardiac muscle contraction
NA
## Cell adhesion molecules (CAMs)          0.18908733
74
## Chagas disease (American trypanosomiasis)
NA
## Chemical carcinogenesis
NA
## Choline metabolism in cancer
NA
## Chronic myeloid leukemia
NA
## Circadian rhythm
NA
## Citrate cycle (TCA cycle)
NA
## Cocaine addiction
NA
## Colorectal cancer
NA
## Cysteine and methionine metabolism
NA
## Cytosolic DNA-sensing pathway
NA
## D-Glutamine and D-glutamate metabolism
```

```
NA
## Dilated cardiomyopathy
NA
## Dorso-ventral axis formation
NA
## Drug metabolism - cytochrome P450
NA
## Drug metabolism - other enzymes
NA
## Endocrine and other factor-regulated calcium reabsorption
NA
## Endometrial cancer
NA
## Epstein-Barr virus infection
NA
## Ether lipid metabolism
NA
## Fat digestion and absorption
NA
## Fatty acid biosynthesis
NA
## Fatty acid degradation
NA
## Fatty acid elongation
NA
## Folate biosynthesis
NA
## Fructose and mannose metabolism
NA
## Galactose metabolism
NA
## Gastric acid secretion
NA
## Glucagon signaling pathway
NA
## Glutathione metabolism
NA
## Glycerolipid metabolism
NA
## Glycerophospholipid metabolism
NA
## Glycine, serine and threonine metabolism
NA
## Glycolysis / Gluconeogenesis
NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate
NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin
NA
## Glycosaminoglycan degradation
NA
## Glycosphingolipid biosynthesis - ganglio series
NA
## Glycosphingolipid biosynthesis - globo series
```

```
NA
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism
NA
## GnRH signaling pathway
NA
## Graft-versus-host disease
NA
## Hedgehog signaling pathway
NA
## Hepatitis C                                         0.46200555
64
## Herpes simplex infection
NA
## Histidine metabolism
NA
## Huntington's disease
NA
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD)
NA
## Inflammatory mediator regulation of TRP channels
NA
## Influenza A                                         0.00090048
74
## Inositol phosphate metabolism
NA
## Insulin resistance
NA
## Insulin secretion
NA
## Insulin signaling pathway
NA
## Intestinal immune network for IgA production
NA
## Legionellosis
NA
## Leishmaniasis
NA
## Linoleic acid metabolism
NA
## Lipoic acid metabolism
NA
## Lysine biosynthesis
NA
## Lysine degradation
NA
## Malaria
NA
## Maturity onset diabetes of the young
```

```
NA
## Measles
NA
## Melanogenesis
NA
## Metabolism of xenobiotics by cytochrome P450
NA
## Mineral absorption
NA
## mTOR signaling pathway
NA
## Mucin type O-Glycan biosynthesis
NA
## Neuroactive ligand-receptor interaction
NA
## Neurotrophin signaling pathway
NA
## N-Glycan biosynthesis
NA
## Nicotinate and nicotinamide metabolism
NA
## Nitrogen metabolism
NA
## NOD-like receptor signaling pathway
NA
## Non-alcoholic fatty liver disease (NAFLD)          0.00020147
97
## One carbon pool by folate
NA
## Oocyte meiosis
NA
## Osteoclast differentiation
NA
## Ovarian steroidogenesis
NA
## Oxidative phosphorylation
NA
## Pancreatic cancer
NA
## Pancreatic secretion
NA
## Pantothenate and CoA biosynthesis
NA
## Parkinson's disease
NA
## Pathogenic Escherichia coli infection
NA
## Pentose and glucuronate interconversions
NA
## Pentose phosphate pathway
NA
## Pertussis
NA
## Phenylalanine metabolism
```

```
NA
## Phenylalanine, tyrosine and tryptophan biosynthesis
NA
## Phosphatidylinositol signaling system
NA
## Phototransduction
NA
## Porphyrin and chlorophyll metabolism
NA
## Primary bile acid biosynthesis
NA
## Prion diseases
NA
## Progesterone-mediated oocyte maturation
NA
## Propionate metabolism
NA
## Proximal tubule bicarbonate reclamation
NA
## Pyrimidine metabolism
NA
## Pyruvate metabolism
NA
## Regulation of lipolysis in adipocytes
NA
## Renal cell carcinoma
NA
## Renin-angiotensin system
NA
## Renin secretion
NA
## Retinol metabolism
NA
## Rheumatoid arthritis
NA
## Riboflavin metabolism
NA
## RIG-I-like receptor signaling pathway
NA
## Salivary secretion
NA
## Salmonella infection
NA
## Selenocompound metabolism
NA
## Shigellosis
NA
## Sphingolipid metabolism
NA
## Staphylococcus aureus infection
NA
## Starch and sucrose metabolism
NA
## Steroid biosynthesis
```

```
NA
## Steroid hormone biosynthesis
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus
NA
## Taste transduction
NA
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway
NA
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism
NA
## Thyroid cancer
NA
## Thyroid hormone synthesis
NA
## Tight junction
NA
## TNF signaling pathway
NA
## Toxoplasmosis
NA
## Transcriptional misregulation in cancer
NA
## Tryptophan metabolism
NA
## Type I diabetes mellitus
NA
## Type II diabetes mellitus
NA
## Tyrosine metabolism
NA
## Ubiquinone and other terpenoid-quinone biosynthesis
NA
## Valine, leucine and isoleucine degradation
NA
## Vasopressin-regulated water reabsorption
NA
## VEGF signaling pathway
NA
## Vibrio cholerae infection
NA
## Viral carcinogenesis
NA
## Viral myocarditis
```

NA	
## Vitamin B6 metabolism	
NA	
## Vitamin digestion and absorption	
NA	
##	Comp9.k
## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	NA
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	1
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	1
## Chagas disease (American trypanosomiasis)	NA
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA

## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1
## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	1
## Inositol phosphate metabolism	NA
## Insulin resistance	NA
## Insulin secretion	NA
## Insulin signaling pathway	NA
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA

## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	1
## One carbon pool by folate	NA
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA

## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp10.p
## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	NA
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	NA
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA

## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	0.0903362659
## Chagas disease (American trypanosomiasis)	NA
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	0.0004686003
## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA

## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	NA
## Inositol phosphate metabolism	NA
## Insulin resistance	NA
## Insulin secretion	NA
## Insulin signaling pathway	NA
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	NA
## One carbon pool by folate	NA
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA

## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp10.pFour
ier	
## Acute myeloid leukemia	
NA	
## Adherens junction	
NA	
## Adipocytokine signaling pathway	
NA	
## African trypanosomiasis	

```
NA
## Alanine, aspartate and glutamate metabolism
NA
## Aldosterone-regulated sodium reabsorption
NA
## Aldosterone synthesis and secretion
NA
## Allograft rejection
NA
## alpha-Linolenic acid metabolism
NA
## Alzheimer's disease
NA
## Aminoacyl-tRNA biosynthesis
NA
## Amino sugar and nucleotide sugar metabolism
NA
## Amoebiasis
NA
## AMPK signaling pathway
NA
## Amyotrophic lateral sclerosis (ALS)
NA
## Antigen processing and presentation
NA
## Arachidonic acid metabolism
NA
## Arginine and proline metabolism
NA
## Arginine biosynthesis
NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
NA
## Ascorbate and aldarate metabolism
NA
## Asthma
NA
## Autoimmune thyroid disease
NA
## B cell receptor signaling pathway
NA
## beta-Alanine metabolism
NA
## Bile secretion
NA
## Biotin metabolism
NA
## Bladder cancer
NA
## Butanoate metabolism
NA
## Caffeine metabolism
NA
## Carbohydrate digestion and absorption
```

```
NA
## Cardiac muscle contraction
NA
## Cell adhesion molecules (CAMs) 0.2734
131
## Chagas disease (American trypanosomiasis)
NA
## Chemical carcinogenesis
NA
## Choline metabolism in cancer
NA
## Chronic myeloid leukemia
NA
## Circadian rhythm
NA
## Citrate cycle (TCA cycle)
NA
## Cocaine addiction
NA
## Colorectal cancer
NA
## Cysteine and methionine metabolism
NA
## Cytosolic DNA-sensing pathway
NA
## D-Glutamine and D-glutamate metabolism
NA
## Dilated cardiomyopathy
NA
## Dorso-ventral axis formation
NA
## Drug metabolism - cytochrome P450
NA
## Drug metabolism - other enzymes
NA
## Endocrine and other factor-regulated calcium reabsorption
NA
## Endometrial cancer
NA
## Epstein-Barr virus infection
NA
## Ether lipid metabolism
NA
## Fat digestion and absorption
NA
## Fatty acid biosynthesis
NA
## Fatty acid degradation
NA
## Fatty acid elongation
NA
## Folate biosynthesis
NA
## Fructose and mannose metabolism
```

```
NA
## Galactose metabolism
NA
## Gastric acid secretion
NA
## Glucagon signaling pathway
NA
## Glutathione metabolism
NA
## Glycerolipid metabolism
NA
## Glycerophospholipid metabolism
NA
## Glycine, serine and threonine metabolism
NA
## Glycolysis / Gluconeogenesis
NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate
NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin
NA
## Glycosaminoglycan degradation
NA
## Glycosphingolipid biosynthesis - ganglio series
NA
## Glycosphingolipid biosynthesis - globo series
NA
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism
NA
## GnRH signaling pathway
NA
## Graft-versus-host disease
NA
## Hedgehog signaling pathway
NA
## Hepatitis C 0.5986
167
## Herpes simplex infection
NA
## Histidine metabolism
NA
## Huntington's disease
NA
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD)
NA
## Inflammatory mediator regulation of TRP channels
NA
## Influenza A
```

```
NA
## Inositol phosphate metabolism
NA
## Insulin resistance
NA
## Insulin secretion
NA
## Insulin signaling pathway
NA
## Intestinal immune network for IgA production
NA
## Legionellosis
NA
## Leishmaniasis
NA
## Linoleic acid metabolism
NA
## Lipoic acid metabolism
NA
## Lysine biosynthesis
NA
## Lysine degradation
NA
## Malaria
NA
## Maturity onset diabetes of the young
NA
## Measles
NA
## Melanogenesis
NA
## Metabolism of xenobiotics by cytochrome P450
NA
## Mineral absorption
NA
## mTOR signaling pathway
NA
## Mucin type O-Glycan biosynthesis
NA
## Neuroactive ligand-receptor interaction
NA
## Neurotrophin signaling pathway
NA
## N-Glycan biosynthesis
NA
## Nicotinate and nicotinamide metabolism
NA
## Nitrogen metabolism
NA
## NOD-like receptor signaling pathway
NA
## Non-alcoholic fatty liver disease (NAFLD)
NA
## One carbon pool by folate
```

```
NA
## Oocyte meiosis
NA
## Osteoclast differentiation
NA
## Ovarian steroidogenesis
NA
## Oxidative phosphorylation
NA
## Pancreatic cancer
NA
## Pancreatic secretion
NA
## Pantothenate and CoA biosynthesis
NA
## Parkinson's disease
NA
## Pathogenic Escherichia coli infection
NA
## Pentose and glucuronate interconversions
NA
## Pentose phosphate pathway
NA
## Pertussis
NA
## Phenylalanine metabolism
NA
## Phenylalanine, tyrosine and tryptophan biosynthesis
NA
## Phosphatidylinositol signaling system
NA
## Phototransduction
NA
## Porphyrin and chlorophyll metabolism
NA
## Primary bile acid biosynthesis
NA
## Prion diseases
NA
## Progesterone-mediated oocyte maturation
NA
## Propanoate metabolism
NA
## Proximal tubule bicarbonate reclamation
NA
## Pyrimidine metabolism
NA
## Pyruvate metabolism
NA
## Regulation of lipolysis in adipocytes
NA
## Renal cell carcinoma
NA
## Renin-angiotensin system
```

```
NA
## Renin secretion
NA
## Retinol metabolism
NA
## Rheumatoid arthritis
NA
## Riboflavin metabolism
NA
## RIG-I-like receptor signaling pathway
NA
## Salivary secretion
NA
## Salmonella infection
NA
## Selenocompound metabolism
NA
## Shigellosis
NA
## Sphingolipid metabolism
NA
## Staphylococcus aureus infection
NA
## Starch and sucrose metabolism
NA
## Steroid biosynthesis
NA
## Steroid hormone biosynthesis
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus
NA
## Taste transduction
NA
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway
NA
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism
NA
## Thyroid cancer
NA
## Thyroid hormone synthesis
NA
## Tight junction
NA
## TNF signaling pathway
```

```

NA
## Toxoplasmosis
NA
## Transcriptional misregulation in cancer
NA
## Tryptophan metabolism
NA
## Type I diabetes mellitus
NA
## Type II diabetes mellitus
NA
## Tyrosine metabolism
NA
## Ubiquinone and other terpenoid-quinone biosynthesis
NA
## Valine, leucine and isoleucine degradation
NA
## Vasopressin-regulated water reabsorption
NA
## VEGF signaling pathway
NA
## Vibrio cholerae infection
NA
## Viral carcinogenesis
NA
## Viral myocarditis
NA
## Vitamin B6 metabolism
NA
## Vitamin digestion and absorption
NA
##                                         Comp10.k
## Acute myeloid leukemia                         NA
## Adherens junction                           NA
## Adipocytokine signaling pathway                NA
## African trypanosomiasis                      NA
## Alanine, aspartate and glutamate metabolism   NA
## Aldosterone-regulated sodium reabsorption     NA
## Aldosterone synthesis and secretion           NA
## Allograft rejection                          NA
## alpha-Linolenic acid metabolism              NA
## Alzheimer's disease                         NA
## Aminoacyl-tRNA biosynthesis                  NA
## Amino sugar and nucleotide sugar metabolism  NA
## Amoebiasis                                 NA
## AMPK signaling pathway                       NA
## Amyotrophic lateral sclerosis (ALS)          NA
## Antigen processing and presentation         NA
## Arachidonic acid metabolism                 NA
## Arginine and proline metabolism             NA
## Arginine biosynthesis                       NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)  NA
## Ascorbate and aldarate metabolism          NA
## Asthma                                    NA

```

## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	1
## Chagas disease (American trypanosomiasis)	NA
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA

## Hedgehog signaling pathway	NA
## Hepatitis C	1
## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	NA
## Inositol phosphate metabolism	NA
## Insulin resistance	NA
## Insulin secretion	NA
## Insulin signaling pathway	NA
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	NA
## One carbon pool by folate	NA
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA

## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp11.p
## Acute myeloid leukemia	NA
## Adherens junction	NA

## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	NA
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	NA
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	NA
## Chagas disease (American trypanosomiasis)	NA
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA

## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	4.767311e-06
## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	NA
## Inositol phosphate metabolism	NA
## Insulin resistance	NA
## Insulin secretion	NA
## Insulin signaling pathway	NA
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA

## Non-alcoholic fatty liver disease (NAFLD)	NA
## One carbon pool by folate	NA
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propionate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA

## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp11.pFour
ier	
## Acute myeloid leukemia	
NA	
## Adherens junction	
NA	
## Adipocytokine signaling pathway	
NA	
## African trypanosomiasis	
NA	
## Alanine, aspartate and glutamate metabolism	
NA	
## Aldosterone-regulated sodium reabsorption	
NA	
## Aldosterone synthesis and secretion	
NA	
## Allograft rejection	
NA	
## alpha-Linolenic acid metabolism	
NA	
## Alzheimer's disease	
NA	
## Aminoacyl-tRNA biosynthesis	
NA	
## Amino sugar and nucleotide sugar metabolism	
NA	
## Amoebiasis	
NA	
## AMPK signaling pathway	
NA	
## Amyotrophic lateral sclerosis (ALS)	
NA	
## Antigen processing and presentation	
NA	
## Arachidonic acid metabolism	
NA	
## Arginine and proline metabolism	

```
NA
## Arginine biosynthesis
NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
NA
## Ascorbate and aldarate metabolism
NA
## Asthma
NA
## Autoimmune thyroid disease
NA
## B cell receptor signaling pathway
NA
## beta-Alanine metabolism
NA
## Bile secretion
NA
## Biotin metabolism
NA
## Bladder cancer
NA
## Butanoate metabolism
NA
## Caffeine metabolism
NA
## Carbohydrate digestion and absorption
NA
## Cardiac muscle contraction
NA
## Cell adhesion molecules (CAMs)
NA
## Chagas disease (American trypanosomiasis)
NA
## Chemical carcinogenesis
NA
## Choline metabolism in cancer
NA
## Chronic myeloid leukemia
NA
## Circadian rhythm
NA
## Citrate cycle (TCA cycle)
NA
## Cocaine addiction
NA
## Colorectal cancer
NA
## Cysteine and methionine metabolism
NA
## Cytosolic DNA-sensing pathway
NA
## D-Glutamine and D-glutamate metabolism
NA
## Dilated cardiomyopathy
```

```
NA
## Dorso-ventral axis formation
NA
## Drug metabolism - cytochrome P450
NA
## Drug metabolism - other enzymes
NA
## Endocrine and other factor-regulated calcium reabsorption
NA
## Endometrial cancer
NA
## Epstein-Barr virus infection
NA
## Ether lipid metabolism
NA
## Fat digestion and absorption
NA
## Fatty acid biosynthesis
NA
## Fatty acid degradation
NA
## Fatty acid elongation
NA
## Folate biosynthesis
NA
## Fructose and mannose metabolism
NA
## Galactose metabolism
NA
## Gastric acid secretion
NA
## Glucagon signaling pathway
NA
## Glutathione metabolism
NA
## Glycerolipid metabolism
NA
## Glycerophospholipid metabolism
NA
## Glycine, serine and threonine metabolism
NA
## Glycolysis / Gluconeogenesis
NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate
NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin
NA
## Glycosaminoglycan degradation
NA
## Glycosphingolipid biosynthesis - ganglio series
NA
## Glycosphingolipid biosynthesis - globo series
NA
## Glycosphingolipid biosynthesis - lacto and neolacto series
```

```
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism
NA
## GnRH signaling pathway
NA
## Graft-versus-host disease
NA
## Hedgehog signaling pathway
NA
## Hepatitis C
e-05
## Herpes simplex infection
NA
## Histidine metabolism
NA
## Huntington's disease
NA
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD)
NA
## Inflammatory mediator regulation of TRP channels
NA
## Influenza A
NA
## Inositol phosphate metabolism
NA
## Insulin resistance
NA
## Insulin secretion
NA
## Insulin signaling pathway
NA
## Intestinal immune network for IgA production
NA
## Legionellosis
NA
## Leishmaniasis
NA
## Linoleic acid metabolism
NA
## Lipoic acid metabolism
NA
## Lysine biosynthesis
NA
## Lysine degradation
NA
## Malaria
NA
## Maturity onset diabetes of the young
NA
## Measles
```

```
NA
## Melanogenesis
NA
## Metabolism of xenobiotics by cytochrome P450
NA
## Mineral absorption
NA
## mTOR signaling pathway
NA
## Mucin type O-Glycan biosynthesis
NA
## Neuroactive ligand-receptor interaction
NA
## Neurotrophin signaling pathway
NA
## N-Glycan biosynthesis
NA
## Nicotinate and nicotinamide metabolism
NA
## Nitrogen metabolism
NA
## NOD-like receptor signaling pathway
NA
## Non-alcoholic fatty liver disease (NAFLD)
NA
## One carbon pool by folate
NA
## Oocyte meiosis
NA
## Osteoclast differentiation
NA
## Ovarian steroidogenesis
NA
## Oxidative phosphorylation
NA
## Pancreatic cancer
NA
## Pancreatic secretion
NA
## Pantothenate and CoA biosynthesis
NA
## Parkinson's disease
NA
## Pathogenic Escherichia coli infection
NA
## Pentose and glucuronate interconversions
NA
## Pentose phosphate pathway
NA
## Pertussis
NA
## Phenylalanine metabolism
NA
## Phenylalanine, tyrosine and tryptophan biosynthesis
```

```
NA
## Phosphatidylinositol signaling system
NA
## Phototransduction
NA
## Porphyrin and chlorophyll metabolism
NA
## Primary bile acid biosynthesis
NA
## Prion diseases
NA
## Progesterone-mediated oocyte maturation
NA
## Propanoate metabolism
NA
## Proximal tubule bicarbonate reclamation
NA
## Pyrimidine metabolism
NA
## Pyruvate metabolism
NA
## Regulation of lipolysis in adipocytes
NA
## Renal cell carcinoma
NA
## Renin-angiotensin system
NA
## Renin secretion
NA
## Retinol metabolism
NA
## Rheumatoid arthritis
NA
## Riboflavin metabolism
NA
## RIG-I-like receptor signaling pathway
NA
## Salivary secretion
NA
## Salmonella infection
NA
## Selenocompound metabolism
NA
## Shigellosis
NA
## Sphingolipid metabolism
NA
## Staphylococcus aureus infection
NA
## Starch and sucrose metabolism
NA
## Steroid biosynthesis
NA
## Steroid hormone biosynthesis
```

```
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus
NA
## Taste transduction
NA
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway
NA
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism
NA
## Thyroid cancer
NA
## Thyroid hormone synthesis
NA
## Tight junction
NA
## TNF signaling pathway
NA
## Toxoplasmosis
NA
## Transcriptional misregulation in cancer
NA
## Tryptophan metabolism
NA
## Type I diabetes mellitus
NA
## Type II diabetes mellitus
NA
## Tyrosine metabolism
NA
## Ubiquinone and other terpenoid-quinone biosynthesis
NA
## Valine, leucine and isoleucine degradation
NA
## Vasopressin-regulated water reabsorption
NA
## VEGF signaling pathway
NA
## Vibrio cholerae infection
NA
## Viral carcinogenesis
NA
## Viral myocarditis
NA
## Vitamin B6 metabolism
```

NA	
## Vitamin digestion and absorption	
NA	
##	Comp11.k
## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	NA
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	NA
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	NA
## Chagas disease (American trypanosomiasis)	NA
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA

## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1
## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	NA
## Inositol phosphate metabolism	NA
## Insulin resistance	NA
## Insulin secretion	NA
## Insulin signaling pathway	NA
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA

## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	NA
## One carbon pool by folate	NA
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA

## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp12.p
## Acute myeloid leukemia	NA
## Adherens junction	NA
## Adipocytokine signaling pathway	NA
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	NA
## Aldosterone-regulated sodium reabsorption	NA
## Aldosterone synthesis and secretion	NA
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	NA
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	NA
## AMPK signaling pathway	NA
## Amyotrophic lateral sclerosis (ALS)	NA
## Antigen processing and presentation	NA
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	NA
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## B cell receptor signaling pathway	NA
## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA

## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	NA
## Chagas disease (American trypanosomiasis)	NA
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1.653004e-05
## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA

## Influenza A	NA
## Inositol phosphate metabolism	NA
## Insulin resistance	NA
## Insulin secretion	NA
## Insulin signaling pathway	NA
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	NA
## One carbon pool by folate	NA
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA
## Propionate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA

## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
##	Comp12.pFour
ier	
## Acute myeloid leukemia	
NA	
## Adherens junction	
NA	
## Adipocytokine signaling pathway	
NA	
## African trypanosomiasis	
NA	
## Alanine, aspartate and glutamate metabolism	

```
NA
## Aldosterone-regulated sodium reabsorption
NA
## Aldosterone synthesis and secretion
NA
## Allograft rejection
NA
## alpha-Linolenic acid metabolism
NA
## Alzheimer's disease
NA
## Aminoacyl-tRNA biosynthesis
NA
## Amino sugar and nucleotide sugar metabolism
NA
## Amoebiasis
NA
## AMPK signaling pathway
NA
## Amyotrophic lateral sclerosis (ALS)
NA
## Antigen processing and presentation
NA
## Arachidonic acid metabolism
NA
## Arginine and proline metabolism
NA
## Arginine biosynthesis
NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
NA
## Ascorbate and aldarate metabolism
NA
## Asthma
NA
## Autoimmune thyroid disease
NA
## B cell receptor signaling pathway
NA
## beta-Alanine metabolism
NA
## Bile secretion
NA
## Biotin metabolism
NA
## Bladder cancer
NA
## Butanoate metabolism
NA
## Caffeine metabolism
NA
## Carbohydrate digestion and absorption
NA
## Cardiac muscle contraction
```

```
NA
## Cell adhesion molecules (CAMs)
NA
## Chagas disease (American trypanosomiasis)
NA
## Chemical carcinogenesis
NA
## Choline metabolism in cancer
NA
## Chronic myeloid leukemia
NA
## Circadian rhythm
NA
## Citrate cycle (TCA cycle)
NA
## Cocaine addiction
NA
## Colorectal cancer
NA
## Cysteine and methionine metabolism
NA
## Cytosolic DNA-sensing pathway
NA
## D-Glutamine and D-glutamate metabolism
NA
## Dilated cardiomyopathy
NA
## Dorso-ventral axis formation
NA
## Drug metabolism - cytochrome P450
NA
## Drug metabolism - other enzymes
NA
## Endocrine and other factor-regulated calcium reabsorption
NA
## Endometrial cancer
NA
## Epstein-Barr virus infection
NA
## Ether lipid metabolism
NA
## Fat digestion and absorption
NA
## Fatty acid biosynthesis
NA
## Fatty acid degradation
NA
## Fatty acid elongation
NA
## Folate biosynthesis
NA
## Fructose and mannose metabolism
NA
## Galactose metabolism
```

```
NA
## Gastric acid secretion
NA
## Glucagon signaling pathway
NA
## Glutathione metabolism
NA
## Glycerolipid metabolism
NA
## Glycerophospholipid metabolism
NA
## Glycine, serine and threonine metabolism
NA
## Glycolysis / Gluconeogenesis
NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate
NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin
NA
## Glycosaminoglycan degradation
NA
## Glycosphingolipid biosynthesis - ganglio series
NA
## Glycosphingolipid biosynthesis - globo series
NA
## Glycosphingolipid biosynthesis - lacto and neolacto series
NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
NA
## Glyoxylate and dicarboxylate metabolism
NA
## GnRH signaling pathway
NA
## Graft-versus-host disease
NA
## Hedgehog signaling pathway
NA
## Hepatitis C 0.01509
456
## Herpes simplex infection
NA
## Histidine metabolism
NA
## Huntington's disease
NA
## Hypertrophic cardiomyopathy (HCM)
NA
## Inflammatory bowel disease (IBD)
NA
## Inflammatory mediator regulation of TRP channels
NA
## Influenza A
NA
## Inositol phosphate metabolism
```

```
NA
## Insulin resistance
NA
## Insulin secretion
NA
## Insulin signaling pathway
NA
## Intestinal immune network for IgA production
NA
## Legionellosis
NA
## Leishmaniasis
NA
## Linoleic acid metabolism
NA
## Lipoic acid metabolism
NA
## Lysine biosynthesis
NA
## Lysine degradation
NA
## Malaria
NA
## Maturity onset diabetes of the young
NA
## Measles
NA
## Melanogenesis
NA
## Metabolism of xenobiotics by cytochrome P450
NA
## Mineral absorption
NA
## mTOR signaling pathway
NA
## Mucin type O-Glycan biosynthesis
NA
## Neuroactive ligand-receptor interaction
NA
## Neurotrophin signaling pathway
NA
## N-Glycan biosynthesis
NA
## Nicotinate and nicotinamide metabolism
NA
## Nitrogen metabolism
NA
## NOD-like receptor signaling pathway
NA
## Non-alcoholic fatty liver disease (NAFLD)
NA
## One carbon pool by folate
NA
## Oocyte meiosis
```

```
NA
## Osteoclast differentiation
NA
## Ovarian steroidogenesis
NA
## Oxidative phosphorylation
NA
## Pancreatic cancer
NA
## Pancreatic secretion
NA
## Pantothenate and CoA biosynthesis
NA
## Parkinson's disease
NA
## Pathogenic Escherichia coli infection
NA
## Pentose and glucuronate interconversions
NA
## Pentose phosphate pathway
NA
## Pertussis
NA
## Phenylalanine metabolism
NA
## Phenylalanine, tyrosine and tryptophan biosynthesis
NA
## Phosphatidylinositol signaling system
NA
## Phototransduction
NA
## Porphyrin and chlorophyll metabolism
NA
## Primary bile acid biosynthesis
NA
## Prion diseases
NA
## Progesterone-mediated oocyte maturation
NA
## Propanoate metabolism
NA
## Proximal tubule bicarbonate reclamation
NA
## Pyrimidine metabolism
NA
## Pyruvate metabolism
NA
## Regulation of lipolysis in adipocytes
NA
## Renal cell carcinoma
NA
## Renin-angiotensin system
NA
## Renin secretion
```

```
NA
## Retinol metabolism
NA
## Rheumatoid arthritis
NA
## Riboflavin metabolism
NA
## RIG-I-like receptor signaling pathway
NA
## Salivary secretion
NA
## Salmonella infection
NA
## Selenocompound metabolism
NA
## Shigellosis
NA
## Sphingolipid metabolism
NA
## Staphylococcus aureus infection
NA
## Starch and sucrose metabolism
NA
## Steroid biosynthesis
NA
## Steroid hormone biosynthesis
NA
## Sulfur metabolism
NA
## Synaptic vesicle cycle
NA
## Synthesis and degradation of ketone bodies
NA
## Systemic lupus erythematosus
NA
## Taste transduction
NA
## Taurine and hypotaurine metabolism
NA
## T cell receptor signaling pathway
NA
## Terpenoid backbone biosynthesis
NA
## Thiamine metabolism
NA
## Thyroid cancer
NA
## Thyroid hormone synthesis
NA
## Tight junction
NA
## TNF signaling pathway
NA
## Toxoplasmosis
```

```

NA
## Transcriptional misregulation in cancer
NA
## Tryptophan metabolism
NA
## Type I diabetes mellitus
NA
## Type II diabetes mellitus
NA
## Tyrosine metabolism
NA
## Ubiquinone and other terpenoid-quinone biosynthesis
NA
## Valine, leucine and isoleucine degradation
NA
## Vasopressin-regulated water reabsorption
NA
## VEGF signaling pathway
NA
## Vibrio cholerae infection
NA
## Viral carcinogenesis
NA
## Viral myocarditis
NA
## Vitamin B6 metabolism
NA
## Vitamin digestion and absorption
NA
##                                         Comp12.k
## Acute myeloid leukemia
## Adherens junction
## Adipocytokine signaling pathway
## African trypanosomiasis
## Alanine, aspartate and glutamate metabolism
## Aldosterone-regulated sodium reabsorption
## Aldosterone synthesis and secretion
## Allograft rejection
## alpha-Linolenic acid metabolism
## Alzheimer's disease
## Aminoacyl-tRNA biosynthesis
## Amino sugar and nucleotide sugar metabolism
## Amoebiasis
## AMPK signaling pathway
## Amyotrophic lateral sclerosis (ALS)
## Antigen processing and presentation
## Arachidonic acid metabolism
## Arginine and proline metabolism
## Arginine biosynthesis
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)
## Ascorbate and aldarate metabolism
## Asthma
## Autoimmune thyroid disease
## B cell receptor signaling pathway

```

## beta-Alanine metabolism	NA
## Bile secretion	NA
## Biotin metabolism	NA
## Bladder cancer	NA
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	NA
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	NA
## Chagas disease (American trypanosomiasis)	NA
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	NA
## Chronic myeloid leukemia	NA
## Circadian rhythm	NA
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	NA
## Colorectal cancer	NA
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	NA
## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	NA
## Dorso-ventral axis formation	NA
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## Endocrine and other factor-regulated calcium reabsorption	NA
## Endometrial cancer	NA
## Epstein-Barr virus infection	NA
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Folate biosynthesis	NA
## Fructose and mannose metabolism	NA
## Galactose metabolism	NA
## Gastric acid secretion	NA
## Glucagon signaling pathway	NA
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	NA
## Graft-versus-host disease	NA
## Hedgehog signaling pathway	NA
## Hepatitis C	1

## Herpes simplex infection	NA
## Histidine metabolism	NA
## Huntington's disease	NA
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	NA
## Inflammatory mediator regulation of TRP channels	NA
## Influenza A	NA
## Inositol phosphate metabolism	NA
## Insulin resistance	NA
## Insulin secretion	NA
## Insulin signaling pathway	NA
## Intestinal immune network for IgA production	NA
## Legionellosis	NA
## Leishmaniasis	NA
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	NA
## Maturity onset diabetes of the young	NA
## Measles	NA
## Melanogenesis	NA
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	NA
## mTOR signaling pathway	NA
## Mucin type O-Glycan biosynthesis	NA
## Neuroactive ligand-receptor interaction	NA
## Neurotrophin signaling pathway	NA
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	NA
## Non-alcoholic fatty liver disease (NAFLD)	NA
## One carbon pool by folate	NA
## Oocyte meiosis	NA
## Osteoclast differentiation	NA
## Ovarian steroidogenesis	NA
## Oxidative phosphorylation	NA
## Pancreatic cancer	NA
## Pancreatic secretion	NA
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	NA
## Pathogenic Escherichia coli infection	NA
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	NA
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA
## Phototransduction	NA
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	NA
## Progesterone-mediated oocyte maturation	NA

## Propanoate metabolism	NA
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	NA
## Renal cell carcinoma	NA
## Renin-angiotensin system	NA
## Renin secretion	NA
## Retinol metabolism	NA
## Rheumatoid arthritis	NA
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	NA
## Salivary secretion	NA
## Salmonella infection	NA
## Selenocompound metabolism	NA
## Shigellosis	NA
## Sphingolipid metabolism	NA
## Staphylococcus aureus infection	NA
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	NA
## Taste transduction	NA
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	NA
## Terpenoid backbone biosynthesis	NA
## Thiamine metabolism	NA
## Thyroid cancer	NA
## Thyroid hormone synthesis	NA
## Tight junction	NA
## TNF signaling pathway	NA
## Toxoplasmosis	NA
## Transcriptional misregulation in cancer	NA
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	NA
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vasopressin-regulated water reabsorption	NA
## VEGF signaling pathway	NA
## Vibrio cholerae infection	NA
## Viral carcinogenesis	NA
## Viral myocarditis	NA
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA

```
#####
### code chunk number 14: seq4 (eval = FALSE)
#####
## cli<-clipper(hnrnp.cnts, group, pathways, type="RNASeq", method="mean")
## #530 node Labels mapped to the expression data
## #Average coverage 82.98681 %
## #0 (out of 10) pathways without a mapped node
## #1 pathways were filtered out
## #Analysing pathway:
## #
## #Acute myeloid leukemia
## #Adherens junction
## #Adipocytokine signaling pathway
## #Adrenergic signaling in cardiomyocytes
## #African trypanosomiasis
## #Alanine, aspartate and glutamate metabolism
## #Alcoholism
## #Aldosterone-regulated sodium reabsorption
## #Allograft rejection
## #alpha-Linolenic acid metabolism
## res(cli)$results[[1]][1:2,]
## #
## alphaVar alphaMean mean.q.value var.q.value
## #Acute myeloid leukemia    0.026    0.010    0.016    0.033
## #Adherens junction        0.030    0.009    0.016    0.033
## 
```

```
#####
### code chunk number 15: seq5
#####
spi<-SPIA(hnrnp.cnts, group, pathways, type="RNASeq", logFC.th=-1)
```

```
## 13438 node labels mapped to the expression data
## Average coverage 84.29152 %
## 0 (out of 250) pathways without a mapped node
```

```
## 22 pathways were filtered out
```

```
res(spi)
```

	pSize
## \$results	
##	
## Acute myeloid leukemia	50
## Adherens junction	65
## Adipocytokine signaling pathway	57
## Adrenergic signaling in cardiomyocytes	124
## African trypanosomiasis	20
## Alanine, aspartate and glutamate metabolism	30
## Aldosterone-regulated sodium reabsorption	25
## Aldosterone synthesis and secretion	54
## Allograft rejection	6
## alpha-Linolenic acid metabolism	15
## Alzheimer's disease	44
## Aminoacyl-tRNA biosynthesis	13
## Amino sugar and nucleotide sugar metabolism	40
## Amoebiasis	34
## Amphetamine addiction	51
## AMPK signaling pathway	87
## Amyotrophic lateral sclerosis (ALS)	34
## Antigen processing and presentation	33
## Apoptosis	74
## Arachidonic acid metabolism	39
## Arginine and proline metabolism	45
## Arginine biosynthesis	18
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	9
## Ascorbate and aldarate metabolism	7
## Asthma	2
## Autoimmune thyroid disease	6
## Axon guidance	99
## Bacterial invasion of epithelial cells	51
## Basal cell carcinoma	41
## B cell receptor signaling pathway	64
## beta-Alanine metabolism	28
## Bile secretion	20
## Biotin metabolism	2
## Bladder cancer	29
## Butanoate metabolism	19
## Caffeine metabolism	3
## Carbohydrate digestion and absorption	14
## Cardiac muscle contraction	10
## Cell adhesion molecules (CAMs)	66
## Cell cycle	123
## Chagas disease (American trypanosomiasis)	77
## Chemical carcinogenesis	37
## Choline metabolism in cancer	72
## Cholinergic synapse	78
## Chronic myeloid leukemia	69
## Circadian entrainment	75
## Circadian rhythm	29
## Citrate cycle (TCA cycle)	29
## Cocaine addiction	35
## Colorectal cancer	45
## Complement and coagulation cascades	46

## Cysteine and methionine metabolism	31
## Cytosolic DNA-sensing pathway	18
## D-Glutamine and D-glutamate metabolism	4
## Dilated cardiomyopathy	61
## Dopaminergic synapse	105
## Dorso-ventral axis formation	12
## Drug metabolism - cytochrome P450	38
## Drug metabolism - other enzymes	27
## ECM-receptor interaction	74
## Endocrine and other factor-regulated calcium reabsorption	32
## Endometrial cancer	42
## Epithelial cell signaling in Helicobacter pylori infection	32
## Epstein-Barr virus infection	76
## ErbB signaling pathway	77
## Estrogen signaling pathway	77
## Ether lipid metabolism	33
## Fat digestion and absorption	8
## Fatty acid biosynthesis	12
## Fatty acid degradation	34
## Fatty acid elongation	24
## Fc epsilon RI signaling pathway	54
## Fc gamma R-mediated phagocytosis	81
## Folate biosynthesis	13
## FoxO signaling pathway	115
## Fructose and mannose metabolism	30
## GABAergic synapse	45
## Galactose metabolism	20
## Gap junction	74
## Gastric acid secretion	47
## Glioma	59
## Glucagon signaling pathway	76
## Glutamatergic synapse	70
## Glutathione metabolism	39
## Glycerolipid metabolism	45
## Glycerophospholipid metabolism	79
## Glycine, serine and threonine metabolism	31
## Glycolysis / Gluconeogenesis	56
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	9
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	5
## Glycosaminoglycan degradation	18
## Glycosphingolipid biosynthesis - ganglio series	12
## Glycosphingolipid biosynthesis - globo series	11
## Glycosphingolipid biosynthesis - lacto and neolacto series	20
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	23
## Glyoxylate and dicarboxylate metabolism	23
## GnRH signaling pathway	76
## Graft-versus-host disease	11
## Hedgehog signaling pathway	43
## Hepatitis B	116
## Hepatitis C	80
## Herpes simplex infection	86
## HIF-1 signaling pathway	91
## Histidine metabolism	20
## Huntington's disease	26

## Hypertrophic cardiomyopathy (HCM)	22
## Inflammatory bowel disease (IBD)	33
## Inflammatory mediator regulation of TRP channels	72
## Influenza A	96
## Inositol phosphate metabolism	64
## Insulin resistance	87
## Insulin secretion	43
## Insulin signaling pathway	123
## Intestinal immune network for IgA production	20
## Legionellosis	37
## Leishmaniasis	43
## Leukocyte transendothelial migration	73
## Linoleic acid metabolism	16
## Lipoic acid metabolism	3
## Long-term depression	47
## Long-term potentiation	55
## Lysine biosynthesis	2
## Lysine degradation	47
## Malaria	10
## Maturity onset diabetes of the young	11
## Measles	74
## Melanogenesis	87
## Melanoma	56
## Metabolism of xenobiotics by cytochrome P450	43
## Mineral absorption	4
## Morphine addiction	43
## mTOR signaling pathway	50
## Mucin type O-Glycan biosynthesis	24
## Natural killer cell mediated cytotoxicity	88
## Neuroactive ligand-receptor interaction	14
## Neurotrophin signaling pathway	105
## NF-kappa B signaling pathway	68
## N-Glycan biosynthesis	46
## Nicotinate and nicotinamide metabolism	23
## Nitrogen metabolism	4
## NOD-like receptor signaling pathway	44
## Non-alcoholic fatty liver disease (NAFLD)	68
## Non-small cell lung cancer	50
## Notch signaling pathway	46
## One carbon pool by folate	18
## Oocyte meiosis	97
## Osteoclast differentiation	97
## Ovarian steroidogenesis	26
## Oxidative phosphorylation	40
## p53 signaling pathway	67
## Pancreatic cancer	62
## Pancreatic secretion	24
## Pantothenate and CoA biosynthesis	11
## Parkinson's disease	26
## Pathogenic Escherichia coli infection	39
## Pentose and glucuronate interconversions	18
## Pentose phosphate pathway	28
## Pertussis	45
## Phenylalanine metabolism	12

## Phenylalanine, tyrosine and tryptophan biosynthesis	3
## Phosphatidylinositol signaling system	78
## Phototransduction	22
## Platelet activation	102
## Porphyrin and chlorophyll metabolism	24
## Primary bile acid biosynthesis	14
## Prion diseases	20
## Progesterone-mediated oocyte maturation	69
## Prolactin signaling pathway	61
## Propanoate metabolism	21
## Prostate cancer	79
## Proximal tubule bicarbonate reclamation	7
## Pyrimidine metabolism	98
## Pyruvate metabolism	37
## Regulation of lipolysis in adipocytes	42
## Renal cell carcinoma	52
## Renin-angiotensin system	2
## Renin secretion	39
## Retinol metabolism	39
## Retrograde endocannabinoid signaling	49
## Rheumatoid arthritis	13
## Riboflavin metabolism	3
## RIG-I-like receptor signaling pathway	48
## Salivary secretion	36
## Salmonella infection	69
## Selenocompound metabolism	14
## Serotonergic synapse	61
## Shigellosis	48
## Signaling pathways regulating pluripotency of stem cells	103
## Small cell lung cancer	79
## Sphingolipid metabolism	44
## Sphingolipid signaling pathway	91
## Staphylococcus aureus infection	22
## Starch and sucrose metabolism	28
## Steroid biosynthesis	20
## Steroid hormone biosynthesis	34
## Sulfur metabolism	9
## Synaptic vesicle cycle	18
## Synthesis and degradation of ketone bodies	9
## Systemic lupus erythematosus	11
## Taste transduction	28
## Taurine and hypotaurine metabolism	8
## T cell receptor signaling pathway	79
## Terpenoid backbone biosynthesis	21
## TGF-beta signaling pathway	74
## Thiamine metabolism	3
## Thyroid cancer	26
## Thyroid hormone signaling pathway	102
## Thyroid hormone synthesis	39
## Tight junction	101
## TNF signaling pathway	68
## Toll-like receptor signaling pathway	76
## Toxoplasmosis	85
## Transcriptional misregulation in cancer	17

## Tryptophan metabolism	36
## Type I diabetes mellitus	4
## Type II diabetes mellitus	39
## Tyrosine metabolism	24
## Ubiquinone and other terpenoid-quinone biosynthesis	9
## Valine, leucine and isoleucine degradation	45
## Vascular smooth muscle contraction	87
## Vasopressin-regulated water reabsorption	20
## VEGF signaling pathway	53
## Vibrio cholerae infection	17
## Viral carcinogenesis	6
## Viral myocarditis	26
## Vitamin B6 metabolism	5
## Vitamin digestion and absorption	2
## Wnt signaling pathway	120
##	NDE
## Acute myeloid leukemia	20
## Adherens junction	32
## Adipocytokine signaling pathway	20
## Adrenergic signaling in cardiomyocytes	42
## African trypanosomiasis	3
## Alanine, aspartate and glutamate metabolism	11
## Aldosterone-regulated sodium reabsorption	9
## Aldosterone synthesis and secretion	19
## Allograft rejection	0
## alpha-Linolenic acid metabolism	6
## Alzheimer's disease	20
## Aminoacyl-tRNA biosynthesis	6
## Amino sugar and nucleotide sugar metabolism	20
## Amoebiasis	10
## Amphetamine addiction	20
## AMPK signaling pathway	42
## Amyotrophic lateral sclerosis (ALS)	18
## Antigen processing and presentation	16
## Apoptosis	24
## Arachidonic acid metabolism	15
## Arginine and proline metabolism	15
## Arginine biosynthesis	6
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	5
## Ascorbate and aldarate metabolism	0
## Asthma	0
## Autoimmune thyroid disease	0
## Axon guidance	43
## Bacterial invasion of epithelial cells	15
## Basal cell carcinoma	20
## B cell receptor signaling pathway	23
## beta-Alanine metabolism	12
## Bile secretion	5
## Biotin metabolism	0
## Bladder cancer	15
## Butanoate metabolism	6
## Caffeine metabolism	1
## Carbohydrate digestion and absorption	6
## Cardiac muscle contraction	4

## Cell adhesion molecules (CAMs)	19
## Cell cycle	61
## Chagas disease (American trypanosomiasis)	29
## Chemical carcinogenesis	11
## Choline metabolism in cancer	32
## Cholinergic synapse	22
## Chronic myeloid leukemia	28
## Circadian entrainment	22
## Circadian rhythm	10
## Citrate cycle (TCA cycle)	15
## Cocaine addiction	12
## Colorectal cancer	23
## Complement and coagulation cascades	20
## Cysteine and methionine metabolism	13
## Cytosolic DNA-sensing pathway	7
## D-Glutamine and D-glutamate metabolism	2
## Dilated cardiomyopathy	15
## Dopaminergic synapse	33
## Dorso-ventral axis formation	6
## Drug metabolism - cytochrome P450	10
## Drug metabolism - other enzymes	13
## ECM-receptor interaction	31
## Endocrine and other factor-regulated calcium reabsorption	7
## Endometrial cancer	19
## Epithelial cell signaling in Helicobacter pylori infection	15
## Epstein-Barr virus infection	28
## ErbB signaling pathway	30
## Estrogen signaling pathway	29
## Ether lipid metabolism	11
## Fat digestion and absorption	5
## Fatty acid biosynthesis	4
## Fatty acid degradation	15
## Fatty acid elongation	7
## Fc epsilon RI signaling pathway	21
## Fc gamma R-mediated phagocytosis	30
## Folate biosynthesis	9
## FoxO signaling pathway	49
## Fructose and mannose metabolism	21
## GABAergic synapse	9
## Galactose metabolism	13
## Gap junction	24
## Gastric acid secretion	13
## Glioma	23
## Glucagon signaling pathway	23
## Glutamatergic synapse	20
## Glutathione metabolism	17
## Glycerolipid metabolism	25
## Glycerophospholipid metabolism	41
## Glycine, serine and threonine metabolism	15
## Glycolysis / Gluconeogenesis	24
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	7
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	2
## Glycosaminoglycan degradation	11
## Glycosphingolipid biosynthesis - ganglio series	6

## Glycosphingolipid biosynthesis - globo series	4
## Glycosphingolipid biosynthesis - lacto and neolacto series	4
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	10
## Glyoxylate and dicarboxylate metabolism	12
## GnRH signaling pathway	29
## Graft-versus-host disease	5
## Hedgehog signaling pathway	15
## Hepatitis B	48
## Hepatitis C	39
## Herpes simplex infection	37
## HIF-1 signaling pathway	35
## Histidine metabolism	8
## Huntington's disease	13
## Hypertrophic cardiomyopathy (HCM)	7
## Inflammatory bowel disease (IBD)	6
## Inflammatory mediator regulation of TRP channels	24
## Influenza A	32
## Inositol phosphate metabolism	22
## Insulin resistance	29
## Insulin secretion	12
## Insulin signaling pathway	47
## Intestinal immune network for IgA production	5
## Legionellosis	10
## Leishmaniasis	15
## Leukocyte transendothelial migration	26
## Linoleic acid metabolism	4
## Lipoic acid metabolism	1
## Long-term depression	16
## Long-term potentiation	22
## Lysine biosynthesis	1
## Lysine degradation	14
## Malaria	1
## Maturity onset diabetes of the young	4
## Measles	24
## Melanogenesis	31
## Melanoma	21
## Metabolism of xenobiotics by cytochrome P450	15
## Mineral absorption	1
## Morphine addiction	6
## mTOR signaling pathway	22
## Mucin type O-Glycan biosynthesis	8
## Natural killer cell mediated cytotoxicity	34
## Neuroactive ligand-receptor interaction	5
## Neurotrophin signaling pathway	38
## NF-kappa B signaling pathway	18
## N-Glycan biosynthesis	19
## Nicotinate and nicotinamide metabolism	13
## Nitrogen metabolism	2
## NOD-like receptor signaling pathway	16
## Non-alcoholic fatty liver disease (NAFLD)	28
## Non-small cell lung cancer	20
## Notch signaling pathway	17
## One carbon pool by folate	9
## Oocyte meiosis	43

## Osteoclast differentiation	34
## Ovarian steroidogenesis	8
## Oxidative phosphorylation	22
## p53 signaling pathway	25
## Pancreatic cancer	29
## Pancreatic secretion	6
## Pantothenate and CoA biosynthesis	5
## Parkinson's disease	7
## Pathogenic Escherichia coli infection	8
## Pentose and glucuronate interconversions	6
## Pentose phosphate pathway	17
## Pertussis	17
## Phenylalanine metabolism	6
## Phenylalanine, tyrosine and tryptophan biosynthesis	1
## Phosphatidylinositol signaling system	27
## Phototransduction	4
## Platelet activation	33
## Porphyrin and chlorophyll metabolism	6
## Primary bile acid biosynthesis	5
## Prion diseases	8
## Progesterone-mediated oocyte maturation	29
## Prolactin signaling pathway	25
## Propionate metabolism	10
## Prostate cancer	39
## Proximal tubule bicarbonate reclamation	3
## Pyrimidine metabolism	37
## Pyruvate metabolism	17
## Regulation of lipolysis in adipocytes	12
## Renal cell carcinoma	26
## Renin-angiotensin system	0
## Renin secretion	12
## Retinol metabolism	12
## Retrograde endocannabinoid signaling	11
## Rheumatoid arthritis	2
## Riboflavin metabolism	1
## RIG-I-like receptor signaling pathway	26
## Salivary secretion	9
## Salmonella infection	22
## Selenocompound metabolism	5
## Serotonergic synapse	15
## Shigellosis	14
## Signaling pathways regulating pluripotency of stem cells	41
## Small cell lung cancer	36
## Sphingolipid metabolism	20
## Sphingolipid signaling pathway	35
## Staphylococcus aureus infection	10
## Starch and sucrose metabolism	11
## Steroid biosynthesis	5
## Steroid hormone biosynthesis	10
## Sulfur metabolism	2
## Synaptic vesicle cycle	10
## Synthesis and degradation of ketone bodies	3
## Systemic lupus erythematosus	4
## Taste transduction	6

## Taurine and hypotaurine metabolism	3
## T cell receptor signaling pathway	31
## Terpenoid backbone biosynthesis	8
## TGF-beta signaling pathway	30
## Thiamine metabolism	1
## Thyroid cancer	13
## Thyroid hormone signaling pathway	39
## Thyroid hormone synthesis	12
## Tight junction	29
## TNF signaling pathway	27
## Toll-like receptor signaling pathway	25
## Toxoplasmosis	31
## Transcriptional misregulation in cancer	5
## Tryptophan metabolism	14
## Type I diabetes mellitus	0
## Type II diabetes mellitus	13
## Tyrosine metabolism	8
## Ubiquinone and other terpenoid-quinone biosynthesis	3
## Valine, leucine and isoleucine degradation	16
## Vascular smooth muscle contraction	30
## Vasopressin-regulated water reabsorption	7
## VEGF signaling pathway	19
## Vibrio cholerae infection	2
## Viral carcinogenesis	2
## Viral myocarditis	9
## Vitamin B6 metabolism	3
## Vitamin digestion and absorption	0
## Wnt signaling pathway	42
##	pNDE
## Acute myeloid leukemia	0.381
## Adherens junction	0.029
## Adipocytokine signaling pathway	0.666
## Adrenergic signaling in cardiomyocytes	0.793
## African trypanosomiasis	0.992
## Alanine, aspartate and glutamate metabolism	0.584
## Aldosterone-regulated sodium reabsorption	0.616
## Aldosterone synthesis and secretion	0.659
## Allograft rejection	1.000
## alpha-Linolenic acid metabolism	0.501
## Alzheimer's disease	0.157
## Aminoacyl-tRNA biosynthesis	0.339
## Amino sugar and nucleotide sugar metabolism	0.064
## Amoebiasis	0.864
## Amphetamine addiction	0.423
## AMPK signaling pathway	0.020
## Amyotrophic lateral sclerosis (ALS)	0.042
## Antigen processing and presentation	0.119
## Apoptosis	0.826
## Arachidonic acid metabolism	0.486
## Arginine and proline metabolism	0.745
## Arginine biosynthesis	0.709
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.207
## Ascorbate and aldarate metabolism	1.000
## Asthma	1.000

## Autoimmune thyroid disease	1.000
## Axon guidance	0.111
## Bacterial invasion of epithelial cells	0.900
## Basal cell carcinoma	0.082
## B cell receptor signaling pathway	0.617
## beta-Alanine metabolism	0.323
## Bile secretion	0.914
## Biotin metabolism	1.000
## Bladder cancer	0.075
## Butanoate metabolism	0.763
## Caffeine metabolism	0.750
## Carbohydrate digestion and absorption	0.421
## Cardiac muscle contraction	0.540
## Cell adhesion molecules (CAMs)	0.937
## Cell cycle	0.003
## Chagas disease (American trypanosomiasis)	0.496
## Chemical carcinogenesis	0.863
## Choline metabolism in cancer	0.118
## Cholinergic synapse	0.961
## Chronic myeloid leukemia	0.309
## Circadian entrainment	0.935
## Circadian rhythm	0.677
## Citrate cycle (TCA cycle)	0.075
## Cocaine addiction	0.690
## Colorectal cancer	0.037
## Complement and coagulation cascades	0.223
## Cysteine and methionine metabolism	0.346
## Cytosolic DNA-sensing pathway	0.523
## D-Glutamine and D-glutamate metabolism	0.473
## Dilated cardiomyopathy	0.986
## Dopaminergic synapse	0.903
## Dorso-ventral axis formation	0.259
## Drug metabolism - cytochrome P450	0.941
## Drug metabolism - other enzymes	0.159
## ECM-receptor interaction	0.225
## Endocrine and other factor-regulated calcium reabsorption	0.979
## Endometrial cancer	0.172
## Epithelial cell signaling in Helicobacter pylori infection	0.165
## Epstein-Barr virus infection	0.555
## ErbB signaling pathway	0.403
## Estrogen signaling pathway	0.496
## Ether lipid metabolism	0.728
## Fat digestion and absorption	0.131
## Fatty acid biosynthesis	0.706
## Fatty acid degradation	0.245
## Fatty acid elongation	0.843
## Fc epsilon RI signaling pathway	0.438
## Fc gamma R-mediated phagocytosis	0.540
## Folate biosynthesis	0.019
## FoxO signaling pathway	0.125
## Fructose and mannose metabolism	0.000
## GABAergic synapse	0.996
## Galactose metabolism	0.010
## Gap junction	0.826

## Gastric acid secretion	0.933
## Glioma	0.425
## Glucagon signaling pathway	0.912
## Glutamatergic synapse	0.946
## Glutathione metabolism	0.244
## Glycerolipid metabolism	0.009
## Glycerophospholipid metabolism	0.005
## Glycine, serine and threonine metabolism	0.131
## Glycolysis / Gluconeogenesis	0.220
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.016
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.610
## Glycosaminoglycan degradation	0.033
## Glycosphingolipid biosynthesis - ganglio series	0.259
## Glycosphingolipid biosynthesis - globo series	0.629
## Glycosphingolipid biosynthesis - lacto and neolacto series	0.970
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.330
## Glyoxylate and dicarboxylate metabolism	0.100
## GnRH signaling pathway	0.461
## Graft-versus-host disease	0.385
## Hedgehog signaling pathway	0.668
## Hepatitis B	0.189
## Hepatitis C	0.021
## Herpes simplex infection	0.148
## HIF-1 signaling pathway	0.426
## Histidine metabolism	0.474
## Huntington's disease	0.122
## Hypertrophic cardiomyopathy (HCM)	0.763
## Inflammatory bowel disease (IBD)	0.995
## Inflammatory mediator regulation of TRP channels	0.778
## Influenza A	0.803
## Inositol phosphate metabolism	0.712
## Insulin resistance	0.794
## Insulin secretion	0.921
## Insulin signaling pathway	0.424
## Intestinal immune network for IgA production	0.914
## Legionellosis	0.926
## Leishmaniasis	0.668
## Leukocyte transendothelial migration	0.640
## Linoleic acid metabolism	0.899
## Lipoic acid metabolism	0.750
## Long-term depression	0.714
## Long-term potentiation	0.371
## Lysine biosynthesis	0.603
## Lysine degradation	0.882
## Malaria	0.990
## Maturity onset diabetes of the young	0.629
## Measles	0.826
## Melanogenesis	0.644
## Melanoma	0.520
## Metabolism of xenobiotics by cytochrome P450	0.668
## Mineral absorption	0.843
## Morphine addiction	1.000
## mTOR signaling pathway	0.189
## Mucin type O-Glycan biosynthesis	0.716

## Natural killer cell mediated cytotoxicity	0.415
## Neuroactive ligand-receptor interaction	0.638
## Neurotrophin signaling pathway	0.606
## NF-kappa B signaling pathway	0.976
## N-Glycan biosynthesis	0.322
## Nicotinate and nicotinamide metabolism	0.045
## Nitrogen metabolism	0.473
## NOD-like receptor signaling pathway	0.592
## Non-alcoholic fatty liver disease (NAFLD)	0.276
## Non-small cell lung cancer	0.381
## Notch signaling pathway	0.559
## One carbon pool by folate	0.184
## Oocyte meiosis	0.083
## Osteoclast differentiation	0.691
## Ovarian steroidogenesis	0.804
## Oxidative phosphorylation	0.015
## p53 signaling pathway	0.526
## Pancreatic cancer	0.073
## Pancreatic secretion	0.928
## Pantothenate and CoA biosynthesis	0.385
## Parkinson's disease	0.900
## Pathogenic Escherichia coli infection	0.992
## Pentose and glucuronate interconversions	0.709
## Pentose phosphate pathway	0.009
## Pertussis	0.514
## Phenylalanine metabolism	0.259
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.750
## Phosphatidylinositol signaling system	0.709
## Phototransduction	0.984
## Platelet activation	0.860
## Porphyrin and chlorophyll metabolism	0.928
## Primary bile acid biosynthesis	0.638
## Prion diseases	0.474
## Progesterone-mediated oocyte maturation	0.228
## Prolactin signaling pathway	0.302
## Propionate metabolism	0.215
## Prostate cancer	0.016
## Proximal tubule bicarbonate reclamation	0.514
## Pyrimidine metabolism	0.477
## Pyruvate metabolism	0.169
## Regulation of lipolysis in adipocytes	0.904
## Renal cell carcinoma	0.038
## Renin-angiotensin system	1.000
## Renin secretion	0.835
## Retinol metabolism	0.835
## Retrograde endocannabinoid signaling	0.990
## Rheumatoid arthritis	0.979
## Riboflavin metabolism	0.750
## RIG-I-like receptor signaling pathway	0.011
## Salivary secretion	0.956
## Salmonella infection	0.844
## Selenocompound metabolism	0.638
## Serotonergic synapse	0.986
## Shigellosis	0.901

## Signaling pathways regulating pluripotency of stem cells	0.311
## Small cell lung cancer	0.073
## Sphingolipid metabolism	0.157
## Sphingolipid signaling pathway	0.426
## Staphylococcus aureus infection	0.271
## Starch and sucrose metabolism	0.472
## Steroid biosynthesis	0.914
## Steroid hormone biosynthesis	0.864
## Sulfur metabolism	0.902
## Synaptic vesicle cycle	0.085
## Synthesis and degradation of ketone bodies	0.708
## Systemic lupus erythematosus	0.629
## Taste transduction	0.976
## Taurine and hypotaurine metabolism	0.619
## T cell receptor signaling pathway	0.381
## Terpenoid backbone biosynthesis	0.541
## TGF-beta signaling pathway	0.303
## Thiamine metabolism	0.750
## Thyroid cancer	0.122
## Thyroid hormone signaling pathway	0.435
## Thyroid hormone synthesis	0.835
## Tight junction	0.969
## TNF signaling pathway	0.365
## Toll-like receptor signaling pathway	0.805
## Toxoplasmosis	0.582
## Transcriptional misregulation in cancer	0.815
## Tryptophan metabolism	0.470
## Type I diabetes mellitus	1.000
## Type II diabetes mellitus	0.737
## Tyrosine metabolism	0.716
## Ubiquinone and other terpenoid-quinone biosynthesis	0.708
## Valine, leucine and isoleucine degradation	0.635
## Vascular smooth muscle contraction	0.724
## Vasopressin-regulated water reabsorption	0.655
## VEGF signaling pathway	0.620
## Vibrio cholerae infection	0.996
## Viral carcinogenesis	0.717
## Viral myocarditis	0.670
## Vitamin B6 metabolism	0.267
## Vitamin digestion and absorption	1.000
## Wnt signaling pathway	0.708
##	tA
## Acute myeloid leukemia	-9878.458
## Adherens junction	-23777.542
## Adipocytokine signaling pathway	-16107.254
## Adrenergic signaling in cardiomyocytes	-12517.916
## African trypanosomiasis	-585.250
## Alanine, aspartate and glutamate metabolism	0.000
## Aldosterone-regulated sodium reabsorption	483.808
## Aldosterone synthesis and secretion	8084.170
## Allograft rejection	NA
## alpha-Linolenic acid metabolism	0.000
## Alzheimer's disease	-23366.625
## Aminoacyl-tRNA biosynthesis	0.000

## Amino sugar and nucleotide sugar metabolism	0.000
## Amoebiasis	-158.625
## Amphetamine addiction	-606.430
## AMPK signaling pathway	9266.193
## Amyotrophic lateral sclerosis (ALS)	-37098.000
## Antigen processing and presentation	-15097.375
## Apoptosis	-22157.492
## Arachidonic acid metabolism	0.000
## Arginine and proline metabolism	0.000
## Arginine biosynthesis	0.000
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	3006.750
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## Axon guidance	-31081.599
## Bacterial invasion of epithelial cells	-6327.625
## Basal cell carcinoma	-10832.981
## B cell receptor signaling pathway	4659.744
## beta-Alanine metabolism	0.000
## Bile secretion	-23.000
## Biotin metabolism	NA
## Bladder cancer	-6095.125
## Butanoate metabolism	0.000
## Caffeine metabolism	0.000
## Carbohydrate digestion and absorption	154.500
## Cardiac muscle contraction	0.000
## Cell adhesion molecules (CAMs)	-10263.194
## Cell cycle	-22422.303
## Chagas disease (American trypanosomiasis)	-33466.990
## Chemical carcinogenesis	0.000
## Choline metabolism in cancer	-4567.681
## Cholinergic synapse	1468.277
## Chronic myeloid leukemia	-13486.177
## Circadian entrainment	8352.661
## Circadian rhythm	-1305.228
## Citrate cycle (TCA cycle)	0.000
## Cocaine addiction	-1286.125
## Colorectal cancer	27364.062
## Complement and coagulation cascades	-40790.677
## Cysteine and methionine metabolism	0.000
## Cytosolic DNA-sensing pathway	-1628.375
## D-Glutamine and D-glutamate metabolism	0.000
## Dilated cardiomyopathy	0.000
## Dopaminergic synapse	-3338.403
## Dorso-ventral axis formation	3685.250
## Drug metabolism - cytochrome P450	0.000
## Drug metabolism - other enzymes	0.000
## ECM-receptor interaction	-171604.625
## Endocrine and other factor-regulated calcium reabsorption	9101.500
## Endometrial cancer	21602.417
## Epithelial cell signaling in Helicobacter pylori infection	7321.458
## Epstein-Barr virus infection	8443.117
## ErbB signaling pathway	-13460.469
## Estrogen signaling pathway	-13790.687

## Ether lipid metabolism	0.000
## Fat digestion and absorption	0.000
## Fatty acid biosynthesis	0.000
## Fatty acid degradation	0.000
## Fatty acid elongation	0.000
## Fc epsilon RI signaling pathway	-6717.950
## Fc gamma R-mediated phagocytosis	3936.475
## Folate biosynthesis	0.000
## FoxO signaling pathway	-6177.511
## Fructose and mannose metabolism	0.000
## GABAergic synapse	293.391
## Galactose metabolism	0.000
## Gap junction	242.500
## Gastric acid secretion	2837.250
## Glioma	1275.234
## Glucagon signaling pathway	1345.373
## Glutamatergic synapse	2735.347
## Glutathione metabolism	0.000
## Glycerolipid metabolism	0.000
## Glycerophospholipid metabolism	0.000
## Glycine, serine and threonine metabolism	0.000
## Glycolysis / Gluconeogenesis	0.000
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.000
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.000
## Glycosaminoglycan degradation	0.000
## Glycosphingolipid biosynthesis - ganglio series	0.000
## Glycosphingolipid biosynthesis - globo series	0.000
## Glycosphingolipid biosynthesis - lacto and neolacto series	0.000
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.000
## Glyoxylate and dicarboxylate metabolism	0.000
## GnRH signaling pathway	27384.125
## Graft-versus-host disease	0.000
## Hedgehog signaling pathway	-88.500
## Hepatitis B	-37645.555
## Hepatitis C	-224.625
## Herpes simplex infection	-31646.087
## HIF-1 signaling pathway	-1201.903
## Histidine metabolism	0.000
## Huntington's disease	2506.875
## Hypertrophic cardiomyopathy (HCM)	0.000
## Inflammatory bowel disease (IBD)	1558.578
## Inflammatory mediator regulation of TRP channels	-5277.937
## Influenza A	258.558
## Inositol phosphate metabolism	0.000
## Insulin resistance	58885.296
## Insulin secretion	-1748.493
## Insulin signaling pathway	47155.270
## Intestinal immune network for IgA production	309.000
## Legionellosis	2502.750
## Leishmaniasis	10185.129
## Leukocyte transendothelial migration	-19168.027
## Linoleic acid metabolism	0.000
## Lipoic acid metabolism	0.000
## Long-term depression	NA

## Long-term potentiation	-8573.732
## Lysine biosynthesis	0.000
## Lysine degradation	0.000
## Malaria	0.000
## Maturity onset diabetes of the young	500.250
## Measles	9505.225
## Melanogenesis	-18811.304
## Melanoma	1351.011
## Metabolism of xenobiotics by cytochrome P450	0.000
## Mineral absorption	-408.500
## Morphine addiction	4.728
## mTOR signaling pathway	546.625
## Mucin type O-Glycan biosynthesis	0.000
## Natural killer cell mediated cytotoxicity	15019.941
## Neuroactive ligand-receptor interaction	122.875
## Neurotrophin signaling pathway	16567.636
## NF-kappa B signaling pathway	-22717.826
## N-Glycan biosynthesis	0.000
## Nicotinate and nicotinamide metabolism	0.000
## Nitrogen metabolism	0.000
## NOD-like receptor signaling pathway	329.208
## Non-alcoholic fatty liver disease (NAFLD)	1466.523
## Non-small cell lung cancer	-13832.136
## Notch signaling pathway	26473.500
## One carbon pool by folate	0.000
## Oocyte meiosis	9106.018
## Osteoclast differentiation	-33998.103
## Ovarian steroidogenesis	235.750
## Oxidative phosphorylation	0.000
## p53 signaling pathway	3771.674
## Pancreatic cancer	-2090.617
## Pancreatic secretion	-23.000
## Pantothenate and CoA biosynthesis	0.000
## Parkinson's disease	-42843.875
## Pathogenic Escherichia coli infection	98483.375
## Pentose and glucuronate interconversions	0.000
## Pentose phosphate pathway	0.000
## Pertussis	-2753.458
## Phenylalanine metabolism	0.000
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.000
## Phosphatidylinositol signaling system	0.000
## Phototransduction	-2570.500
## Platelet activation	-28994.129
## Porphyrin and chlorophyll metabolism	0.000
## Primary bile acid biosynthesis	0.000
## Prion diseases	-11573.679
## Progesterone-mediated oocyte maturation	141198.062
## Prolactin signaling pathway	-16335.525
## Propanoate metabolism	0.000
## Prostate cancer	75687.583
## Proximal tubule bicarbonate reclamation	0.000
## Pyrimidine metabolism	0.000
## Pyruvate metabolism	0.000
## Regulation of lipolysis in adipocytes	-8229.675

## Renal cell carcinoma	-6120.438
## Renin-angiotensin system	NA
## Renin secretion	2938.438
## Retinol metabolism	0.000
## Retrograde endocannabinoid signaling	1.438
## Rheumatoid arthritis	0.000
## Riboflavin metabolism	0.000
## RIG-I-like receptor signaling pathway	9161.125
## Salivary secretion	2847.000
## Salmonella infection	-100019.205
## Selenocompound metabolism	0.000
## Serotonergic synapse	1490.409
## Shigellosis	2604.500
## Signaling pathways regulating pluripotency of stem cells	NA
## Small cell lung cancer	-216188.233
## Sphingolipid metabolism	0.000
## Sphingolipid signaling pathway	-53100.711
## Staphylococcus aureus infection	-15156.063
## Starch and sucrose metabolism	0.000
## Steroid biosynthesis	0.000
## Steroid hormone biosynthesis	0.000
## Sulfur metabolism	0.000
## Synaptic vesicle cycle	0.000
## Synthesis and degradation of ketone bodies	0.000
## Systemic lupus erythematosus	-4118.625
## Taste transduction	625.000
## Taurine and hypotaurine metabolism	0.000
## T cell receptor signaling pathway	163.375
## Terpenoid backbone biosynthesis	0.000
## TGF-beta signaling pathway	-18605.108
## Thiamine metabolism	0.000
## Thyroid cancer	21099.375
## Thyroid hormone signaling pathway	-689.716
## Thyroid hormone synthesis	-303.375
## Tight junction	-4236.958
## TNF signaling pathway	-37136.521
## Toll-like receptor signaling pathway	-11558.795
## Toxoplasmosis	-9850.687
## Transcriptional misregulation in cancer	-388.000
## Tryptophan metabolism	0.000
## Type I diabetes mellitus	NA
## Type II diabetes mellitus	2324.406
## Tyrosine metabolism	0.000
## Ubiquinone and other terpenoid-quinone biosynthesis	0.000
## Valine, leucine and isoleucine degradation	0.000
## Vascular smooth muscle contraction	-3531.683
## Vasopressin-regulated water reabsorption	-3122.250
## VEGF signaling pathway	388.154
## Vibrio cholerae infection	-232.317
## Viral carcinogenesis	2218.625
## Viral myocarditis	6641.250
## Vitamin B6 metabolism	0.000
## Vitamin digestion and absorption	NA
## Wnt signaling pathway	13350.043

	pPERT
##	0.23000
## Acute myeloid leukemia	0.14000
## Adherens junction	0.09400
## Adipocytokine signaling pathway	0.32000
## Adrenergic signaling in cardiomyocytes	0.42000
## African trypanosomiasis	NA
## Alanine, aspartate and glutamate metabolism	0.58600
## Aldosterone-regulated sodium reabsorption	0.27600
## Aldosterone synthesis and secretion	NA
## Allograft rejection	0.10400
## alpha-Linolenic acid metabolism	NA
## Alzheimer's disease	NA
## Aminoacyl-tRNA biosynthesis	NA
## Amino sugar and nucleotide sugar metabolism	NA
## Amoebiasis	0.95800
## Amphetamine addiction	0.91200
## AMPK signaling pathway	0.24800
## Amyotrophic lateral sclerosis (ALS)	0.06000
## Antigen processing and presentation	0.05200
## Apoptosis	0.22400
## Arachidonic acid metabolism	NA
## Arginine and proline metabolism	NA
## Arginine biosynthesis	NA
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.05400
## Ascorbate and aldarate metabolism	NA
## Asthma	NA
## Autoimmune thyroid disease	NA
## Axon guidance	0.17200
## Bacterial invasion of epithelial cells	0.63000
## Basal cell carcinoma	0.51200
## B cell receptor signaling pathway	0.56000
## beta-Alanine metabolism	NA
## Bile secretion	0.90800
## Biotin metabolism	NA
## Bladder cancer	0.43800
## Butanoate metabolism	NA
## Caffeine metabolism	NA
## Carbohydrate digestion and absorption	0.82000
## Cardiac muscle contraction	NA
## Cell adhesion molecules (CAMs)	0.44400
## Cell cycle	0.14800
## Chagas disease (American trypanosomiasis)	0.09000
## Chemical carcinogenesis	NA
## Choline metabolism in cancer	0.67000
## Cholinergic synapse	0.87000
## Chronic myeloid leukemia	0.32200
## Circadian entrainment	0.30800
## Circadian rhythm	0.47600
## Citrate cycle (TCA cycle)	NA
## Cocaine addiction	0.70600
## Colorectal cancer	0.00600
## Complement and coagulation cascades	0.10000
## Cysteine and methionine metabolism	NA
## Cytosolic DNA-sensing pathway	0.45200

## D-Glutamine and D-glutamate metabolism	NA
## Dilated cardiomyopathy	1.00000
## Dopaminergic synapse	0.49800
## Dorso-ventral axis formation	0.06600
## Drug metabolism - cytochrome P450	NA
## Drug metabolism - other enzymes	NA
## ECM-receptor interaction	0.00400
## Endocrine and other factor-regulated calcium reabsorption	0.07400
## Endometrial cancer	0.10800
## Epithelial cell signaling in Helicobacter pylori infection	0.27800
## Epstein-Barr virus infection	0.35000
## ErbB signaling pathway	0.48000
## Estrogen signaling pathway	0.54400
## Ether lipid metabolism	NA
## Fat digestion and absorption	NA
## Fatty acid biosynthesis	NA
## Fatty acid degradation	NA
## Fatty acid elongation	NA
## Fc epsilon RI signaling pathway	0.63800
## Fc gamma R-mediated phagocytosis	0.74400
## Folate biosynthesis	NA
## FoxO signaling pathway	0.75000
## Fructose and mannose metabolism	NA
## GABAergic synapse	0.82200
## Galactose metabolism	NA
## Gap junction	0.96800
## Gastric acid secretion	0.23400
## Glioma	0.93400
## Glucagon signaling pathway	0.88400
## Glutamatergic synapse	0.45200
## Glutathione metabolism	NA
## Glycerolipid metabolism	NA
## Glycerophospholipid metabolism	NA
## Glycine, serine and threonine metabolism	NA
## Glycolysis / Gluconeogenesis	NA
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	NA
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	NA
## Glycosaminoglycan degradation	NA
## Glycosphingolipid biosynthesis - ganglio series	NA
## Glycosphingolipid biosynthesis - globo series	NA
## Glycosphingolipid biosynthesis - lacto and neolacto series	NA
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	NA
## Glyoxylate and dicarboxylate metabolism	NA
## GnRH signaling pathway	0.17600
## Graft-versus-host disease	1.00000
## Hedgehog signaling pathway	0.98600
## Hepatitis B	0.27000
## Hepatitis C	0.98200
## Herpes simplex infection	0.13200
## HIF-1 signaling pathway	0.94200
## Histidine metabolism	NA
## Huntington's disease	0.23400
## Hypertrophic cardiomyopathy (HCM)	NA
## Inflammatory bowel disease (IBD)	0.83200

## Inflammatory mediator regulation of TRP channels	0.61200
## Influenza A	0.97400
## Inositol phosphate metabolism	NA
## Insulin resistance	0.05000
## Insulin secretion	0.64400
## Insulin signaling pathway	0.19400
## Intestinal immune network for IgA production	0.51600
## Legionellosis	0.36600
## Leishmaniasis	0.16600
## Leukocyte transendothelial migration	0.33200
## Linoleic acid metabolism	NA
## Lipoic acid metabolism	NA
## Long-term depression	NA
## Long-term potentiation	0.63600
## Lysine biosynthesis	NA
## Lysine degradation	NA
## Malaria	1.00000
## Maturity onset diabetes of the young	0.61200
## Measles	0.23200
## Melanogenesis	0.60400
## Melanoma	0.89800
## Metabolism of xenobiotics by cytochrome P450	NA
## Mineral absorption	0.12200
## Morphine addiction	0.98800
## mTOR signaling pathway	0.84800
## Mucin type O-Glycan biosynthesis	NA
## Natural killer cell mediated cytotoxicity	0.57400
## Neuroactive ligand-receptor interaction	0.84600
## Neurotrophin signaling pathway	0.28400
## NF-kappa B signaling pathway	0.12400
## N-Glycan biosynthesis	NA
## Nicotinate and nicotinamide metabolism	NA
## Nitrogen metabolism	NA
## NOD-like receptor signaling pathway	0.94000
## Non-alcoholic fatty liver disease (NAFLD)	0.91200
## Non-small cell lung cancer	0.46200
## Notch signaling pathway	0.08200
## One carbon pool by folate	NA
## Oocyte meiosis	0.55600
## Osteoclast differentiation	0.08400
## Ovarian steroidogenesis	0.70400
## Oxidative phosphorylation	NA
## p53 signaling pathway	0.34400
## Pancreatic cancer	0.85800
## Pancreatic secretion	0.75800
## Pantothenate and CoA biosynthesis	NA
## Parkinson's disease	0.02600
## Pathogenic Escherichia coli infection	0.00001
## Pentose and glucuronate interconversions	NA
## Pentose phosphate pathway	NA
## Pertussis	0.72600
## Phenylalanine metabolism	NA
## Phenylalanine, tyrosine and tryptophan biosynthesis	NA
## Phosphatidylinositol signaling system	NA

## Phototransduction	0.25800
## Platelet activation	0.36000
## Porphyrin and chlorophyll metabolism	NA
## Primary bile acid biosynthesis	NA
## Prion diseases	0.14200
## Progesterone-mediated oocyte maturation	0.00001
## Prolactin signaling pathway	0.45400
## Propionate metabolism	NA
## Prostate cancer	0.02200
## Proximal tubule bicarbonate reclamation	NA
## Pyrimidine metabolism	NA
## Pyruvate metabolism	NA
## Regulation of lipolysis in adipocytes	0.30600
## Renal cell carcinoma	0.50200
## Renin-angiotensin system	NA
## Renin secretion	0.34200
## Retinol metabolism	NA
## Retrograde endocannabinoid signaling	0.98600
## Rheumatoid arthritis	1.00000
## Riboflavin metabolism	NA
## RIG-I-like receptor signaling pathway	0.30400
## Salivary secretion	0.23200
## Salmonella infection	0.00800
## Selenocompound metabolism	NA
## Serotonergic synapse	0.59800
## Shigellosis	0.58800
## Signaling pathways regulating pluripotency of stem cells	NA
## Small cell lung cancer	0.01400
## Sphingolipid metabolism	NA
## Sphingolipid signaling pathway	0.12200
## Staphylococcus aureus infection	0.16200
## Starch and sucrose metabolism	NA
## Steroid biosynthesis	NA
## Steroid hormone biosynthesis	NA
## Sulfur metabolism	NA
## Synaptic vesicle cycle	NA
## Synthesis and degradation of ketone bodies	NA
## Systemic lupus erythematosus	0.20200
## Taste transduction	0.84000
## Taurine and hypotaurine metabolism	NA
## T cell receptor signaling pathway	0.98600
## Terpenoid backbone biosynthesis	NA
## TGF-beta signaling pathway	0.17600
## Thiamine metabolism	NA
## Thyroid cancer	0.01800
## Thyroid hormone signaling pathway	0.93600
## Thyroid hormone synthesis	0.93400
## Tight junction	0.37600
## TNF signaling pathway	0.05800
## Toll-like receptor signaling pathway	0.48200
## Toxoplasmosis	0.38200
## Transcriptional misregulation in cancer	0.30400
## Tryptophan metabolism	NA
## Type I diabetes mellitus	NA

## Type II diabetes mellitus	0.64000
## Tyrosine metabolism	NA
## Ubiquinone and other terpenoid-quinone biosynthesis	NA
## Valine, leucine and isoleucine degradation	NA
## Vascular smooth muscle contraction	0.75800
## Vasopressin-regulated water reabsorption	0.35600
## VEGF signaling pathway	0.96400
## Vibrio cholerae infection	0.65200
## Viral carcinogenesis	0.12000
## Viral myocarditis	0.12000
## Vitamin B6 metabolism	NA
## Vitamin digestion and absorption	NA
## Wnt signaling pathway	0.22800
##	pG
## Acute myeloid leukemia	0.301
## Adherens junction	0.026
## Adipocytokine signaling pathway	0.236
## Adrenergic signaling in cardiomyocytes	0.602
## African trypanosomiasis	0.781
## Alanine, aspartate and glutamate metabolism	0.584
## Aldosterone-regulated sodium reabsorption	0.729
## Aldosterone synthesis and secretion	0.492
## Allograft rejection	1.000
## alpha-Linolenic acid metabolism	0.501
## Alzheimer's disease	0.084
## Aminoacyl-tRNA biosynthesis	0.339
## Amino sugar and nucleotide sugar metabolism	0.064
## Amoebiasis	0.984
## Amphetamine addiction	0.753
## AMPK signaling pathway	0.031
## Amyotrophic lateral sclerosis (ALS)	0.018
## Antigen processing and presentation	0.038
## Apoptosis	0.497
## Arachidonic acid metabolism	0.486
## Arginine and proline metabolism	0.745
## Arginine biosynthesis	0.709
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.061
## Ascorbate and aldarate metabolism	1.000
## Asthma	1.000
## Autoimmune thyroid disease	1.000
## Axon guidance	0.095
## Bacterial invasion of epithelial cells	0.889
## Basal cell carcinoma	0.175
## B cell receptor signaling pathway	0.713
## beta-Alanine metabolism	0.323
## Bile secretion	0.985
## Biotin metabolism	1.000
## Bladder cancer	0.145
## Butanoate metabolism	0.763
## Caffeine metabolism	0.750
## Carbohydrate digestion and absorption	0.712
## Cardiac muscle contraction	0.540
## Cell adhesion molecules (CAMs)	0.781
## Cell cycle	0.004

## Chagas disease (American trypanosomiasis)	0.183
## Chemical carcinogenesis	0.863
## Choline metabolism in cancer	0.280
## Cholinergic synapse	0.986
## Chronic myeloid leukemia	0.329
## Circadian entrainment	0.646
## Circadian rhythm	0.687
## Citrate cycle (TCA cycle)	0.075
## Cocaine addiction	0.837
## Colorectal cancer	0.002
## Complement and coagulation cascades	0.107
## Cysteine and methionine metabolism	0.346
## Cytosolic DNA-sensing pathway	0.577
## D-Glutamine and D-glutamate metabolism	0.473
## Dilated cardiomyopathy	1.000
## Dopaminergic synapse	0.809
## Dorso-ventral axis formation	0.087
## Drug metabolism - cytochrome P450	0.941
## Drug metabolism - other enzymes	0.159
## ECM-receptor interaction	0.007
## Endocrine and other factor-regulated calcium reabsorption	0.263
## Endometrial cancer	0.093
## Epithelial cell signaling in Helicobacter pylori infection	0.187
## Epstein-Barr virus infection	0.513
## ErbB signaling pathway	0.511
## Estrogen signaling pathway	0.623
## Ether lipid metabolism	0.728
## Fat digestion and absorption	0.131
## Fatty acid biosynthesis	0.706
## Fatty acid degradation	0.245
## Fatty acid elongation	0.843
## Fc epsilon RI signaling pathway	0.636
## Fc gamma R-mediated phagocytosis	0.768
## Folate biosynthesis	0.019
## FoxO signaling pathway	0.316
## Fructose and mannose metabolism	0.000
## GABAergic synapse	0.982
## Galactose metabolism	0.010
## Gap junction	0.978
## Gastric acid secretion	0.551
## Glioma	0.764
## Glucagon signaling pathway	0.980
## Glutamatergic synapse	0.791
## Glutathione metabolism	0.244
## Glycerolipid metabolism	0.009
## Glycerophospholipid metabolism	0.005
## Glycine, serine and threonine metabolism	0.131
## Glycolysis / Gluconeogenesis	0.220
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.016
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.610
## Glycosaminoglycan degradation	0.033
## Glycosphingolipid biosynthesis - ganglio series	0.259
## Glycosphingolipid biosynthesis - globo series	0.629
## Glycosphingolipid biosynthesis - lacto and neolacto series	0.970

## Glycosylphosphatidylinositol (GPI)-anchor biosynthesis	0.330
## Glyoxylate and dicarboxylate metabolism	0.100
## GnRH signaling pathway	0.285
## Graft-versus-host disease	0.752
## Hedgehog signaling pathway	0.934
## Hepatitis B	0.203
## Hepatitis C	0.101
## Herpes simplex infection	0.096
## HIF-1 signaling pathway	0.768
## Histidine metabolism	0.474
## Huntington's disease	0.130
## Hypertrophic cardiomyopathy (HCM)	0.763
## Inflammatory bowel disease (IBD)	0.984
## Inflammatory mediator regulation of TRP channels	0.829
## Influenza A	0.974
## Inositol phosphate metabolism	0.712
## Insulin resistance	0.168
## Insulin secretion	0.903
## Insulin signaling pathway	0.288
## Intestinal immune network for IgA production	0.826
## Legionellosis	0.706
## Leishmaniasis	0.355
## Leukocyte transendothelial migration	0.542
## Linoleic acid metabolism	0.899
## Lipoic acid metabolism	0.750
## Long-term depression	0.714
## Long-term potentiation	0.577
## Lysine biosynthesis	0.603
## Lysine degradation	0.882
## Malaria	1.000
## Maturity onset diabetes of the young	0.752
## Measles	0.508
## Melanogenesis	0.756
## Melanoma	0.823
## Metabolism of xenobiotics by cytochrome P450	0.668
## Mineral absorption	0.337
## Morphine addiction	1.000
## mTOR signaling pathway	0.454
## Mucin type O-Glycan biosynthesis	0.716
## Natural killer cell mediated cytotoxicity	0.580
## Neuroactive ligand-receptor interaction	0.873
## Neurotrophin signaling pathway	0.475
## NF-kappa B signaling pathway	0.377
## N-Glycan biosynthesis	0.322
## Nicotinate and nicotinamide metabolism	0.045
## Nitrogen metabolism	0.473
## NOD-like receptor signaling pathway	0.883
## Non-alcoholic fatty liver disease (NAFLD)	0.599
## Non-small cell lung cancer	0.482
## Notch signaling pathway	0.187
## One carbon pool by folate	0.184
## Oocyte meiosis	0.188
## Osteoclast differentiation	0.223
## Ovarian steroidogenesis	0.888

## Oxidative phosphorylation	0.015
## p53 signaling pathway	0.490
## Pancreatic cancer	0.236
## Pancreatic secretion	0.951
## Pantothenate and CoA biosynthesis	0.385
## Parkinson's disease	0.111
## Pathogenic Escherichia coli infection	0.000
## Pentose and glucuronate interconversions	0.709
## Pentose phosphate pathway	0.009
## Pertussis	0.741
## Phenylalanine metabolism	0.259
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.750
## Phosphatidylinositol signaling system	0.709
## Phototransduction	0.602
## Platelet activation	0.673
## Porphyrin and chlorophyll metabolism	0.928
## Primary bile acid biosynthesis	0.638
## Prion diseases	0.249
## Progesterone-mediated oocyte maturation	0.000
## Prolactin signaling pathway	0.410
## Propionate metabolism	0.215
## Prostate cancer	0.003
## Proximal tubule bicarbonate reclamation	0.514
## Pyrimidine metabolism	0.477
## Pyruvate metabolism	0.169
## Regulation of lipolysis in adipocytes	0.632
## Renal cell carcinoma	0.095
## Renin-angiotensin system	1.000
## Renin secretion	0.643
## Retinol metabolism	0.835
## Retrograde endocannabinoid signaling	1.000
## Rheumatoid arthritis	1.000
## Riboflavin metabolism	0.750
## RIG-I-like receptor signaling pathway	0.022
## Salivary secretion	0.556
## Salmonella infection	0.040
## Selenocompound metabolism	0.638
## Serotonergic synapse	0.901
## Shigellosis	0.866
## Signaling pathways regulating pluripotency of stem cells	0.311
## Small cell lung cancer	0.008
## Sphingolipid metabolism	0.157
## Sphingolipid signaling pathway	0.206
## Staphylococcus aureus infection	0.181
## Starch and sucrose metabolism	0.472
## Steroid biosynthesis	0.914
## Steroid hormone biosynthesis	0.864
## Sulfur metabolism	0.902
## Synaptic vesicle cycle	0.085
## Synthesis and degradation of ketone bodies	0.708
## Systemic lupus erythematosus	0.389
## Taste transduction	0.983
## Taurine and hypotaurine metabolism	0.619
## T cell receptor signaling pathway	0.743

## Terpenoid backbone biosynthesis	0.541
## TGF-beta signaling pathway	0.210
## Thiamine metabolism	0.750
## Thyroid cancer	0.016
## Thyroid hormone signaling pathway	0.773
## Thyroid hormone synthesis	0.974
## Tight junction	0.732
## TNF signaling pathway	0.103
## Toll-like receptor signaling pathway	0.755
## Toxoplasmosis	0.557
## Transcriptional misregulation in cancer	0.593
## Tryptophan metabolism	0.470
## Type I diabetes mellitus	1.000
## Type II diabetes mellitus	0.826
## Tyrosine metabolism	0.716
## Ubiquinone and other terpenoid-quinone biosynthesis	0.708
## Valine, leucine and isoleucine degradation	0.635
## Vascular smooth muscle contraction	0.878
## Vasopressin-regulated water reabsorption	0.573
## VEGF signaling pathway	0.905
## Vibrio cholerae infection	0.930
## Viral carcinogenesis	0.297
## Viral myocarditis	0.283
## Vitamin B6 metabolism	0.267
## Vitamin digestion and absorption	1.000
## Wnt signaling pathway	0.456
##	pGFdr
## Acute myeloid leukemia	0.9150400
## Adherens junction	0.3120000
## Adipocytokine signaling pathway	0.8678710
## Adrenergic signaling in cardiomyocytes	1.0000000
## African trypanosomiasis	1.0000000
## Alanine, aspartate and glutamate metabolism	1.0000000
## Aldosterone-regulated sodium reabsorption	1.0000000
## Aldosterone synthesis and secretion	1.0000000
## Allograft rejection	1.0000000
## alpha-Linolenic acid metabolism	1.0000000
## Alzheimer's disease	0.6347027
## Aminoacyl-tRNA biosynthesis	0.9312289
## Amino sugar and nucleotide sugar metabolism	0.5612308
## Amoebiasis	1.0000000
## Amphetamine addiction	1.0000000
## AMPK signaling pathway	0.3534000
## Amyotrophic lateral sclerosis (ALS)	0.2548235
## Antigen processing and presentation	0.3938182
## Apoptosis	1.0000000
## Arachidonic acid metabolism	1.0000000
## Arginine and proline metabolism	1.0000000
## Arginine biosynthesis	1.0000000
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.5563200
## Ascorbate and aldarate metabolism	1.0000000
## Asthma	1.0000000
## Autoimmune thyroid disease	1.0000000
## Axon guidance	0.6347027

## Bacterial invasion of epithelial cells	1.0000000
## Basal cell carcinoma	0.7937778
## B cell receptor signaling pathway	1.0000000
## beta-Alanine metabolism	0.9288889
## Bile secretion	1.0000000
## Biotin metabolism	1.0000000
## Bladder cancer	0.7688372
## Butanoate metabolism	1.0000000
## Caffeine metabolism	1.0000000
## Carbohydrate digestion and absorption	1.0000000
## Cardiac muscle contraction	1.0000000
## Cell adhesion molecules (CAMs)	1.0000000
## Cell cycle	0.1520000
## Chagas disease (American trypanosomiasis)	0.7937778
## Chemical carcinogenesis	1.0000000
## Choline metabolism in cancer	0.8995068
## Cholinergic synapse	1.0000000
## Chronic myeloid leukemia	0.9288889
## Circadian entrainment	1.0000000
## Circadian rhythm	1.0000000
## Citrate cycle (TCA cycle)	0.6333333
## Cocaine addiction	1.0000000
## Colorectal cancer	0.1140000
## Complement and coagulation cascades	0.6420000
## Cysteine and methionine metabolism	0.9391429
## Cytosolic DNA-sensing pathway	1.0000000
## D-Glutamine and D-glutamate metabolism	1.0000000
## Dilated cardiomyopathy	1.0000000
## Dopaminergic synapse	1.0000000
## Dorso-ventral axis formation	0.6347027
## Drug metabolism - cytochrome P450	1.0000000
## Drug metabolism - other enzymes	0.7937778
## ECM-receptor interaction	0.1865455
## Endocrine and other factor-regulated calcium reabsorption	0.8818235
## Endometrial cancer	0.6347027
## Epithelial cell signaling in Helicobacter pylori infection	0.7937778
## Epstein-Barr virus infection	1.0000000
## ErbB signaling pathway	1.0000000
## Estrogen signaling pathway	1.0000000
## Ether lipid metabolism	1.0000000
## Fat digestion and absorption	0.7111429
## Fatty acid biosynthesis	1.0000000
## Fatty acid degradation	0.8728125
## Fatty acid elongation	1.0000000
## Fc epsilon RI signaling pathway	1.0000000
## Fc gamma R-mediated phagocytosis	1.0000000
## Folate biosynthesis	0.2548235
## FoxO signaling pathway	0.9288889
## Fructose and mannose metabolism	0.0000000
## GABAergic synapse	1.0000000
## Galactose metabolism	0.1900000
## Gap junction	1.0000000
## Gastric acid secretion	1.0000000
## Glioma	1.0000000

## Glucagon signaling pathway	1.0000000
## Glutamatergic synapse	1.0000000
## Glutathione metabolism	0.8728125
## Glycerolipid metabolism	0.1865455
## Glycerophospholipid metabolism	0.1628571
## Glycine, serine and threonine metabolism	0.7111429
## Glycolysis / Gluconeogenesis	0.8474000
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.2432000
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	1.0000000
## Glycosaminoglycan degradation	0.3582857
## Glycosphingolipid biosynthesis - ganglio series	0.8813731
## Glycosphingolipid biosynthesis - globo series	1.0000000
## Glycosphingolipid biosynthesis - lacto and neolacto series	1.0000000
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.9288889
## Glyoxylate and dicarboxylate metabolism	0.6347027
## GnRH signaling pathway	0.8995068
## Graft-versus-host disease	1.0000000
## Hedgehog signaling pathway	1.0000000
## Hepatitis B	0.8387143
## Hepatitis C	0.6347027
## Herpes simplex infection	0.6347027
## HIF-1 signaling pathway	1.0000000
## Histidine metabolism	1.0000000
## Huntington's disease	0.7111429
## Hypertrophic cardiomyopathy (HCM)	1.0000000
## Inflammatory bowel disease (IBD)	1.0000000
## Inflammatory mediator regulation of TRP channels	1.0000000
## Influenza A	1.0000000
## Inositol phosphate metabolism	1.0000000
## Insulin resistance	0.7937778
## Insulin secretion	1.0000000
## Insulin signaling pathway	0.8995068
## Intestinal immune network for IgA production	1.0000000
## Legionellosis	1.0000000
## Leishmaniasis	0.9522353
## Leukocyte transendothelial migration	1.0000000
## Linoleic acid metabolism	1.0000000
## Lipoic acid metabolism	1.0000000
## Long-term depression	1.0000000
## Long-term potentiation	1.0000000
## Lysine biosynthesis	1.0000000
## Lysine degradation	1.0000000
## Malaria	1.0000000
## Maturity onset diabetes of the young	1.0000000
## Measles	1.0000000
## Melanogenesis	1.0000000
## Melanoma	1.0000000
## Metabolism of xenobiotics by cytochrome P450	1.0000000
## Mineral absorption	0.9312289
## Morphine addiction	1.0000000
## mTOR signaling pathway	1.0000000
## Mucin type O-Glycan biosynthesis	1.0000000
## Natural killer cell mediated cytotoxicity	1.0000000
## Neuroactive ligand-receptor interaction	1.0000000

## Neurotrophin signaling pathway	1.0000000
## NF-kappa B signaling pathway	0.9994884
## N-Glycan biosynthesis	0.9288889
## Nicotinate and nicotinamide metabolism	0.4275000
## Nitrogen metabolism	1.0000000
## NOD-like receptor signaling pathway	1.0000000
## Non-alcoholic fatty liver disease (NAFLD)	1.0000000
## Non-small cell lung cancer	1.0000000
## Notch signaling pathway	0.7937778
## One carbon pool by folate	0.7937778
## Oocyte meiosis	0.7937778
## Osteoclast differentiation	0.8474000
## Ovarian steroidogenesis	1.0000000
## Oxidative phosphorylation	0.2432000
## p53 signaling pathway	1.0000000
## Pancreatic cancer	0.8678710
## Pancreatic secretion	1.0000000
## Pantothenate and CoA biosynthesis	1.0000000
## Parkinson's disease	0.6489231
## Pathogenic Escherichia coli infection	0.0000000
## Pentose and glucuronate interconversions	1.0000000
## Pentose phosphate pathway	0.1865455
## Pertussis	1.0000000
## Phenylalanine metabolism	0.8813731
## Phenylalanine, tyrosine and tryptophan biosynthesis	1.0000000
## Phosphatidylinositol signaling system	1.0000000
## Phototransduction	1.0000000
## Platelet activation	1.0000000
## Porphyrin and chlorophyll metabolism	1.0000000
## Primary bile acid biosynthesis	1.0000000
## Prion diseases	0.8734154
## Progesterone-mediated oocyte maturation	0.0000000
## Prolactin signaling pathway	1.0000000
## Propionate metabolism	0.8451724
## Prostate cancer	0.1368000
## Proximal tubule bicarbonate reclamation	1.0000000
## Pyrimidine metabolism	1.0000000
## Pyruvate metabolism	0.7937778
## Regulation of lipolysis in adipocytes	1.0000000
## Renal cell carcinoma	0.6347027
## Renin-angiotensin system	1.0000000
## Renin secretion	1.0000000
## Retinol metabolism	1.0000000
## Retrograde endocannabinoid signaling	1.0000000
## Rheumatoid arthritis	1.0000000
## Riboflavin metabolism	1.0000000
## RIG-I-like receptor signaling pathway	0.2786667
## Salivary secretion	1.0000000
## Salmonella infection	0.3965217
## Selenocompound metabolism	1.0000000
## Serotonergic synapse	1.0000000
## Shigellosis	1.0000000
## Signaling pathways regulating pluripotency of stem cells	0.9288889
## Small cell lung cancer	0.1865455

## Sphingolipid metabolism	0.7937778
## Sphingolipid signaling pathway	0.8387143
## Staphylococcus aureus infection	0.7937778
## Starch and sucrose metabolism	1.0000000
## Steroid biosynthesis	1.0000000
## Steroid hormone biosynthesis	1.0000000
## Sulfur metabolism	1.0000000
## Synaptic vesicle cycle	0.6347027
## Synthesis and degradation of ketone bodies	1.0000000
## Systemic lupus erythematosus	1.0000000
## Taste transduction	1.0000000
## Taurine and hypotaurine metabolism	1.0000000
## T cell receptor signaling pathway	1.0000000
## Terpenoid backbone biosynthesis	1.0000000
## TGF-beta signaling pathway	0.8400000
## Thiamine metabolism	1.0000000
## Thyroid cancer	0.2432000
## Thyroid hormone signaling pathway	1.0000000
## Thyroid hormone synthesis	1.0000000
## Tight junction	1.0000000
## TNF signaling pathway	0.6347027
## Toll-like receptor signaling pathway	1.0000000
## Toxoplasmosis	1.0000000
## Transcriptional misregulation in cancer	1.0000000
## Tryptophan metabolism	1.0000000
## Type I diabetes mellitus	1.0000000
## Type II diabetes mellitus	1.0000000
## Tyrosine metabolism	1.0000000
## Ubiquinone and other terpenoid-quinone biosynthesis	1.0000000
## Valine, leucine and isoleucine degradation	1.0000000
## Vascular smooth muscle contraction	1.0000000
## Vasopressin-regulated water reabsorption	1.0000000
## VEGF signaling pathway	1.0000000
## Vibrio cholerae infection	1.0000000
## Viral carcinogenesis	0.9150400
## Viral myocarditis	0.8995068
## Vitamin B6 metabolism	0.8822609
## Vitamin digestion and absorption	1.0000000
## Wnt signaling pathway	1.0000000
##	pGFWER
## Acute myeloid leukemia	1.000
## Adherens junction	1.000
## Adipocytokine signaling pathway	1.000
## Adrenergic signaling in cardiomyocytes	1.000
## African trypanosomiasis	1.000
## Alanine, aspartate and glutamate metabolism	1.000
## Aldosterone-regulated sodium reabsorption	1.000
## Aldosterone synthesis and secretion	1.000
## Allograft rejection	1.000
## alpha-Linolenic acid metabolism	1.000
## Alzheimer's disease	1.000
## Aminoacyl-tRNA biosynthesis	1.000
## Amino sugar and nucleotide sugar metabolism	1.000
## Amoebiasis	1.000

## Amphetamine addiction	1.000
## AMPK signaling pathway	1.000
## Amyotrophic lateral sclerosis (ALS)	1.000
## Antigen processing and presentation	1.000
## Apoptosis	1.000
## Arachidonic acid metabolism	1.000
## Arginine and proline metabolism	1.000
## Arginine biosynthesis	1.000
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	1.000
## Ascorbate and aldarate metabolism	1.000
## Asthma	1.000
## Autoimmune thyroid disease	1.000
## Axon guidance	1.000
## Bacterial invasion of epithelial cells	1.000
## Basal cell carcinoma	1.000
## B cell receptor signaling pathway	1.000
## beta-Alanine metabolism	1.000
## Bile secretion	1.000
## Biotin metabolism	1.000
## Bladder cancer	1.000
## Butanoate metabolism	1.000
## Caffeine metabolism	1.000
## Carbohydrate digestion and absorption	1.000
## Cardiac muscle contraction	1.000
## Cell adhesion molecules (CAMs)	1.000
## Cell cycle	0.912
## Chagas disease (American trypanosomiasis)	1.000
## Chemical carcinogenesis	1.000
## Choline metabolism in cancer	1.000
## Cholinergic synapse	1.000
## Chronic myeloid leukemia	1.000
## Circadian entrainment	1.000
## Circadian rhythm	1.000
## Citrate cycle (TCA cycle)	1.000
## Cocaine addiction	1.000
## Colorectal cancer	0.456
## Complement and coagulation cascades	1.000
## Cysteine and methionine metabolism	1.000
## Cytosolic DNA-sensing pathway	1.000
## D-Glutamine and D-glutamate metabolism	1.000
## Dilated cardiomyopathy	1.000
## Dopaminergic synapse	1.000
## Dorso-ventral axis formation	1.000
## Drug metabolism - cytochrome P450	1.000
## Drug metabolism - other enzymes	1.000
## ECM-receptor interaction	1.000
## Endocrine and other factor-regulated calcium reabsorption	1.000
## Endometrial cancer	1.000
## Epithelial cell signaling in Helicobacter pylori infection	1.000
## Epstein-Barr virus infection	1.000
## ErbB signaling pathway	1.000
## Estrogen signaling pathway	1.000
## Ether lipid metabolism	1.000
## Fat digestion and absorption	1.000

## Fatty acid biosynthesis	1.000
## Fatty acid degradation	1.000
## Fatty acid elongation	1.000
## Fc epsilon RI signaling pathway	1.000
## Fc gamma R-mediated phagocytosis	1.000
## Folate biosynthesis	1.000
## FoxO signaling pathway	1.000
## Fructose and mannose metabolism	0.000
## GABAergic synapse	1.000
## Galactose metabolism	1.000
## Gap junction	1.000
## Gastric acid secretion	1.000
## Glioma	1.000
## Glucagon signaling pathway	1.000
## Glutamatergic synapse	1.000
## Glutathione metabolism	1.000
## Glycerolipid metabolism	1.000
## Glycerophospholipid metabolism	1.000
## Glycine, serine and threonine metabolism	1.000
## Glycolysis / Gluconeogenesis	1.000
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	1.000
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	1.000
## Glycosaminoglycan degradation	1.000
## Glycosphingolipid biosynthesis - ganglio series	1.000
## Glycosphingolipid biosynthesis - globo series	1.000
## Glycosphingolipid biosynthesis - lacto and neolacto series	1.000
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	1.000
## Glyoxylate and dicarboxylate metabolism	1.000
## GnRH signaling pathway	1.000
## Graft-versus-host disease	1.000
## Hedgehog signaling pathway	1.000
## Hepatitis B	1.000
## Hepatitis C	1.000
## Herpes simplex infection	1.000
## HIF-1 signaling pathway	1.000
## Histidine metabolism	1.000
## Huntington's disease	1.000
## Hypertrophic cardiomyopathy (HCM)	1.000
## Inflammatory bowel disease (IBD)	1.000
## Inflammatory mediator regulation of TRP channels	1.000
## Influenza A	1.000
## Inositol phosphate metabolism	1.000
## Insulin resistance	1.000
## Insulin secretion	1.000
## Insulin signaling pathway	1.000
## Intestinal immune network for IgA production	1.000
## Legionellosis	1.000
## Leishmaniasis	1.000
## Leukocyte transendothelial migration	1.000
## Linoleic acid metabolism	1.000
## Lipoic acid metabolism	1.000
## Long-term depression	1.000
## Long-term potentiation	1.000
## Lysine biosynthesis	1.000

## Lysine degradation	1.000
## Malaria	1.000
## Maturity onset diabetes of the young	1.000
## Measles	1.000
## Melanogenesis	1.000
## Melanoma	1.000
## Metabolism of xenobiotics by cytochrome P450	1.000
## Mineral absorption	1.000
## Morphine addiction	1.000
## mTOR signaling pathway	1.000
## Mucin type O-Glycan biosynthesis	1.000
## Natural killer cell mediated cytotoxicity	1.000
## Neuroactive ligand-receptor interaction	1.000
## Neurotrophin signaling pathway	1.000
## NF-kappa B signaling pathway	1.000
## N-Glycan biosynthesis	1.000
## Nicotinate and nicotinamide metabolism	1.000
## Nitrogen metabolism	1.000
## NOD-like receptor signaling pathway	1.000
## Non-alcoholic fatty liver disease (NAFLD)	1.000
## Non-small cell lung cancer	1.000
## Notch signaling pathway	1.000
## One carbon pool by folate	1.000
## Oocyte meiosis	1.000
## Osteoclast differentiation	1.000
## Ovarian steroidogenesis	1.000
## Oxidative phosphorylation	1.000
## p53 signaling pathway	1.000
## Pancreatic cancer	1.000
## Pancreatic secretion	1.000
## Pantothenate and CoA biosynthesis	1.000
## Parkinson's disease	1.000
## Pathogenic Escherichia coli infection	0.000
## Pentose and glucuronate interconversions	1.000
## Pentose phosphate pathway	1.000
## Pertussis	1.000
## Phenylalanine metabolism	1.000
## Phenylalanine, tyrosine and tryptophan biosynthesis	1.000
## Phosphatidylinositol signaling system	1.000
## Phototransduction	1.000
## Platelet activation	1.000
## Porphyrin and chlorophyll metabolism	1.000
## Primary bile acid biosynthesis	1.000
## Prion diseases	1.000
## Progesterone-mediated oocyte maturation	0.000
## Prolactin signaling pathway	1.000
## Propionate metabolism	1.000
## Prostate cancer	0.684
## Proximal tubule bicarbonate reclamation	1.000
## Pyrimidine metabolism	1.000
## Pyruvate metabolism	1.000
## Regulation of lipolysis in adipocytes	1.000
## Renal cell carcinoma	1.000
## Renin-angiotensin system	1.000

## Renin secretion	1.000
## Retinol metabolism	1.000
## Retrograde endocannabinoid signaling	1.000
## Rheumatoid arthritis	1.000
## Riboflavin metabolism	1.000
## RIG-I-like receptor signaling pathway	1.000
## Salivary secretion	1.000
## Salmonella infection	1.000
## Selenocompound metabolism	1.000
## Serotonergic synapse	1.000
## Shigellosis	1.000
## Signaling pathways regulating pluripotency of stem cells	1.000
## Small cell lung cancer	1.000
## Sphingolipid metabolism	1.000
## Sphingolipid signaling pathway	1.000
## Staphylococcus aureus infection	1.000
## Starch and sucrose metabolism	1.000
## Steroid biosynthesis	1.000
## Steroid hormone biosynthesis	1.000
## Sulfur metabolism	1.000
## Synaptic vesicle cycle	1.000
## Synthesis and degradation of ketone bodies	1.000
## Systemic lupus erythematosus	1.000
## Taste transduction	1.000
## Taurine and hypotaurine metabolism	1.000
## T cell receptor signaling pathway	1.000
## Terpenoid backbone biosynthesis	1.000
## TGF-beta signaling pathway	1.000
## Thiamine metabolism	1.000
## Thyroid cancer	1.000
## Thyroid hormone signaling pathway	1.000
## Thyroid hormone synthesis	1.000
## Tight junction	1.000
## TNF signaling pathway	1.000
## Toll-like receptor signaling pathway	1.000
## Toxoplasmosis	1.000
## Transcriptional misregulation in cancer	1.000
## Tryptophan metabolism	1.000
## Type I diabetes mellitus	1.000
## Type II diabetes mellitus	1.000
## Tyrosine metabolism	1.000
## Ubiquinone and other terpenoid-quinone biosynthesis	1.000
## Valine, leucine and isoleucine degradation	1.000
## Vascular smooth muscle contraction	1.000
## Vasopressin-regulated water reabsorption	1.000
## VEGF signaling pathway	1.000
## Vibrio cholerae infection	1.000
## Viral carcinogenesis	1.000
## Viral myocarditis	1.000
## Vitamin B6 metabolism	1.000
## Vitamin digestion and absorption	1.000
## Wnt signaling pathway	1.000
##	Status
## Acute myeloid leukemia	Inhibited

## Adherens junction	Inhibited
## Adipocytokine signaling pathway	Inhibited
## Adrenergic signaling in cardiomyocytes	Inhibited
## African trypanosomiasis	Inhibited
## Alanine, aspartate and glutamate metabolism	Inhibited
## Aldosterone-regulated sodium reabsorption	Activated
## Aldosterone synthesis and secretion	Activated
## Allograft rejection	<NA>
## alpha-Linolenic acid metabolism	Inhibited
## Alzheimer's disease	Inhibited
## Aminoacyl-tRNA biosynthesis	Inhibited
## Amino sugar and nucleotide sugar metabolism	Inhibited
## Amoebiasis	Inhibited
## Amphetamine addiction	Inhibited
## AMPK signaling pathway	Activated
## Amyotrophic lateral sclerosis (ALS)	Inhibited
## Antigen processing and presentation	Inhibited
## Apoptosis	Inhibited
## Arachidonic acid metabolism	Inhibited
## Arginine and proline metabolism	Inhibited
## Arginine biosynthesis	Inhibited
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	Activated
## Ascorbate and aldarate metabolism	<NA>
## Asthma	<NA>
## Autoimmune thyroid disease	<NA>
## Axon guidance	Inhibited
## Bacterial invasion of epithelial cells	Inhibited
## Basal cell carcinoma	Inhibited
## B cell receptor signaling pathway	Activated
## beta-Alanine metabolism	Inhibited
## Bile secretion	Inhibited
## Biotin metabolism	<NA>
## Bladder cancer	Inhibited
## Butanoate metabolism	Inhibited
## Caffeine metabolism	Inhibited
## Carbohydrate digestion and absorption	Activated
## Cardiac muscle contraction	Inhibited
## Cell adhesion molecules (CAMs)	Inhibited
## Cell cycle	Inhibited
## Chagas disease (American trypanosomiasis)	Inhibited
## Chemical carcinogenesis	Inhibited
## Choline metabolism in cancer	Inhibited
## Cholinergic synapse	Activated
## Chronic myeloid leukemia	Inhibited
## Circadian entrainment	Activated
## Circadian rhythm	Inhibited
## Citrate cycle (TCA cycle)	Inhibited
## Cocaine addiction	Inhibited
## Colorectal cancer	Activated
## Complement and coagulation cascades	Inhibited
## Cysteine and methionine metabolism	Inhibited
## Cytosolic DNA-sensing pathway	Inhibited
## D-Glutamine and D-glutamate metabolism	Inhibited
## Dilated cardiomyopathy	Inhibited

## Dopaminergic synapse	Inhibited
## Dorso-ventral axis formation	Activated
## Drug metabolism - cytochrome P450	Inhibited
## Drug metabolism - other enzymes	Inhibited
## ECM-receptor interaction	Inhibited
## Endocrine and other factor-regulated calcium reabsorption	Activated
## Endometrial cancer	Activated
## Epithelial cell signaling in Helicobacter pylori infection	Activated
## Epstein-Barr virus infection	Activated
## ErbB signaling pathway	Inhibited
## Estrogen signaling pathway	Inhibited
## Ether lipid metabolism	Inhibited
## Fat digestion and absorption	Inhibited
## Fatty acid biosynthesis	Inhibited
## Fatty acid degradation	Inhibited
## Fatty acid elongation	Inhibited
## Fc epsilon RI signaling pathway	Inhibited
## Fc gamma R-mediated phagocytosis	Activated
## Folate biosynthesis	Inhibited
## FoxO signaling pathway	Inhibited
## Fructose and mannose metabolism	Inhibited
## GABAergic synapse	Activated
## Galactose metabolism	Inhibited
## Gap junction	Activated
## Gastric acid secretion	Activated
## Glioma	Activated
## Glucagon signaling pathway	Activated
## Glutamatergic synapse	Activated
## Glutathione metabolism	Inhibited
## Glycerolipid metabolism	Inhibited
## Glycerophospholipid metabolism	Inhibited
## Glycine, serine and threonine metabolism	Inhibited
## Glycolysis / Gluconeogenesis	Inhibited
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	Inhibited
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	Inhibited
## Glycosaminoglycan degradation	Inhibited
## Glycosphingolipid biosynthesis - ganglio series	Inhibited
## Glycosphingolipid biosynthesis - globo series	Inhibited
## Glycosphingolipid biosynthesis - lacto and neolacto series	Inhibited
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	Inhibited
## Glyoxylate and dicarboxylate metabolism	Inhibited
## GnRH signaling pathway	Activated
## Graft-versus-host disease	Inhibited
## Hedgehog signaling pathway	Inhibited
## Hepatitis B	Inhibited
## Hepatitis C	Inhibited
## Herpes simplex infection	Inhibited
## HIF-1 signaling pathway	Inhibited
## Histidine metabolism	Inhibited
## Huntington's disease	Activated
## Hypertrophic cardiomyopathy (HCM)	Inhibited
## Inflammatory bowel disease (IBD)	Activated
## Inflammatory mediator regulation of TRP channels	Inhibited
## Influenza A	Activated

## Inositol phosphate metabolism	Inhibited
## Insulin resistance	Activated
## Insulin secretion	Inhibited
## Insulin signaling pathway	Activated
## Intestinal immune network for IgA production	Activated
## Legionellosis	Activated
## Leishmaniasis	Activated
## Leukocyte transendothelial migration	Inhibited
## Linoleic acid metabolism	Inhibited
## Lipoic acid metabolism	Inhibited
## Long-term depression	<NA>
## Long-term potentiation	Inhibited
## Lysine biosynthesis	Inhibited
## Lysine degradation	Inhibited
## Malaria	Inhibited
## Maturity onset diabetes of the young	Activated
## Measles	Activated
## Melanogenesis	Inhibited
## Melanoma	Activated
## Metabolism of xenobiotics by cytochrome P450	Inhibited
## Mineral absorption	Inhibited
## Morphine addiction	Activated
## mTOR signaling pathway	Activated
## Mucin type O-Glycan biosynthesis	Inhibited
## Natural killer cell mediated cytotoxicity	Activated
## Neuroactive ligand-receptor interaction	Activated
## Neurotrophin signaling pathway	Activated
## NF-kappa B signaling pathway	Inhibited
## N-Glycan biosynthesis	Inhibited
## Nicotinate and nicotinamide metabolism	Inhibited
## Nitrogen metabolism	Inhibited
## NOD-like receptor signaling pathway	Activated
## Non-alcoholic fatty liver disease (NAFLD)	Activated
## Non-small cell lung cancer	Inhibited
## Notch signaling pathway	Activated
## One carbon pool by folate	Inhibited
## Oocyte meiosis	Activated
## Osteoclast differentiation	Inhibited
## Ovarian steroidogenesis	Activated
## Oxidative phosphorylation	Inhibited
## p53 signaling pathway	Activated
## Pancreatic cancer	Inhibited
## Pancreatic secretion	Inhibited
## Pantothenate and CoA biosynthesis	Inhibited
## Parkinson's disease	Inhibited
## Pathogenic Escherichia coli infection	Activated
## Pentose and glucuronate interconversions	Inhibited
## Pentose phosphate pathway	Inhibited
## Pertussis	Inhibited
## Phenylalanine metabolism	Inhibited
## Phenylalanine, tyrosine and tryptophan biosynthesis	Inhibited
## Phosphatidylinositol signaling system	Inhibited
## Phototransduction	Inhibited
## Platelet activation	Inhibited

## Porphyrin and chlorophyll metabolism	Inhibited
## Primary bile acid biosynthesis	Inhibited
## Prion diseases	Inhibited
## Progesterone-mediated oocyte maturation	Activated
## Prolactin signaling pathway	Inhibited
## Propionate metabolism	Inhibited
## Prostate cancer	Activated
## Proximal tubule bicarbonate reclamation	Inhibited
## Pyrimidine metabolism	Inhibited
## Pyruvate metabolism	Inhibited
## Regulation of lipolysis in adipocytes	Inhibited
## Renal cell carcinoma	Inhibited
## Renin-angiotensin system	<NA>
## Renin secretion	Activated
## Retinol metabolism	Inhibited
## Retrograde endocannabinoid signaling	Activated
## Rheumatoid arthritis	Inhibited
## Riboflavin metabolism	Inhibited
## RIG-I-like receptor signaling pathway	Activated
## Salivary secretion	Activated
## Salmonella infection	Inhibited
## Selenocompound metabolism	Inhibited
## Serotonergic synapse	Activated
## Shigellosis	Activated
## Signaling pathways regulating pluripotency of stem cells	<NA>
## Small cell lung cancer	Inhibited
## Sphingolipid metabolism	Inhibited
## Sphingolipid signaling pathway	Inhibited
## Staphylococcus aureus infection	Inhibited
## Starch and sucrose metabolism	Inhibited
## Steroid biosynthesis	Inhibited
## Steroid hormone biosynthesis	Inhibited
## Sulfur metabolism	Inhibited
## Synaptic vesicle cycle	Inhibited
## Synthesis and degradation of ketone bodies	Inhibited
## Systemic lupus erythematosus	Inhibited
## Taste transduction	Activated
## Taurine and hypotaurine metabolism	Inhibited
## T cell receptor signaling pathway	Activated
## Terpenoid backbone biosynthesis	Inhibited
## TGF-beta signaling pathway	Inhibited
## Thiamine metabolism	Inhibited
## Thyroid cancer	Activated
## Thyroid hormone signaling pathway	Inhibited
## Thyroid hormone synthesis	Inhibited
## Tight junction	Inhibited
## TNF signaling pathway	Inhibited
## Toll-like receptor signaling pathway	Inhibited
## Toxoplasmosis	Inhibited
## Transcriptional misregulation in cancer	Inhibited
## Tryptophan metabolism	Inhibited
## Type I diabetes mellitus	<NA>
## Type II diabetes mellitus	Activated
## Tyrosine metabolism	Inhibited

```
## Ubiquinone and other terpenoid-quinone biosynthesis Inhibited
## Valine, leucine and isoleucine degradation Inhibited
## Vascular smooth muscle contraction Inhibited
## Vasopressin-regulated water reabsorption Inhibited
## VEGF signaling pathway Activated
## Vibrio cholerae infection Inhibited
## Viral carcinogenesis Activated
## Viral myocarditis Activated
## Vitamin B6 metabolism Inhibited
## Vitamin digestion and absorption <NA>
## Wnt signaling pathway Activated
##
## $errors
## named list()
```

```
#####
### code chunk number 16: seq6
#####
tap<-TAPPA(hnrnp.cnts, group, pathways, type="RNASeq")
```

```
## 13438 node labels mapped to the expression data
## Average coverage 84.29152 %
## 0 (out of 250) pathways without a mapped node
```

```
## 22 pathways were filtered out
```

```
res(tap)
```

	control.N
## \$results	
##	
## Acute myeloid leukemia	4
## Adherens junction	4
## Adipocytokine signaling pathway	4
## Adrenergic signaling in cardiomyocytes	4
## African trypanosomiasis	4
## Alanine, aspartate and glutamate metabolism	4
## Aldosterone-regulated sodium reabsorption	4
## Aldosterone synthesis and secretion	4
## Allograft rejection	4
## alpha-Linolenic acid metabolism	4
## Alzheimer's disease	4
## Aminoacyl-tRNA biosynthesis	4
## Amino sugar and nucleotide sugar metabolism	4
## Amoebiasis	4
## Amphetamine addiction	4
## AMPK signaling pathway	4
## Amyotrophic lateral sclerosis (ALS)	4
## Antigen processing and presentation	4
## Apoptosis	4
## Arachidonic acid metabolism	4
## Arginine and proline metabolism	4
## Arginine biosynthesis	4
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	4
## Ascorbate and aldarate metabolism	4
## Asthma	4
## Autoimmune thyroid disease	4
## Axon guidance	4
## Bacterial invasion of epithelial cells	4
## Basal cell carcinoma	4
## B cell receptor signaling pathway	4
## beta-Alanine metabolism	4
## Bile secretion	4
## Biotin metabolism	4
## Bladder cancer	4
## Butanoate metabolism	4
## Caffeine metabolism	4
## Carbohydrate digestion and absorption	4
## Cardiac muscle contraction	4
## Cell adhesion molecules (CAMs)	4
## Cell cycle	4
## Chagas disease (American trypanosomiasis)	4
## Chemical carcinogenesis	4
## Choline metabolism in cancer	4
## Cholinergic synapse	4
## Chronic myeloid leukemia	4
## Circadian entrainment	4
## Circadian rhythm	4
## Citrate cycle (TCA cycle)	4
## Cocaine addiction	4
## Colorectal cancer	4
## Complement and coagulation cascades	4

## Cysteine and methionine metabolism	4
## Cytosolic DNA-sensing pathway	4
## D-Glutamine and D-glutamate metabolism	4
## Dilated cardiomyopathy	4
## Dopaminergic synapse	4
## Dorso-ventral axis formation	4
## Drug metabolism - cytochrome P450	4
## Drug metabolism - other enzymes	4
## ECM-receptor interaction	4
## Endocrine and other factor-regulated calcium reabsorption	4
## Endometrial cancer	4
## Epithelial cell signaling in Helicobacter pylori infection	4
## Epstein-Barr virus infection	4
## ErbB signaling pathway	4
## Estrogen signaling pathway	4
## Ether lipid metabolism	4
## Fat digestion and absorption	4
## Fatty acid biosynthesis	4
## Fatty acid degradation	4
## Fatty acid elongation	4
## Fc epsilon RI signaling pathway	4
## Fc gamma R-mediated phagocytosis	4
## Folate biosynthesis	4
## FoxO signaling pathway	4
## Fructose and mannose metabolism	4
## GABAergic synapse	4
## Galactose metabolism	4
## Gap junction	4
## Gastric acid secretion	4
## Glioma	4
## Glucagon signaling pathway	4
## Glutamatergic synapse	4
## Glutathione metabolism	4
## Glycerolipid metabolism	4
## Glycerophospholipid metabolism	4
## Glycine, serine and threonine metabolism	4
## Glycolysis / Gluconeogenesis	4
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	4
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	4
## Glycosaminoglycan degradation	4
## Glycosphingolipid biosynthesis - ganglio series	4
## Glycosphingolipid biosynthesis - globo series	4
## Glycosphingolipid biosynthesis - lacto and neolacto series	4
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	4
## Glyoxylate and dicarboxylate metabolism	4
## GnRH signaling pathway	4
## Graft-versus-host disease	4
## Hedgehog signaling pathway	4
## Hepatitis B	4
## Hepatitis C	4
## Herpes simplex infection	4
## HIF-1 signaling pathway	4
## Histidine metabolism	4
## Huntington's disease	4

## Hypertrophic cardiomyopathy (HCM)	4
## Inflammatory bowel disease (IBD)	4
## Inflammatory mediator regulation of TRP channels	4
## Influenza A	4
## Inositol phosphate metabolism	4
## Insulin resistance	4
## Insulin secretion	4
## Insulin signaling pathway	4
## Intestinal immune network for IgA production	4
## Legionellosis	4
## Leishmaniasis	4
## Leukocyte transendothelial migration	4
## Linoleic acid metabolism	4
## Lipoic acid metabolism	4
## Long-term depression	4
## Long-term potentiation	4
## Lysine biosynthesis	4
## Lysine degradation	4
## Malaria	4
## Maturity onset diabetes of the young	4
## Measles	4
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##	control.Min.
## Acute myeloid leukemia	0.43010
## Adherens junction	0.54460
## Adipocytokine signaling pathway	0.23880
## Adrenergic signaling in cardiomyocytes	-0.29770
## African trypanosomiasis	-0.25060
## Alanine, aspartate and glutamate metabolism	0.53230
## Aldosterone-regulated sodium reabsorption	0.14740
## Aldosterone synthesis and secretion	0.01368
## Allograft rejection	-0.43950
## alpha-Linolenic acid metabolism	0.02627
## Alzheimer's disease	0.27330
## Aminoacyl-tRNA biosynthesis	0.26360
## Amino sugar and nucleotide sugar metabolism	0.45880
## Amoebiasis	-0.11830
## Amphetamine addiction	-0.15150
## AMPK signaling pathway	0.47140
## Amyotrophic lateral sclerosis (ALS)	0.17200
## Antigen processing and presentation	-0.09176
## Apoptosis	0.20350
## Arachidonic acid metabolism	-0.78790
## Arginine and proline metabolism	-0.01676
## Arginine biosynthesis	0.26200
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.33120
## Ascorbate and aldarate metabolism	-0.63220
## Asthma	-0.48920
## Autoimmune thyroid disease	-0.43950
## Axon guidance	0.29200
## Bacterial invasion of epithelial cells	0.44080
## Basal cell carcinoma	0.14110
## B cell receptor signaling pathway	0.10910
## beta-Alanine metabolism	-0.29470
## Bile secretion	-0.05664
## Biotin metabolism	0.26100
## Bladder cancer	0.45500
## Butanoate metabolism	0.16870
## Caffeine metabolism	-0.50050
## Carbohydrate digestion and absorption	0.11980
## Cardiac muscle contraction	-0.19480

## Cell adhesion molecules (CAMs)	-0.22770
## Cell cycle	0.80780
## Chagas disease (American trypanosomiasis)	0.28440
## Chemical carcinogenesis	-0.88200
## Choline metabolism in cancer	0.33170
## Cholinergic synapse	0.10970
## Chronic myeloid leukemia	0.56810
## Circadian entrainment	-0.12730
## Circadian rhythm	0.44840
## Citrate cycle (TCA cycle)	0.91840
## Cocaine addiction	-0.02875
## Colorectal cancer	0.38700
## Complement and coagulation cascades	-0.16360
## Cysteine and methionine metabolism	0.49560
## Cytosolic DNA-sensing pathway	0.23200
## D-Glutamine and D-glutamate metabolism	0.31340
## Dilated cardiomyopathy	0.21600
## Dopaminergic synapse	-0.04728
## Dorso-ventral axis formation	0.26560
## Drug metabolism - cytochrome P450	-0.47200
## Drug metabolism - other enzymes	0.04654
## ECM-receptor interaction	0.34710
## Endocrine and other factor-regulated calcium reabsorption	-0.14700
## Endometrial cancer	0.48940
## Epithelial cell signaling in Helicobacter pylori infection	0.13030
## Epstein-Barr virus infection	0.33780
## ErbB signaling pathway	0.35490
## Estrogen signaling pathway	0.19060
## Ether lipid metabolism	0.03850
## Fat digestion and absorption	0.35050
## Fatty acid biosynthesis	0.34810
## Fatty acid degradation	0.54190
## Fatty acid elongation	0.25660
## Fc epsilon RI signaling pathway	0.22040
## Fc gamma R-mediated phagocytosis	0.33750
## Folate biosynthesis	0.27450
## FoxO signaling pathway	0.30950
## Fructose and mannose metabolism	0.33980
## GABAergic synapse	-0.46700
## Galactose metabolism	0.41000
## Gap junction	0.07133
## Gastric acid secretion	0.09423
## Glioma	0.42320
## Glucagon signaling pathway	0.37340
## Glutamatergic synapse	-0.18610
## Glutathione metabolism	0.32150
## Glycerolipid metabolism	0.68560
## Glycerophospholipid metabolism	0.71220
## Glycine, serine and threonine metabolism	-0.02037
## Glycolysis / Gluconeogenesis	0.50390
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.42870
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.40150
## Glycosaminoglycan degradation	0.37370
## Glycosphingolipid biosynthesis - ganglio series	0.24680

## Glycosphingolipid biosynthesis - globo series	-0.08908
## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.28460
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.41310
## Glyoxylate and dicarboxylate metabolism	0.26270
## GnRH signaling pathway	0.22290
## Graft-versus-host disease	-0.30010
## Hedgehog signaling pathway	0.07915
## Hepatitis B	0.29450
## Hepatitis C	0.40530
## Herpes simplex infection	0.28360
## HIF-1 signaling pathway	0.50090
## Histidine metabolism	-0.34570
## Huntington's disease	0.76240
## Hypertrophic cardiomyopathy (HCM)	0.23640
## Inflammatory bowel disease (IBD)	-0.19630
## Inflammatory mediator regulation of TRP channels	0.09881
## Influenza A	0.25720
## Inositol phosphate metabolism	0.99850
## Insulin resistance	0.36410
## Insulin secretion	-0.16120
## Insulin signaling pathway	0.47100
## Intestinal immune network for IgA production	-0.19980
## Legionellosis	-0.10140
## Leishmaniasis	-0.03977
## Leukocyte transendothelial migration	0.05000
## Linoleic acid metabolism	-1.32900
## Lipoic acid metabolism	-0.19870
## Long-term depression	0.15910
## Long-term potentiation	0.09908
## Lysine biosynthesis	-0.15300
## Lysine degradation	0.60710
## Malaria	-0.26520
## Maturity onset diabetes of the young	-0.18110
## Measles	0.16990
## Melanogenesis	0.11890
## Melanoma	0.16840
## Metabolism of xenobiotics by cytochrome P450	-1.14500
## Mineral absorption	-0.03678
## Morphine addiction	-0.34300
## mTOR signaling pathway	0.29450
## Mucin type O-Glycan biosynthesis	-0.41130
## Natural killer cell mediated cytotoxicity	0.05655
## Neuroactive ligand-receptor interaction	-0.43350
## Neurotrophin signaling pathway	0.32100
## NF-kappa B signaling pathway	0.16000
## N-Glycan biosynthesis	0.61800
## Nicotinate and nicotinamide metabolism	-0.17950
## Nitrogen metabolism	0.58700
## NOD-like receptor signaling pathway	0.20350
## Non-alcoholic fatty liver disease (NAFLD)	0.20710
## Non-small cell lung cancer	0.47750
## Notch signaling pathway	0.39260
## One carbon pool by folate	0.71230
## Oocyte meiosis	0.59830

## Osteoclast differentiation	0.09978
## Ovarian steroidogenesis	-0.03102
## Oxidative phosphorylation	0.47500
## p53 signaling pathway	0.29230
## Pancreatic cancer	0.45480
## Pancreatic secretion	0.04474
## Pantothenate and CoA biosynthesis	0.11630
## Parkinson's disease	0.12100
## Pathogenic Escherichia coli infection	0.25100
## Pentose and glucuronate interconversions	-0.30620
## Pentose phosphate pathway	0.13540
## Pertussis	0.08010
## Phenylalanine metabolism	-0.13950
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.30820
## Phosphatidylinositol signaling system	1.24500
## Phototransduction	-0.42910
## Platelet activation	0.19500
## Porphyrin and chlorophyll metabolism	-0.05215
## Primary bile acid biosynthesis	-0.30840
## Prion diseases	0.31550
## Progesterone-mediated oocyte maturation	0.22050
## Prolactin signaling pathway	0.31730
## Propionate metabolism	0.36440
## Prostate cancer	0.46960
## Proximal tubule bicarbonate reclamation	0.16240
## Pyrimidine metabolism	1.77900
## Pyruvate metabolism	0.47000
## Regulation of lipolysis in adipocytes	0.17750
## Renal cell carcinoma	0.42280
## Renin-angiotensin system	-0.13250
## Renin secretion	0.19160
## Retinol metabolism	-1.76000
## Retrograde endocannabinoid signaling	-0.07501
## Rheumatoid arthritis	-0.20130
## Riboflavin metabolism	0.37590
## RIG-I-like receptor signaling pathway	0.25990
## Salivary secretion	0.01503
## Salmonella infection	0.37530
## Selenocompound metabolism	0.35340
## Serotonergic synapse	-0.17050
## Shigellosis	0.32500
## Signaling pathways regulating pluripotency of stem cells	0.36140
## Small cell lung cancer	0.59260
## Sphingolipid metabolism	0.67400
## Sphingolipid signaling pathway	0.41640
## Staphylococcus aureus infection	-0.14070
## Starch and sucrose metabolism	0.19670
## Steroid biosynthesis	0.37480
## Steroid hormone biosynthesis	-0.96350
## Sulfur metabolism	0.50160
## Synaptic vesicle cycle	0.58440
## Synthesis and degradation of ketone bodies	0.10350
## Systemic lupus erythematosus	-0.28480
## Taste transduction	-0.11340

## Taurine and hypotaurine metabolism	-0.28520
## T cell receptor signaling pathway	0.17720
## Terpenoid backbone biosynthesis	0.35260
## TGF-beta signaling pathway	0.31060
## Thiamine metabolism	0.15000
## Thyroid cancer	0.34550
## Thyroid hormone signaling pathway	0.59810
## Thyroid hormone synthesis	-0.08284
## Tight junction	0.30710
## TNF signaling pathway	0.28980
## Toll-like receptor signaling pathway	0.07903
## Toxoplasmosis	0.29220
## Transcriptional misregulation in cancer	0.08348
## Tryptophan metabolism	-0.29260
## Type I diabetes mellitus	-0.43100
## Type II diabetes mellitus	0.16630
## Tyrosine metabolism	-0.40810
## Ubiquinone and other terpenoid-quinone biosynthesis	0.28200
## Valine, leucine and isoleucine degradation	0.50680
## Vascular smooth muscle contraction	0.16990
## Vasopressin-regulated water reabsorption	-0.02112
## VEGF signaling pathway	0.29660
## Vibrio cholerae infection	0.38520
## Viral carcinogenesis	0.32470
## Viral myocarditis	0.11220
## Vitamin B6 metabolism	0.11830
## Vitamin digestion and absorption	-0.51070
## Wnt signaling pathway	0.17390
##	control.1s
t.Qu.	
## Acute myeloid leukemia	0.436
600	
## Adherens junction	0.545
300	
## Adipocytokine signaling pathway	0.252
200	
## Adrenergic signaling in cardiomyocytes	-0.293
300	
## African trypanosomiasis	-0.237
600	
## Alanine, aspartate and glutamate metabolism	0.537
800	
## Aldosterone-regulated sodium reabsorption	0.152
300	
## Aldosterone synthesis and secretion	0.047
200	
## Allograft rejection	-0.438
100	
## alpha-Linolenic acid metabolism	0.054
380	
## Alzheimer's disease	0.297
200	
## Aminoacyl-tRNA biosynthesis	0.264
600	

## Amino sugar and nucleotide sugar metabolism	0.465
700	-0.108
## Amoebiasis	
500	
## Amphetamine addiction	-0.143
000	
## AMPK signaling pathway	0.473
400	
## Amyotrophic lateral sclerosis (ALS)	0.174
300	
## Antigen processing and presentation	-0.071
850	
## Apoptosis	0.218
100	
## Arachidonic acid metabolism	-0.767
600	
## Arginine and proline metabolism	-0.015
640	
## Arginine biosynthesis	0.264
100	
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.331
700	
## Ascorbate and aldarate metabolism	-0.608
000	
## Asthma	-0.470
000	
## Autoimmune thyroid disease	-0.438
100	
## Axon guidance	0.292
900	
## Bacterial invasion of epithelial cells	0.452
100	
## Basal cell carcinoma	0.162
900	
## B cell receptor signaling pathway	0.120
100	
## beta-Alanine metabolism	-0.224
600	
## Bile secretion	-0.043
030	
## Biotin metabolism	0.262
200	
## Bladder cancer	0.457
800	
## Butanoate metabolism	0.225
200	
## Caffeine metabolism	-0.460
900	
## Carbohydrate digestion and absorption	0.132
500	
## Cardiac muscle contraction	-0.194
600	
## Cell adhesion molecules (CAMs)	-0.224
500	

## Cell cycle	0.810
800	
## Chagas disease (American trypanosomiasis)	0.295
200	
## Chemical carcinogenesis	-0.835
700	
## Choline metabolism in cancer	0.332
700	
## Cholinergic synapse	0.147
600	
## Chronic myeloid leukemia	0.568
900	
## Circadian entrainment	-0.066
160	
## Circadian rhythm	0.451
100	
## Citrate cycle (TCA cycle)	0.919
400	
## Cocaine addiction	0.001
475	
## Colorectal cancer	0.394
000	
## Complement and coagulation cascades	-0.159
800	
## Cysteine and methionine metabolism	0.503
000	
## Cytosolic DNA-sensing pathway	0.232
900	
## D-Glutamine and D-glutamate metabolism	0.313
700	
## Dilated cardiomyopathy	0.216
700	
## Dopaminergic synapse	-0.003
590	
## Dorso-ventral axis formation	0.266
000	
## Drug metabolism - cytochrome P450	-0.466
900	
## Drug metabolism - other enzymes	0.082
450	
## ECM-receptor interaction	0.348
300	
## Endocrine and other factor-regulated calcium reabsorption	-0.134
300	
## Endometrial cancer	0.495
500	
## Epithelial cell signaling in Helicobacter pylori infection	0.136
500	
## Epstein-Barr virus infection	0.349
700	
## ErbB signaling pathway	0.357
500	
## Estrogen signaling pathway	0.208
200	

## Ether lipid metabolism	0.044
530	
## Fat digestion and absorption	0.358
400	
## Fatty acid biosynthesis	0.348
900	
## Fatty acid degradation	0.614
500	
## Fatty acid elongation	0.260
600	
## Fc epsilon RI signaling pathway	0.222
900	
## Fc gamma R-mediated phagocytosis	0.365
400	
## Folate biosynthesis	0.275
200	
## FoxO signaling pathway	0.309
800	
## Fructose and mannose metabolism	0.434
200	
## GABAergic synapse	-0.461
800	
## Galactose metabolism	0.418
100	
## Gap junction	0.098
390	
## Gastric acid secretion	0.135
500	
## Glioma	0.438
300	
## Glucagon signaling pathway	0.385
400	
## Glutamatergic synapse	-0.173
700	
## Glutathione metabolism	0.347
900	
## Glycerolipid metabolism	0.714
300	
## Glycerophospholipid metabolism	0.747
700	
## Glycine, serine and threonine metabolism	-0.016
280	
## Glycolysis / Gluconeogenesis	0.512
700	
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.429
200	
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.401
800	
## Glycosaminoglycan degradation	0.378
500	
## Glycosphingolipid biosynthesis - ganglio series	0.251
600	
## Glycosphingolipid biosynthesis - globo series	-0.086
650	

## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.271
700	
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.424
700	
## Glyoxylate and dicarboxylate metabolism	0.264
300	
## GnRH signaling pathway	0.235
000	
## Graft-versus-host disease	-0.296
400	
## Hedgehog signaling pathway	0.082
570	
## Hepatitis B	0.298
700	
## Hepatitis C	0.407
600	
## Herpes simplex infection	0.288
600	
## HIF-1 signaling pathway	0.516
500	
## Histidine metabolism	-0.344
600	
## Huntington's disease	0.779
700	
## Hypertrophic cardiomyopathy (HCM)	0.237
800	
## Inflammatory bowel disease (IBD)	-0.192
800	
## Inflammatory mediator regulation of TRP channels	0.112
800	
## Influenza A	0.276
400	
## Inositol phosphate metabolism	1.006
000	
## Insulin resistance	0.376
500	
## Insulin secretion	-0.138
600	
## Insulin signaling pathway	0.471
900	
## Intestinal immune network for IgA production	-0.196
100	
## Legionellosis	-0.099
270	
## Leishmaniasis	-0.036
290	
## Leukocyte transendothelial migration	0.057
320	
## Linoleic acid metabolism	-1.325
000	
## Lipoic acid metabolism	-0.180
100	
## Long-term depression	0.193
400	

## Long-term potentiation	0.145
000	-0.137
## Lysine biosynthesis	0.607
100	-0.257
## Lysine degradation	0.178
700	0.253
## Malaria	0.162
600	-0.170
## Maturity onset diabetes of the young	0.162
000	-0.029
## Measles	0.253
400	-0.311
## Melanogenesis	0.312
100	0.076
## Melanoma	0.162
800	-0.409
## Metabolism of xenobiotics by cytochrome P450	0.588
000	-0.429
## Mineral absorption	0.101
660	0.212
## Morphine addiction	0.484
900	0.414
## mTOR signaling pathway	0.599
300	0.101
## Mucin type O-Glycan biosynthesis	0.770
800	0.101
## Natural killer cell mediated cytotoxicity	0.101
680	0.101
## Neuroactive ligand-receptor interaction	0.101
600	0.101
## Neurotrophin signaling pathway	0.101
200	0.101
## NF-kappa B signaling pathway	0.101
000	0.101
## N-Glycan biosynthesis	0.101
100	0.101
## Nicotinate and nicotinamide metabolism	0.101
500	0.101
## Nitrogen metabolism	0.101
300	0.101
## NOD-like receptor signaling pathway	0.101
900	0.101
## Non-alcoholic fatty liver disease (NAFLD)	0.101
000	0.101
## Non-small cell lung cancer	0.101
700	0.101
## Notch signaling pathway	0.101
200	0.101
## One carbon pool by folate	0.101
300	0.101
## Oocyte meiosis	0.101
900	0.101
## Osteoclast differentiation	0.101
600	0.101

## Ovarian steroidogenesis	-0.021
440	
## Oxidative phosphorylation	0.491
900	
## p53 signaling pathway	0.294
900	
## Pancreatic cancer	0.458
400	
## Pancreatic secretion	0.052
070	
## Pantothenate and CoA biosynthesis	0.131
600	
## Parkinson's disease	0.146
300	
## Pathogenic Escherichia coli infection	0.257
900	
## Pentose and glucuronate interconversions	-0.234
800	
## Pentose phosphate pathway	0.269
000	
## Pertussis	0.094
210	
## Phenylalanine metabolism	-0.133
200	
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.312
100	
## Phosphatidylinositol signaling system	1.261
000	
## Phototransduction	-0.382
900	
## Platelet activation	0.204
100	
## Porphyrin and chlorophyll metabolism	-0.030
440	
## Primary bile acid biosynthesis	-0.293
800	
## Prion diseases	0.318
800	
## Progesterone-mediated oocyte maturation	0.230
100	
## Prolactin signaling pathway	0.326
200	
## Propanoate metabolism	0.367
900	
## Prostate cancer	0.470
000	
## Proximal tubule bicarbonate reclamation	0.162
500	
## Pyrimidine metabolism	1.816
000	
## Pyruvate metabolism	0.490
300	
## Regulation of lipolysis in adipocytes	0.197
200	

## Renal cell carcinoma	0.432
100	-0.129
## Renin-angiotensin system	
700	0.203
## Renin secretion	
100	-1.736
## Retinol metabolism	
000	-0.042
## Retrograde endocannabinoid signaling	
410	-0.199
## Rheumatoid arthritis	
200	0.378
## Riboflavin metabolism	
300	0.268
## RIG-I-like receptor signaling pathway	
600	0.040
## Salivary secretion	
560	0.382
## Salmonella infection	
200	0.355
## Selenocompound metabolism	
000	-0.132
## Serotonergic synapse	
100	0.331
## Shigellosis	
400	0.366
## Signaling pathways regulating pluripotency of stem cells	
700	0.595
## Small cell lung cancer	
100	0.703
## Sphingolipid metabolism	
600	0.435
## Sphingolipid signaling pathway	
000	-0.138
## Staphylococcus aureus infection	
900	0.232
## Starch and sucrose metabolism	
300	0.396
## Steroid biosynthesis	
600	-0.948
## Steroid hormone biosynthesis	
700	0.505
## Sulfur metabolism	
100	0.587
## Synaptic vesicle cycle	
000	0.162
## Synthesis and degradation of ketone bodies	
800	-0.282
## Systemic lupus erythematosus	
700	-0.100
## Taste transduction	
200	-0.285
## Taurine and hypotaurine metabolism	
200	

## T cell receptor signaling pathway	0.180
000	
## Terpenoid backbone biosynthesis	0.353
700	
## TGF-beta signaling pathway	0.325
600	
## Thiamine metabolism	0.151
800	
## Thyroid cancer	0.364
100	
## Thyroid hormone signaling pathway	0.603
900	
## Thyroid hormone synthesis	-0.037
400	
## Tight junction	0.342
400	
## TNF signaling pathway	0.301
300	
## Toll-like receptor signaling pathway	0.084
100	
## Toxoplasmosis	0.293
100	
## Transcriptional misregulation in cancer	0.086
670	
## Tryptophan metabolism	-0.287
100	
## Type I diabetes mellitus	-0.428
300	
## Type II diabetes mellitus	0.172
600	
## Tyrosine metabolism	-0.390
100	
## Ubiquinone and other terpenoid-quinone biosynthesis	0.284
000	
## Valine, leucine and isoleucine degradation	0.547
200	
## Vascular smooth muscle contraction	0.176
700	
## Vasopressin-regulated water reabsorption	0.027
050	
## VEGF signaling pathway	0.303
800	
## Vibrio cholerae infection	0.385
700	
## Viral carcinogenesis	0.328
700	
## Viral myocarditis	0.134
300	
## Vitamin B6 metabolism	0.134
500	
## Vitamin digestion and absorption	-0.499
100	
## Wnt signaling pathway	0.182
800	

control.Medi

```

## an
## Acute myeloid leukemia 0.43990
00
## Adherens junction 0.55100
00
## Adipocytokine signaling pathway 0.26370
00
## Adrenergic signaling in cardiomyocytes -0.28340
00
## African trypanosomiasis -0.22990
00
## Alanine, aspartate and glutamate metabolism 0.54440
00
## Aldosterone-regulated sodium reabsorption 0.16410
00
## Aldosterone synthesis and secretion 0.10260
00
## Allograft rejection -0.43180
00
## alpha-Linolenic acid metabolism 0.06412
00
## Alzheimer's disease 0.30640
00
## Aminoacyl-tRNA biosynthesis 0.27700
00
## Amino sugar and nucleotide sugar metabolism 0.47030
00
## Amoebiasis -0.08055
00
## Amphetamine addiction -0.13260
00
## AMPK signaling pathway 0.47720
00
## Amyotrophic lateral sclerosis (ALS) 0.17770
00
## Antigen processing and presentation -0.05512
00
## Apoptosis 0.22850
00
## Arachidonic acid metabolism -0.75530
00
## Arginine and proline metabolism -0.00964
70
## Arginine biosynthesis 0.26950
00
## Arrhythmogenic right ventricular cardiomyopathy (ARVC) 0.33590
00
## Ascorbate and aldarate metabolism -0.59510
00
## Asthma -0.45720
00
## Autoimmune thyroid disease -0.43180
00

```

## Axon guidance	0.29520
00	
## Bacterial invasion of epithelial cells	0.46510
00	
## Basal cell carcinoma	0.18150
00	
## B cell receptor signaling pathway	0.12820
00	
## beta-Alanine metabolism	-0.19350
00	
## Bile secretion	-0.02840
00	
## Biotin metabolism	0.26290
00	
## Bladder cancer	0.46810
00	
## Butanoate metabolism	0.24560
00	
## Caffeine metabolism	-0.44440
00	
## Carbohydrate digestion and absorption	0.15030
00	
## Cardiac muscle contraction	-0.19020
00	
## Cell adhesion molecules (CAMs)	-0.21740
00	
## Cell cycle	0.83180
00	
## Chagas disease (American trypanosomiasis)	0.30880
00	
## Chemical carcinogenesis	-0.81220
00	
## Choline metabolism in cancer	0.33450
00	
## Cholinergic synapse	0.16290
00	
## Chronic myeloid leukemia	0.57170
00	
## Circadian entrainment	-0.02316
00	
## Circadian rhythm	0.45460
00	
## Citrate cycle (TCA cycle)	0.92180
00	
## Cocaine addiction	0.01350
00	
## Colorectal cancer	0.40090
00	
## Complement and coagulation cascades	-0.15660
00	
## Cysteine and methionine metabolism	0.50710
00	
## Cytosolic DNA-sensing pathway	0.23450
00	

## D-Glutamine and D-glutamate metabolism	0.31400
00	
## Dilated cardiomyopathy	0.22620
00	
## Dopaminergic synapse	0.02635
00	
## Dorso-ventral axis formation	0.26630
00	
## Drug metabolism - cytochrome P450	-0.46350
00	
## Drug metabolism - other enzymes	0.09463
00	
## ECM-receptor interaction	0.36340
00	
## Endocrine and other factor-regulated calcium reabsorption	-0.12770
00	
## Endometrial cancer	0.50970
00	
## Epithelial cell signaling in Helicobacter pylori infection	0.13940
00	
## Epstein-Barr virus infection	0.35450
00	
## ErbB signaling pathway	0.36670
00	
## Estrogen signaling pathway	0.22560
00	
## Ether lipid metabolism	0.05197
00	
## Fat digestion and absorption	0.36450
00	
## Fatty acid biosynthesis	0.34980
00	
## Fatty acid degradation	0.64780
00	
## Fatty acid elongation	0.26240
00	
## Fc epsilon RI signaling pathway	0.22910
00	
## Fc gamma R-mediated phagocytosis	0.37880
00	
## Folate biosynthesis	0.28390
00	
## FoxO signaling pathway	0.31380
00	
## Fructose and mannose metabolism	0.47070
00	
## GABAergic synapse	-0.45240
00	
## Galactose metabolism	0.42150
00	
## Gap junction	0.11190
00	
## Gastric acid secretion	0.15780
00	

## Glioma	0.44370
00	
## Glucagon signaling pathway	0.41680
00	
## Glutamatergic synapse	-0.14390
00	
## Glutathione metabolism	0.36540
00	
## Glycerolipid metabolism	0.73920
00	
## Glycerophospholipid metabolism	0.79290
00	
## Glycine, serine and threonine metabolism	-0.01281
00	
## Glycolysis / Gluconeogenesis	0.52760
00	
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.43000
00	
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.40260
00	
## Glycosaminoglycan degradation	0.40150
00	
## Glycosphingolipid biosynthesis - ganglio series	0.25830
00	
## Glycosphingolipid biosynthesis - globo series	-0.08560
00	
## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.26470
00	
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.43710
00	
## Glyoxylate and dicarboxylate metabolism	0.28640
00	
## GnRH signaling pathway	0.25120
00	
## Graft-versus-host disease	-0.29120
00	
## Hedgehog signaling pathway	0.09084
00	
## Hepatitis B	0.31070
00	
## Hepatitis C	0.41290
00	
## Herpes simplex infection	0.29150
00	
## HIF-1 signaling pathway	0.53540
00	
## Histidine metabolism	-0.33540
00	
## Huntington's disease	0.78660
00	
## Hypertrophic cardiomyopathy (HCM)	0.23840
00	
## Inflammatory bowel disease (IBD)	-0.19010
00	

## Inflammatory mediator regulation of TRP channels	0.12580
00	
## Influenza A	0.28930
00	
## Inositol phosphate metabolism	1.03200
00	
## Insulin resistance	0.38410
00	
## Insulin secretion	-0.12340
00	
## Insulin signaling pathway	0.47540
00	
## Intestinal immune network for IgA production	-0.19350
00	
## Legionellosis	-0.09852
00	
## Leishmaniasis	-0.03382
00	
## Leukocyte transendothelial migration	0.06936
00	
## Linoleic acid metabolism	-1.31400
00	
## Lipoic acid metabolism	-0.17340
00	
## Long-term depression	0.23550
00	
## Long-term potentiation	0.17900
00	
## Lysine biosynthesis	-0.12460
00	
## Lysine degradation	0.60820
00	
## Malaria	-0.25420
00	
## Maturity onset diabetes of the young	-0.16350
00	
## Measles	0.18900
00	
## Melanogenesis	0.17950
00	
## Melanoma	0.28720
00	
## Metabolism of xenobiotics by cytochrome P450	-1.10500
00	
## Mineral absorption	-0.02022
00	
## Morphine addiction	-0.28290
00	
## mTOR signaling pathway	0.32210
00	
## Mucin type O-Glycan biosynthesis	-0.32860
00	
## Natural killer cell mediated cytotoxicity	0.09102
00	

## Neuroactive ligand-receptor interaction	-0.42210
00	
## Neurotrophin signaling pathway	0.33890
00	
## NF-kappa B signaling pathway	0.16400
00	
## N-Glycan biosynthesis	0.62380
00	
## Nicotinate and nicotinamide metabolism	-0.06621
00	
## Nitrogen metabolism	0.58890
00	
## NOD-like receptor signaling pathway	0.21650
00	
## Non-alcoholic fatty liver disease (NAFLD)	0.21750
00	
## Non-small cell lung cancer	0.49140
00	
## Notch signaling pathway	0.42490
00	
## One carbon pool by folate	0.82910
00	
## Oocyte meiosis	0.60300
00	
## Osteoclast differentiation	0.10770
00	
## Ovarian steroidogenesis	0.02421
00	
## Oxidative phosphorylation	0.50340
00	
## p53 signaling pathway	0.29890
00	
## Pancreatic cancer	0.46440
00	
## Pancreatic secretion	0.09612
00	
## Pantothenate and CoA biosynthesis	0.13950
00	
## Parkinson's disease	0.16740
00	
## Pathogenic Escherichia coli infection	0.27930
00	
## Pentose and glucuronate interconversions	-0.20930
00	
## Pentose phosphate pathway	0.33940
00	
## Pertussis	0.10160
00	
## Phenylalanine metabolism	-0.12970
00	
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.31360
00	
## Phosphatidylinositol signaling system	1.27400
00	

## Phototransduction	-0.36340
00	
## Platelet activation	0.21560
00	
## Porphyrin and chlorophyll metabolism	-0.01630
00	
## Primary bile acid biosynthesis	-0.28880
00	
## Prion diseases	0.32080
00	
## Progesterone-mediated oocyte maturation	0.23490
00	
## Prolactin signaling pathway	0.34140
00	
## Propionate metabolism	0.37030
00	
## Prostate cancer	0.47380
00	
## Proximal tubule bicarbonate reclamation	0.16270
00	
## Pyrimidine metabolism	1.84700
00	
## Pyruvate metabolism	0.50650
00	
## Regulation of lipolysis in adipocytes	0.20800
00	
## Renal cell carcinoma	0.43600
00	
## Renin-angiotensin system	0.00057
93	
## Renin secretion	0.21500
00	
## Retinol metabolism	-1.72400
00	
## Retrograde endocannabinoid signaling	-0.02694
00	
## Rheumatoid arthritis	-0.19680
00	
## Riboflavin metabolism	0.38180
00	
## RIG-I-like receptor signaling pathway	0.27480
00	
## Salivary secretion	0.05674
00	
## Salmonella infection	0.38750
00	
## Selenocompound metabolism	0.35780
00	
## Serotonergic synapse	-0.07622
00	
## Shigellosis	0.34550
00	
## Signaling pathways regulating pluripotency of stem cells	0.37540
00	

## Small cell lung cancer	0.59760
00	
## Sphingolipid metabolism	0.72960
00	
## Sphingolipid signaling pathway	0.44470
00	
## Staphylococcus aureus infection	-0.13280
00	
## Starch and sucrose metabolism	0.24450
00	
## Steroid biosynthesis	0.40660
00	
## Steroid hormone biosynthesis	-0.90480
00	
## Sulfur metabolism	0.50770
00	
## Synaptic vesicle cycle	0.58940
00	
## Synthesis and degradation of ketone bodies	0.18650
00	
## Systemic lupus erythematosus	-0.26280
00	
## Taste transduction	-0.09428
00	
## Taurine and hypotaurine metabolism	-0.27340
00	
## T cell receptor signaling pathway	0.18170
00	
## Terpenoid backbone biosynthesis	0.36130
00	
## TGF-beta signaling pathway	0.33350
00	
## Thiamine metabolism	0.15500
00	
## Thyroid cancer	0.37360
00	
## Thyroid hormone signaling pathway	0.61850
00	
## Thyroid hormone synthesis	-0.01455
00	
## Tight junction	0.35440
00	
## TNF signaling pathway	0.30610
00	
## Toll-like receptor signaling pathway	0.08649
00	
## Toxoplasmosis	0.29530
00	
## Transcriptional misregulation in cancer	0.09042
00	
## Tryptophan metabolism	-0.27370
00	
## Type I diabetes mellitus	-0.41570
00	

## Type II diabetes mellitus	0.17990
00	
## Tyrosine metabolism	-0.38350
00	
## Ubiquinone and other terpenoid-quinone biosynthesis	0.28580
00	
## Valine, leucine and isoleucine degradation	0.56300
00	
## Vascular smooth muscle contraction	0.19130
00	
## Vasopressin-regulated water reabsorption	0.04367
00	
## VEGF signaling pathway	0.31380
00	
## Vibrio cholerae infection	0.38690
00	
## Viral carcinogenesis	0.33040
00	
## Viral myocarditis	0.14880
00	
## Vitamin B6 metabolism	0.14920
00	
## Vitamin digestion and absorption	-0.46960
00	
## Wnt signaling pathway	0.20580
00	
##	control.Mean
## Acute myeloid leukemia	0.438100
## Adherens junction	0.551400
## Adipocytokine signaling pathway	0.264200
## Adrenergic signaling in cardiomyocytes	-0.279400
## African trypanosomiasis	-0.229100
## Alanine, aspartate and glutamate metabolism	0.546300
## Aldosterone-regulated sodium reabsorption	0.163200
## Aldosterone synthesis and secretion	0.095020
## Allograft rejection	-0.427800
## alpha-Linolenic acid metabolism	0.068670
## Alzheimer's disease	0.298600
## Aminoacyl-tRNA biosynthesis	0.278400
## Amino sugar and nucleotide sugar metabolism	0.468300
## Amoebiasis	-0.077170
## Amphetamine addiction	-0.133700
## AMPK signaling pathway	0.479600
## Amyotrophic lateral sclerosis (ALS)	0.177200
## Antigen processing and presentation	-0.054660
## Apoptosis	0.224500
## Arachidonic acid metabolism	-0.754500
## Arginine and proline metabolism	-0.004254
## Arginine biosynthesis	0.272500
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.336500
## Ascorbate and aldarate metabolism	-0.597600
## Asthma	-0.454900
## Autoimmune thyroid disease	-0.427800
## Axon guidance	0.295300

## Bacterial invasion of epithelial cells	0.463600
## Basal cell carcinoma	0.181300
## B cell receptor signaling pathway	0.127500
## beta-Alanine metabolism	-0.213400
## Bile secretion	-0.030380
## Biotin metabolism	0.262700
## Bladder cancer	0.467700
## Butanoate metabolism	0.228100
## Caffeine metabolism	-0.451400
## Carbohydrate digestion and absorption	0.148400
## Cardiac muscle contraction	-0.189100
## Cell adhesion molecules (CAMs)	-0.216900
## Cell cycle	0.831700
## Chagas disease (American trypanosomiasis)	0.307200
## Chemical carcinogenesis	-0.827500
## Choline metabolism in cancer	0.335700
## Cholinergic synapse	0.159200
## Chronic myeloid leukemia	0.574800
## Circadian entrainment	-0.040230
## Circadian rhythm	0.455000
## Citrate cycle (TCA cycle)	0.949300
## Cocaine addiction	0.004420
## Colorectal cancer	0.402100
## Complement and coagulation cascades	-0.152100
## Cysteine and methionine metabolism	0.505400
## Cytosolic DNA-sensing pathway	0.237200
## D-Glutamine and D-glutamate metabolism	0.314300
## Dilated cardiomyopathy	0.229800
## Dopaminergic synapse	0.026380
## Dorso-ventral axis formation	0.266900
## Drug metabolism - cytochrome P450	-0.455600
## Drug metabolism - other enzymes	0.082990
## ECM-receptor interaction	0.397500
## Endocrine and other factor-regulated calcium reabsorption	-0.123300
## Endometrial cancer	0.511100
## Epithelial cell signaling in Helicobacter pylori infection	0.137600
## Epstein-Barr virus infection	0.352100
## ErbB signaling pathway	0.368200
## Estrogen signaling pathway	0.223400
## Ether lipid metabolism	0.087480
## Fat digestion and absorption	0.362200
## Fatty acid biosynthesis	0.349500
## Fatty acid degradation	0.629300
## Fatty acid elongation	0.265800
## Fc epsilon RI signaling pathway	0.232700
## Fc gamma R-mediated phagocytosis	0.369900
## Folate biosynthesis	0.283800
## FoxO signaling pathway	0.315100
## Fructose and mannose metabolism	0.439200
## GABAergic synapse	-0.454000
## Galactose metabolism	0.420100
## Gap junction	0.103400
## Gastric acid secretion	0.149300
## Glioma	0.439300

## Glucagon signaling pathway	0.429200
## Glutamatergic synapse	-0.144400
## Glutathione metabolism	0.365400
## Glycerolipid metabolism	0.736000
## Glycerophospholipid metabolism	0.797600
## Glycine, serine and threonine metabolism	0.014660
## Glycolysis / Gluconeogenesis	0.531300
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.430400
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.403400
## Glycosaminoglycan degradation	0.400900
## Glycosphingolipid biosynthesis - ganglio series	0.260300
## Glycosphingolipid biosynthesis - globo series	-0.080300
## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.266700
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.433300
## Glyoxylate and dicarboxylate metabolism	0.288700
## GnRH signaling pathway	0.249700
## Graft-versus-host disease	-0.275500
## Hedgehog signaling pathway	0.092170
## Hepatitis B	0.312400
## Hepatitis C	0.414300
## Herpes simplex infection	0.292100
## HIF-1 signaling pathway	0.532300
## Histidine metabolism	-0.335700
## Huntington's disease	0.781700
## Hypertrophic cardiomyopathy (HCM)	0.238500
## Inflammatory bowel disease (IBD)	-0.190400
## Inflammatory mediator regulation of TRP channels	0.121400
## Influenza A	0.285900
## Inositol phosphate metabolism	1.045000
## Insulin resistance	0.380000
## Insulin secretion	-0.127200
## Insulin signaling pathway	0.477300
## Intestinal immune network for IgA production	-0.193600
## Legionellosis	-0.089410
## Leishmaniasis	-0.032410
## Leukocyte transendothelial migration	0.068220
## Linoleic acid metabolism	-1.297000
## Lipoic acid metabolism	-0.178700
## Long-term depression	0.235000
## Long-term potentiation	0.172700
## Lysine biosynthesis	-0.126400
## Lysine degradation	0.613400
## Malaria	-0.223800
## Maturity onset diabetes of the young	-0.166900
## Measles	0.186800
## Melanogenesis	0.167800
## Melanoma	0.272900
## Metabolism of xenobiotics by cytochrome P450	-1.099000
## Mineral absorption	-0.020440
## Morphine addiction	-0.291100
## mTOR signaling pathway	0.316900
## Mucin type O-Glycan biosynthesis	-0.324000
## Natural killer cell mediated cytotoxicity	0.087400
## Neuroactive ligand-receptor interaction	-0.421700

## Neurotrophin signaling pathway	0.337900
## NF-kappa B signaling pathway	0.168300
## N-Glycan biosynthesis	0.623100
## Nicotinate and nicotinamide metabolism	-0.085170
## Nitrogen metabolism	0.588700
## NOD-like receptor signaling pathway	0.218100
## Non-alcoholic fatty liver disease (NAFLD)	0.216300
## Non-small cell lung cancer	0.490200
## Notch signaling pathway	0.421000
## One carbon pool by folate	0.814100
## Oocyte meiosis	0.606400
## Osteoclast differentiation	0.107800
## Ovarian steroidogenesis	0.038170
## Oxidative phosphorylation	0.500000
## p53 signaling pathway	0.307000
## Pancreatic cancer	0.463700
## Pancreatic secretion	0.103600
## Pantothenate and CoA biosynthesis	0.135100
## Parkinson's disease	0.160400
## Pathogenic Escherichia coli infection	0.278100
## Pentose and glucuronate interconversions	-0.224000
## Pentose phosphate pathway	0.297500
## Pertussis	0.107200
## Phenylalanine metabolism	-0.120300
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.313500
## Phosphatidylinositol signaling system	1.305000
## Phototransduction	-0.364900
## Platelet activation	0.221900
## Porphyrin and chlorophyll metabolism	-0.018500
## Primary bile acid biosynthesis	-0.288400
## Prion diseases	0.320200
## Progesterone-mediated oocyte maturation	0.235200
## Prolactin signaling pathway	0.339500
## Propanoate metabolism	0.376000
## Prostate cancer	0.483500
## Proximal tubule bicarbonate reclamation	0.186600
## Pyrimidine metabolism	1.852000
## Pyruvate metabolism	0.517300
## Regulation of lipolysis in adipocytes	0.214400
## Renal cell carcinoma	0.433200
## Renin-angiotensin system	0.001284
## Renin secretion	0.216700
## Retinol metabolism	-1.732000
## Retrograde endocannabinoid signaling	-0.018580
## Rheumatoid arthritis	-0.184900
## Riboflavin metabolism	0.381300
## RIG-I-like receptor signaling pathway	0.272600
## Salivary secretion	0.052540
## Salmonella infection	0.392100
## Selenocompound metabolism	0.372700
## Serotonergic synapse	-0.079570
## Shigellosis	0.345800
## Signaling pathways regulating pluripotency of stem cells	0.375200
## Small cell lung cancer	0.597200

## Sphingolipid metabolism	0.755700
## Sphingolipid signaling pathway	0.442400
## Staphylococcus aureus infection	-0.121700
## Starch and sucrose metabolism	0.235400
## Steroid biosynthesis	0.401200
## Steroid hormone biosynthesis	-0.905900
## Sulfur metabolism	0.506800
## Synaptic vesicle cycle	0.589100
## Synthesis and degradation of ketone bodies	0.168200
## Systemic lupus erythematosus	-0.258700
## Taste transduction	-0.095870
## Taurine and hypotaurine metabolism	-0.272100
## T cell receptor signaling pathway	0.183200
## Terpenoid backbone biosynthesis	0.363200
## TGF-beta signaling pathway	0.330700
## Thiamine metabolism	0.156600
## Thyroid cancer	0.368100
## Thyroid hormone signaling pathway	0.620100
## Thyroid hormone synthesis	-0.023980
## Tight junction	0.344200
## TNF signaling pathway	0.302400
## Toll-like receptor signaling pathway	0.086110
## Toxoplasmosis	0.295300
## Transcriptional misregulation in cancer	0.089800
## Tryptophan metabolism	-0.275400
## Type I diabetes mellitus	-0.414200
## Type II diabetes mellitus	0.185200
## Tyrosine metabolism	-0.370900
## Ubiquinone and other terpenoid-quinone biosynthesis	0.285900
## Valine, leucine and isoleucine degradation	0.550700
## Vascular smooth muscle contraction	0.190000
## Vasopressin-regulated water reabsorption	0.029110
## VEGF signaling pathway	0.311600
## Vibrio cholerae infection	0.387300
## Viral carcinogenesis	0.329400
## Viral myocarditis	0.143000
## Vitamin B6 metabolism	0.145700
## Vitamin digestion and absorption	-0.473300
## Wnt signaling pathway	0.214300
##	control.3r
d.Qu.	
## Acute myeloid leukemia	0.441
400	
## Adherens junction	0.557
200	
## Adipocytokine signaling pathway	0.275
700	
## Adrenergic signaling in cardiomyocytes	-0.269
500	
## African trypanosomiasis	-0.221
400	
## Alanine, aspartate and glutamate metabolism	0.552
900	
## Aldosterone-regulated sodium reabsorption	0.174

900		
	## Aldosterone synthesis and secretion	0.150
400		
	## Allograft rejection	-0.421
500		
	## alpha-Linolenic acid metabolism	0.078
400		
	## Alzheimer's disease	0.307
900		
	## Aminoacyl-tRNA biosynthesis	0.290
800		
	## Amino sugar and nucleotide sugar metabolism	0.472
900		
	## Amoebiasis	-0.049
270		
	## Amphetamine addiction	-0.123
300		
	## AMPK signaling pathway	0.483
400		
	## Amyotrophic lateral sclerosis (ALS)	0.180
600		
	## Antigen processing and presentation	-0.037
930		
	## Apoptosis	0.234
900		
	## Arachidonic acid metabolism	-0.742
200		
	## Arginine and proline metabolism	0.001
743		
	## Arginine biosynthesis	0.277
900		
	## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.340
800		
	## Ascorbate and aldarate metabolism	-0.584
700		
	## Asthma	-0.442
100		
	## Autoimmune thyroid disease	-0.421
500		
	## Axon guidance	0.297
600		
	## Bacterial invasion of epithelial cells	0.476
600		
	## Basal cell carcinoma	0.199
900		
	## B cell receptor signaling pathway	0.135
700		
	## beta-Alanine metabolism	-0.182
300		
	## Bile secretion	-0.015
750		
	## Biotin metabolism	0.263
400		
	## Bladder cancer	0.478

000	
## Butanoate metabolism	0.248
500	
## Caffeine metabolism	-0.435
000	
## Carbohydrate digestion and absorption	0.166
200	
## Cardiac muscle contraction	-0.184
600	
## Cell adhesion molecules (CAMs)	-0.209
800	
## Cell cycle	0.852
600	
## Chagas disease (American trypanosomiasis)	0.320
800	
## Chemical carcinogenesis	-0.804
000	
## Choline metabolism in cancer	0.337
600	
## Cholinergic synapse	0.174
500	
## Chronic myeloid leukemia	0.577
700	
## Circadian entrainment	0.002
766	
## Circadian rhythm	0.458
600	
## Citrate cycle (TCA cycle)	0.951
700	
## Cocaine addiction	0.016
440	
## Colorectal cancer	0.409
000	
## Complement and coagulation cascades	-0.149
000	
## Cysteine and methionine metabolism	0.509
500	
## Cytosolic DNA-sensing pathway	0.238
900	
## D-Glutamine and D-glutamate metabolism	0.314
600	
## Dilated cardiomyopathy	0.239
300	
## Dopaminergic synapse	0.056
320	
## Dorso-ventral axis formation	0.267
100	
## Drug metabolism - cytochrome P450	-0.452
200	
## Drug metabolism - other enzymes	0.095
170	
## ECM-receptor interaction	0.412
600	
## Endocrine and other factor-regulated calcium reabsorption	-0.116

600	
## Endometrial cancer	0.525
200	
## Epithelial cell signaling in Helicobacter pylori infection	0.140
600	
## Epstein-Barr virus infection	0.356
900	
## ErbB signaling pathway	0.377
400	
## Estrogen signaling pathway	0.240
800	
## Ether lipid metabolism	0.094
920	
## Fat digestion and absorption	0.368
300	
## Fatty acid biosynthesis	0.350
400	
## Fatty acid degradation	0.662
700	
## Fatty acid elongation	0.267
600	
## Fc epsilon RI signaling pathway	0.238
900	
## Fc gamma R-mediated phagocytosis	0.383
300	
## Folate biosynthesis	0.292
400	
## FoxO signaling pathway	0.319
200	
## Fructose and mannose metabolism	0.475
700	
## GABAergic synapse	-0.444
700	
## Galactose metabolism	0.423
500	
## Gap junction	0.116
900	
## Gastric acid secretion	0.171
600	
## Glioma	0.444
700	
## Glucagon signaling pathway	0.460
700	
## Glutamatergic synapse	-0.114
500	
## Glutathione metabolism	0.382
900	
## Glycerolipid metabolism	0.760
900	
## Glycerophospholipid metabolism	0.842
800	
## Glycine, serine and threonine metabolism	0.018
130	
## Glycolysis / Gluconeogenesis	0.546

200		
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.431	
200		
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.404	
100		
## Glycosaminoglycan degradation	0.424	
000		
## Glycosphingolipid biosynthesis - ganglio series	0.267	
000		
## Glycosphingolipid biosynthesis - globo series	-0.079	
240		
## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.259	
700		
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.445	
800		
## Glyoxylate and dicarboxylate metabolism	0.310	
800		
## GnRH signaling pathway	0.265	
900		
## Graft-versus-host disease	-0.270	
200		
## Hedgehog signaling pathway	0.100	
400		
## Hepatitis B	0.324	
300		
## Hepatitis C	0.419	
600		
## Herpes simplex infection	0.295	
100		
## HIF-1 signaling pathway	0.551	
100		
## Histidine metabolism	-0.326	
500		
## Huntington's disease	0.788	
600		
## Hypertrophic cardiomyopathy (HCM)	0.239	
100		
## Inflammatory bowel disease (IBD)	-0.187	
800		
## Inflammatory mediator regulation of TRP channels	0.134	
400		
## Influenza A	0.298	
700		
## Inositol phosphate metabolism	1.071	
000		
## Insulin resistance	0.387	
600		
## Insulin secretion	-0.112	
000		
## Insulin signaling pathway	0.480	
900		
## Intestinal immune network for IgA production	-0.190	
900		
## Legionellosis	-0.088	

660		
## Leishmaniasis		-0.029
940		
## Leukocyte transendothelial migration		0.080
250		
## Linoleic acid metabolism		-1.287
000		
## Lipoic acid metabolism		-0.172
000		
## Long-term depression		0.277
100		
## Long-term potentiation		0.206
600		
## Lysine biosynthesis		-0.113
900		
## Lysine degradation		0.613
900		
## Malaria		-0.220
400		
## Maturity onset diabetes of the young		-0.160
500		
## Measles		0.197
400		
## Melanogenesis		0.185
200		
## Melanoma		0.306
300		
## Metabolism of xenobiotics by cytochrome P450		-1.089
000		
## Mineral absorption		-0.011
000		
## Morphine addiction		-0.262
000		
## mTOR signaling pathway		0.326
700		
## Mucin type O-Glycan biosynthesis		-0.242
800		
## Natural killer cell mediated cytotoxicity		0.101
700		
## Neuroactive ligand-receptor interaction		-0.414
300		
## Neurotrophin signaling pathway		0.349
700		
## NF-kappa B signaling pathway		0.170
400		
## N-Glycan biosynthesis		0.625
800		
## Nicotinate and nicotinamide metabolism		-0.049
840		
## Nitrogen metabolism		0.589
300		
## NOD-like receptor signaling pathway		0.221
800		
## Non-alcoholic fatty liver disease (NAFLD)		0.222

700	
## Non-small cell lung cancer	0.496
900	
## Notch signaling pathway	0.431
700	
## One carbon pool by folate	0.872
900	
## Oocyte meiosis	0.609
500	
## Osteoclast differentiation	0.113
900	
## Ovarian steroidogenesis	0.083
820	
## Oxidative phosphorylation	0.511
500	
## p53 signaling pathway	0.311
000	
## Pancreatic cancer	0.469
700	
## Pancreatic secretion	0.147
600	
## Pantothenate and CoA biosynthesis	0.143
100	
## Parkinson's disease	0.181
600	
## Pathogenic Escherichia coli infection	0.299
500	
## Pentose and glucuronate interconversions	-0.198
500	
## Pentose phosphate pathway	0.367
900	
## Pertussis	0.114
600	
## Phenylalanine metabolism	-0.116
800	
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.315
100	
## Phosphatidylinositol signaling system	1.317
000	
## Phototransduction	-0.345
500	
## Platelet activation	0.233
500	
## Porphyrin and chlorophyll metabolism	-0.004
352	
## Primary bile acid biosynthesis	-0.283
500	
## Prion diseases	0.322
100	
## Progesterone-mediated oocyte maturation	0.240
000	
## Prolactin signaling pathway	0.354
700	
## Propionate metabolism	0.378

500	
## Prostate cancer	0.487
300	
## Proximal tubule bicarbonate reclamation	0.186
900	
## Pyrimidine metabolism	1.882
000	
## Pyruvate metabolism	0.533
400	
## Regulation of lipolysis in adipocytes	0.225
200	
## Renal cell carcinoma	0.437
100	
## Renin-angiotensin system	0.131
500	
## Renin secretion	0.228
600	
## Retinol metabolism	-1.720
000	
## Retrograde endocannabinoid signaling	-0.003
103	
## Rheumatoid arthritis	-0.182
500	
## Riboflavin metabolism	0.384
700	
## RIG-I-like receptor signaling pathway	0.278
900	
## Salivary secretion	0.068
720	
## Salmonella infection	0.397
400	
## Selenocompound metabolism	0.375
400	
## Serotonergic synapse	-0.023
680	
## Shigellosis	0.359
900	
## Signaling pathways regulating pluripotency of stem cells	0.384
000	
## Small cell lung cancer	0.599
600	
## Sphingolipid metabolism	0.781
700	
## Sphingolipid signaling pathway	0.452
000	
## Staphylococcus aureus infection	-0.115
600	
## Starch and sucrose metabolism	0.247
600	
## Steroid biosynthesis	0.411
300	
## Steroid hormone biosynthesis	-0.862
000	
## Sulfur metabolism	0.509

300	
## Synaptic vesicle cycle	0.591
600	
## Synthesis and degradation of ketone bodies	0.192
000	
## Systemic lupus erythematosus	-0.238
700	
## Taste transduction	-0.089
970	
## Taurine and hypotaurine metabolism	-0.260
300	
## T cell receptor signaling pathway	0.184
800	
## Terpenoid backbone biosynthesis	0.370
800	
## TGF-beta signaling pathway	0.338
700	
## Thiamine metabolism	0.159
900	
## Thyroid cancer	0.377
600	
## Thyroid hormone signaling pathway	0.634
700	
## Thyroid hormone synthesis	-0.001
132	
## Tight junction	0.356
200	
## TNF signaling pathway	0.307
200	
## Toll-like receptor signaling pathway	0.088
490	
## Toxoplasmosis	0.297
500	
## Transcriptional misregulation in cancer	0.093
550	
## Tryptophan metabolism	-0.262
100	
## Type I diabetes mellitus	-0.401
600	
## Type II diabetes mellitus	0.192
500	
## Tyrosine metabolism	-0.364
400	
## Ubiquinone and other terpenoid-quinone biosynthesis	0.287
700	
## Valine, leucine and isoleucine degradation	0.566
500	
## Vascular smooth muscle contraction	0.204
600	
## Vasopressin-regulated water reabsorption	0.045
730	
## VEGF signaling pathway	0.321
500	
## Vibrio cholerae infection	0.388

500		
## Viral carcinogenesis		0.331
100		
## Viral myocarditis		0.157
500		
## Vitamin B6 metabolism		0.160
500		
## Vitamin digestion and absorption		-0.443
900		
## Wnt signaling pathway		0.237
300		
##	control.Max.	
## Acute myeloid leukemia		0.442500
## Adherens junction		0.559200
## Adipocytokine signaling pathway		0.290600
## Adrenergic signaling in cardiomyocytes		-0.253100
## African trypanosomiasis		-0.205800
## Alanine, aspartate and glutamate metabolism		0.563900
## Aldosterone-regulated sodium reabsorption		0.177300
## Aldosterone synthesis and secretion		0.161200
## Allograft rejection		-0.408000
## alpha-Linolenic acid metabolism		0.120200
## Alzheimer's disease		0.308400
## Aminoacyl-tRNA biosynthesis		0.295900
## Amino sugar and nucleotide sugar metabolism		0.473600
## Amoebiasis		-0.029320
## Amphetamine addiction		-0.118000
## AMPK signaling pathway		0.492500
## Amyotrophic lateral sclerosis (ALS)		0.181400
## Antigen processing and presentation		-0.016660
## Apoptosis		0.237300
## Arachidonic acid metabolism		-0.719300
## Arginine and proline metabolism		0.019040
## Arginine biosynthesis		0.288800
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)		0.343100
## Ascorbate and aldarate metabolism		-0.568300
## Asthma		-0.416200
## Autoimmune thyroid disease		-0.408000
## Axon guidance		0.298900
## Bacterial invasion of epithelial cells		0.483400
## Basal cell carcinoma		0.221000
## B cell receptor signaling pathway		0.144600
## beta-Alanine metabolism		-0.172000
## Bile secretion		-0.008094
## Biotin metabolism		0.264100
## Bladder cancer		0.479600
## Butanoate metabolism		0.252500
## Caffeine metabolism		-0.416500
## Carbohydrate digestion and absorption		0.173200
## Cardiac muscle contraction		-0.181100
## Cell adhesion molecules (CAMs)		-0.205000
## Cell cycle		0.855300
## Chagas disease (American trypanosomiasis)		0.326600
## Chemical carcinogenesis		-0.803700

## Choline metabolism in cancer	0.342000
## Cholinergic synapse	0.201200
## Chronic myeloid leukemia	0.587700
## Circadian entrainment	0.012730
## Circadian rhythm	0.462400
## Citrate cycle (TCA cycle)	1.035000
## Cocaine addiction	0.019430
## Colorectal cancer	0.419400
## Complement and coagulation cascades	-0.131700
## Cysteine and methionine metabolism	0.512100
## Cytosolic DNA-sensing pathway	0.247900
## D-Glutamine and D-glutamate metabolism	0.315700
## Dilated cardiomyopathy	0.250900
## Dopaminergic synapse	0.100100
## Dorso-ventral axis formation	0.269200
## Drug metabolism - cytochrome P450	-0.423400
## Drug metabolism - other enzymes	0.096180
## ECM-receptor interaction	0.516300
## Endocrine and other factor-regulated calcium reabsorption	-0.090800
## Endometrial cancer	0.535500
## Epithelial cell signaling in Helicobacter pylori infection	0.141300
## Epstein-Barr virus infection	0.361700
## ErbB signaling pathway	0.384700
## Estrogen signaling pathway	0.251900
## Ether lipid metabolism	0.207500
## Fat digestion and absorption	0.369200
## Fatty acid biosynthesis	0.350500
## Fatty acid degradation	0.679900
## Fatty acid elongation	0.281600
## Fc epsilon RI signaling pathway	0.252100
## Fc gamma R-mediated phagocytosis	0.384400
## Folate biosynthesis	0.292800
## FoxO signaling pathway	0.323300
## Fructose and mannose metabolism	0.475900
## GABAergic synapse	-0.444400
## Galactose metabolism	0.427200
## Gap junction	0.118600
## Gastric acid secretion	0.187200
## Glioma	0.446500
## Glucagon signaling pathway	0.509900
## Glutamatergic synapse	-0.103600
## Glutathione metabolism	0.409200
## Glycerolipid metabolism	0.780000
## Glycerophospholipid metabolism	0.892300
## Glycine, serine and threonine metabolism	0.104600
## Glycolysis / Gluconeogenesis	0.566200
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.433000
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.406800
## Glycosaminoglycan degradation	0.426800
## Glycosphingolipid biosynthesis - ganglio series	0.277900
## Glycosphingolipid biosynthesis - globo series	-0.060910
## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.252700
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.445900
## Glyoxylate and dicarboxylate metabolism	0.319200

## GnRH signaling pathway	0.273600
## Graft-versus-host disease	-0.219400
## Hedgehog signaling pathway	0.107800
## Hepatitis B	0.333600
## Hepatitis C	0.426300
## Herpes simplex infection	0.301600
## HIF-1 signaling pathway	0.557400
## Histidine metabolism	-0.326200
## Huntington's disease	0.791100
## Hypertrophic cardiomyopathy (HCM)	0.240800
## Inflammatory bowel disease (IBD)	-0.185100
## Inflammatory mediator regulation of TRP channels	0.135300
## Influenza A	0.307800
## Inositol phosphate metabolism	1.118000
## Insulin resistance	0.387700
## Insulin secretion	-0.100600
## Insulin signaling pathway	0.487500
## Intestinal immune network for IgA production	-0.187600
## Legionellosis	-0.059190
## Leishmaniasis	-0.022220
## Leukocyte transendothelial migration	0.084170
## Linoleic acid metabolism	-1.230000
## Lipoic acid metabolism	-0.169300
## Long-term depression	0.309800
## Long-term potentiation	0.233500
## Lysine biosynthesis	-0.103500
## Lysine degradation	0.630400
## Malaria	-0.121500
## Maturity onset diabetes of the young	-0.159500
## Measles	0.199300
## Melanogenesis	0.193300
## Melanoma	0.348900
## Metabolism of xenobiotics by cytochrome P450	-1.041000
## Mineral absorption	-0.004526
## Morphine addiction	-0.255400
## mTOR signaling pathway	0.328900
## Mucin type O-Glycan biosynthesis	-0.227200
## Natural killer cell mediated cytotoxicity	0.111000
## Neuroactive ligand-receptor interaction	-0.409300
## Neurotrophin signaling pathway	0.352900
## NF-kappa B signaling pathway	0.185200
## N-Glycan biosynthesis	0.626700
## Nicotinate and nicotinamide metabolism	-0.028810
## Nitrogen metabolism	0.590100
## NOD-like receptor signaling pathway	0.236000
## Non-alcoholic fatty liver disease (NAFLD)	0.223000
## Non-small cell lung cancer	0.500300
## Notch signaling pathway	0.441700
## One carbon pool by folate	0.886100
## Oocyte meiosis	0.621300
## Osteoclast differentiation	0.116200
## Ovarian steroidogenesis	0.135300
## Oxidative phosphorylation	0.518100
## p53 signaling pathway	0.338100

## Pancreatic cancer	0.471300
## Pancreatic secretion	0.177400
## Pantothenate and CoA biosynthesis	0.145200
## Parkinson's disease	0.185800
## Pathogenic Escherichia coli infection	0.303000
## Pentose and glucuronate interconversions	-0.171400
## Pentose phosphate pathway	0.375900
## Pertussis	0.145700
## Phenylalanine metabolism	-0.082140
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.318700
## Phosphatidylinositol signaling system	1.428000
## Phototransduction	-0.303900
## Platelet activation	0.261400
## Porphyrin and chlorophyll metabolism	0.010770
## Primary bile acid biosynthesis	-0.267600
## Prion diseases	0.323600
## Progesterone-mediated oocyte maturation	0.250500
## Prolactin signaling pathway	0.358000
## Propanoate metabolism	0.399200
## Prostate cancer	0.516700
## Proximal tubule bicarbonate reclamation	0.258700
## Pyrimidine metabolism	1.933000
## Pyruvate metabolism	0.586400
## Regulation of lipolysis in adipocytes	0.264100
## Renal cell carcinoma	0.437900
## Renin-angiotensin system	0.136500
## Renin secretion	0.245100
## Retinol metabolism	-1.720000
## Retrograde endocannabinoid signaling	0.054580
## Rheumatoid arthritis	-0.144400
## Riboflavin metabolism	0.385500
## RIG-I-like receptor signaling pathway	0.281000
## Salivary secretion	0.081660
## Salmonella infection	0.418300
## Selenocompound metabolism	0.421800
## Serotonergic synapse	0.004668
## Shigellosis	0.367200
## Signaling pathways regulating pluripotency of stem cells	0.388700
## Small cell lung cancer	0.601000
## Sphingolipid metabolism	0.889400
## Sphingolipid signaling pathway	0.463700
## Staphylococcus aureus infection	-0.080540
## Starch and sucrose metabolism	0.255900
## Steroid biosynthesis	0.416900
## Steroid hormone biosynthesis	-0.850300
## Sulfur metabolism	0.510300
## Synaptic vesicle cycle	0.593300
## Synthesis and degradation of ketone bodies	0.196400
## Systemic lupus erythematosus	-0.224400
## Taste transduction	-0.081570
## Taurine and hypotaurine metabolism	-0.256300
## T cell receptor signaling pathway	0.192200
## Terpenoid backbone biosynthesis	0.377600
## TGF-beta signaling pathway	0.345100

## Thiamine metabolism	0.166500
## Thyroid cancer	0.379700
## Thyroid hormone signaling pathway	0.645000
## Thyroid hormone synthesis	0.016000
## Tight junction	0.361000
## TNF signaling pathway	0.307700
## Toll-like receptor signaling pathway	0.092430
## Toxoplasmosis	0.298200
## Transcriptional misregulation in cancer	0.094880
## Tryptophan metabolism	-0.261600
## Type I diabetes mellitus	-0.394400
## Type II diabetes mellitus	0.214700
## Tyrosine metabolism	-0.308600
## Ubiquinone and other terpenoid-quinone biosynthesis	0.290200
## Valine, leucine and isoleucine degradation	0.570100
## Vascular smooth muscle contraction	0.207600
## Vasopressin-regulated water reabsorption	0.050240
## VEGF signaling pathway	0.322100
## Vibrio cholerae infection	0.390000
## Viral carcinogenesis	0.332200
## Viral myocarditis	0.162200
## Vitamin B6 metabolism	0.166100
## Vitamin digestion and absorption	-0.443300
## Wnt signaling pathway	0.271700
##	sample.N
## Acute myeloid leukemia	4
## Adherens junction	4
## Adipocytokine signaling pathway	4
## Adrenergic signaling in cardiomyocytes	4
## African trypanosomiasis	4
## Alanine, aspartate and glutamate metabolism	4
## Aldosterone-regulated sodium reabsorption	4
## Aldosterone synthesis and secretion	4
## Allograft rejection	4
## alpha-Linolenic acid metabolism	4
## Alzheimer's disease	4
## Aminoacyl-tRNA biosynthesis	4
## Amino sugar and nucleotide sugar metabolism	4
## Amoebiasis	4
## Amphetamine addiction	4
## AMPK signaling pathway	4
## Amyotrophic lateral sclerosis (ALS)	4
## Antigen processing and presentation	4
## Apoptosis	4
## Arachidonic acid metabolism	4
## Arginine and proline metabolism	4
## Arginine biosynthesis	4
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	4
## Ascorbate and aldarate metabolism	4
## Asthma	4
## Autoimmune thyroid disease	4
## Axon guidance	4
## Bacterial invasion of epithelial cells	4
## Basal cell carcinoma	4

## B cell receptor signaling pathway	4
## beta-Alanine metabolism	4
## Bile secretion	4
## Biotin metabolism	4
## Bladder cancer	4
## Butanoate metabolism	4
## Caffeine metabolism	4
## Carbohydrate digestion and absorption	4
## Cardiac muscle contraction	4
## Cell adhesion molecules (CAMs)	4
## Cell cycle	4
## Chagas disease (American trypanosomiasis)	4
## Chemical carcinogenesis	4
## Choline metabolism in cancer	4
## Cholinergic synapse	4
## Chronic myeloid leukemia	4
## Circadian entrainment	4
## Circadian rhythm	4
## Citrate cycle (TCA cycle)	4
## Cocaine addiction	4
## Colorectal cancer	4
## Complement and coagulation cascades	4
## Cysteine and methionine metabolism	4
## Cytosolic DNA-sensing pathway	4
## D-Glutamine and D-glutamate metabolism	4
## Dilated cardiomyopathy	4
## Dopaminergic synapse	4
## Dorso-ventral axis formation	4
## Drug metabolism - cytochrome P450	4
## Drug metabolism - other enzymes	4
## ECM-receptor interaction	4
## Endocrine and other factor-regulated calcium reabsorption	4
## Endometrial cancer	4
## Epithelial cell signaling in Helicobacter pylori infection	4
## Epstein-Barr virus infection	4
## ErbB signaling pathway	4
## Estrogen signaling pathway	4
## Ether lipid metabolism	4
## Fat digestion and absorption	4
## Fatty acid biosynthesis	4
## Fatty acid degradation	4
## Fatty acid elongation	4
## Fc epsilon RI signaling pathway	4
## Fc gamma R-mediated phagocytosis	4
## Folate biosynthesis	4
## FoxO signaling pathway	4
## Fructose and mannose metabolism	4
## GABAergic synapse	4
## Galactose metabolism	4
## Gap junction	4
## Gastric acid secretion	4
## Glioma	4
## Glucagon signaling pathway	4
## Glutamatergic synapse	4

## Glutathione metabolism	4
## Glycerolipid metabolism	4
## Glycerophospholipid metabolism	4
## Glycine, serine and threonine metabolism	4
## Glycolysis / Gluconeogenesis	4
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	4
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	4
## Glycosaminoglycan degradation	4
## Glycosphingolipid biosynthesis - ganglio series	4
## Glycosphingolipid biosynthesis - globo series	4
## Glycosphingolipid biosynthesis - lacto and neolacto series	4
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	4
## Glyoxylate and dicarboxylate metabolism	4
## GnRH signaling pathway	4
## Graft-versus-host disease	4
## Hedgehog signaling pathway	4
## Hepatitis B	4
## Hepatitis C	4
## Herpes simplex infection	4
## HIF-1 signaling pathway	4
## Histidine metabolism	4
## Huntington's disease	4
## Hypertrophic cardiomyopathy (HCM)	4
## Inflammatory bowel disease (IBD)	4
## Inflammatory mediator regulation of TRP channels	4
## Influenza A	4
## Inositol phosphate metabolism	4
## Insulin resistance	4
## Insulin secretion	4
## Insulin signaling pathway	4
## Intestinal immune network for IgA production	4
## Legionellosis	4
## Leishmaniasis	4
## Leukocyte transendothelial migration	4
## Linoleic acid metabolism	4
## Lipoic acid metabolism	4
## Long-term depression	4
## Long-term potentiation	4
## Lysine biosynthesis	4
## Lysine degradation	4
## Malaria	4
## Maturity onset diabetes of the young	4
## Measles	4
## Melanogenesis	4
## Melanoma	4
## Metabolism of xenobiotics by cytochrome P450	4
## Mineral absorption	4
## Morphine addiction	4
## mTOR signaling pathway	4
## Mucin type O-Glycan biosynthesis	4
## Natural killer cell mediated cytotoxicity	4
## Neuroactive ligand-receptor interaction	4
## Neurotrophin signaling pathway	4
## NF-kappa B signaling pathway	4

## N-Glycan biosynthesis	4
## Nicotinate and nicotinamide metabolism	4
## Nitrogen metabolism	4
## NOD-like receptor signaling pathway	4
## Non-alcoholic fatty liver disease (NAFLD)	4
## Non-small cell lung cancer	4
## Notch signaling pathway	4
## One carbon pool by folate	4
## Oocyte meiosis	4
## Osteoclast differentiation	4
## Ovarian steroidogenesis	4
## Oxidative phosphorylation	4
## p53 signaling pathway	4
## Pancreatic cancer	4
## Pancreatic secretion	4
## Pantothenate and CoA biosynthesis	4
## Parkinson's disease	4
## Pathogenic Escherichia coli infection	4
## Pentose and glucuronate interconversions	4
## Pentose phosphate pathway	4
## Pertussis	4
## Phenylalanine metabolism	4
## Phenylalanine, tyrosine and tryptophan biosynthesis	4
## Phosphatidylinositol signaling system	4
## Phototransduction	4
## Platelet activation	4
## Porphyrin and chlorophyll metabolism	4
## Primary bile acid biosynthesis	4
## Prion diseases	4
## Progesterone-mediated oocyte maturation	4
## Prolactin signaling pathway	4
## Propionate metabolism	4
## Prostate cancer	4
## Proximal tubule bicarbonate reclamation	4
## Pyrimidine metabolism	4
## Pyruvate metabolism	4
## Regulation of lipolysis in adipocytes	4
## Renal cell carcinoma	4
## Renin-angiotensin system	4
## Renin secretion	4
## Retinol metabolism	4
## Retrograde endocannabinoid signaling	4
## Rheumatoid arthritis	4
## Riboflavin metabolism	4
## RIG-I-like receptor signaling pathway	4
## Salivary secretion	4
## Salmonella infection	4
## Selenocompound metabolism	4
## Serotonergic synapse	4
## Shigellosis	4
## Signaling pathways regulating pluripotency of stem cells	4
## Small cell lung cancer	4
## Sphingolipid metabolism	4
## Sphingolipid signaling pathway	4

## Staphylococcus aureus infection	4
## Starch and sucrose metabolism	4
## Steroid biosynthesis	4
## Steroid hormone biosynthesis	4
## Sulfur metabolism	4
## Synaptic vesicle cycle	4
## Synthesis and degradation of ketone bodies	4
## Systemic lupus erythematosus	4
## Taste transduction	4
## Taurine and hypotaurine metabolism	4
## T cell receptor signaling pathway	4
## Terpenoid backbone biosynthesis	4
## TGF-beta signaling pathway	4
## Thiamine metabolism	4
## Thyroid cancer	4
## Thyroid hormone signaling pathway	4
## Thyroid hormone synthesis	4
## Tight junction	4
## TNF signaling pathway	4
## Toll-like receptor signaling pathway	4
## Toxoplasmosis	4
## Transcriptional misregulation in cancer	4
## Tryptophan metabolism	4
## Type I diabetes mellitus	4
## Type II diabetes mellitus	4
## Tyrosine metabolism	4
## Ubiquinone and other terpenoid-quinone biosynthesis	4
## Valine, leucine and isoleucine degradation	4
## Vascular smooth muscle contraction	4
## Vasopressin-regulated water reabsorption	4
## VEGF signaling pathway	4
## Vibrio cholerae infection	4
## Viral carcinogenesis	4
## Viral myocarditis	4
## Vitamin B6 metabolism	4
## Vitamin digestion and absorption	4
## Wnt signaling pathway	4
##	sample.Min.
## Acute myeloid leukemia	0.418200
## Adherens junction	0.543900
## Adipocytokine signaling pathway	0.225300
## Adrenergic signaling in cardiomyocytes	-0.382400
## African trypanosomiasis	-0.254100
## Alanine, aspartate and glutamate metabolism	0.546200
## Aldosterone-regulated sodium reabsorption	0.120100
## Aldosterone synthesis and secretion	0.148300
## Allograft rejection	-0.420500
## alpha-Linolenic acid metabolism	0.011020
## Alzheimer's disease	0.300100
## Aminoacyl-tRNA biosynthesis	0.226800
## Amino sugar and nucleotide sugar metabolism	0.373800
## Amoebiasis	-0.078140
## Amphetamine addiction	-0.081780
## AMPK signaling pathway	0.468000

## Amyotrophic lateral sclerosis (ALS)	0.172700
## Antigen processing and presentation	-0.166600
## Apoptosis	0.179600
## Arachidonic acid metabolism	-0.911800
## Arginine and proline metabolism	-0.093050
## Arginine biosynthesis	0.189600
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.248700
## Ascorbate and aldarate metabolism	-0.616100
## Asthma	-0.441000
## Autoimmune thyroid disease	-0.420500
## Axon guidance	0.211000
## Bacterial invasion of epithelial cells	0.458000
## Basal cell carcinoma	0.035240
## B cell receptor signaling pathway	0.116700
## beta-Alanine metabolism	-0.262100
## Bile secretion	-0.055040
## Biotin metabolism	0.246400
## Bladder cancer	0.423000
## Butanoate metabolism	0.173800
## Caffeine metabolism	-0.420200
## Carbohydrate digestion and absorption	0.011090
## Cardiac muscle contraction	-0.222000
## Cell adhesion molecules (CAMs)	-0.240600
## Cell cycle	0.916300
## Chagas disease (American trypanosomiasis)	0.288900
## Chemical carcinogenesis	-0.829100
## Choline metabolism in cancer	0.309000
## Cholinergic synapse	0.113800
## Chronic myeloid leukemia	0.550000
## Circadian entrainment	-0.057760
## Circadian rhythm	0.512700
## Citrate cycle (TCA cycle)	0.913600
## Cocaine addiction	-0.051550
## Colorectal cancer	0.383600
## Complement and coagulation cascades	-0.240200
## Cysteine and methionine metabolism	0.464400
## Cytosolic DNA-sensing pathway	0.208800
## D-Glutamine and D-glutamate metabolism	0.326200
## Dilated cardiomyopathy	0.067050
## Dopaminergic synapse	-0.003907
## Dorso-ventral axis formation	0.268900
## Drug metabolism - cytochrome P450	-0.440100
## Drug metabolism - other enzymes	0.030640
## ECM-receptor interaction	0.142100
## Endocrine and other factor-regulated calcium reabsorption	-0.175200
## Endometrial cancer	0.484000
## Epithelial cell signaling in Helicobacter pylori infection	0.163400
## Epstein-Barr virus infection	0.357500
## ErbB signaling pathway	0.323700
## Estrogen signaling pathway	0.127600
## Ether lipid metabolism	0.039850
## Fat digestion and absorption	0.292400
## Fatty acid biosynthesis	0.350700
## Fatty acid degradation	0.538700

## Fatty acid elongation	0.275900
## Fc epsilon RI signaling pathway	0.195100
## Fc gamma R-mediated phagocytosis	0.341800
## Folate biosynthesis	0.265500
## FoxO signaling pathway	0.308700
## Fructose and mannose metabolism	0.374300
## GABAergic synapse	-0.539200
## Galactose metabolism	0.361900
## Gap junction	0.118500
## Gastric acid secretion	0.155400
## Glioma	0.378300
## Glucagon signaling pathway	0.326400
## Glutamatergic synapse	-0.233600
## Glutathione metabolism	0.364400
## Glycerolipid metabolism	0.559500
## Glycerophospholipid metabolism	0.659600
## Glycine, serine and threonine metabolism	-0.149900
## Glycolysis / Gluconeogenesis	0.472400
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.397500
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.301900
## Glycosaminoglycan degradation	0.344100
## Glycosphingolipid biosynthesis - ganglio series	0.243000
## Glycosphingolipid biosynthesis - globo series	-0.094750
## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.382000
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.404600
## Glyoxylate and dicarboxylate metabolism	0.201900
## GnRH signaling pathway	0.266300
## Graft-versus-host disease	-0.327500
## Hedgehog signaling pathway	0.034570
## Hepatitis B	0.304000
## Hepatitis C	0.397800
## Herpes simplex infection	0.296600
## HIF-1 signaling pathway	0.505800
## Histidine metabolism	-0.367200
## Huntington's disease	0.779900
## Hypertrophic cardiomyopathy (HCM)	0.194100
## Inflammatory bowel disease (IBD)	-0.182600
## Inflammatory mediator regulation of TRP channels	0.097080
## Influenza A	0.290000
## Inositol phosphate metabolism	0.949800
## Insulin resistance	0.328200
## Insulin secretion	-0.153300
## Insulin signaling pathway	0.431000
## Intestinal immune network for IgA production	-0.215700
## Legionellosis	-0.090740
## Leishmaniasis	-0.070420
## Leukocyte transendothelial migration	0.099990
## Linoleic acid metabolism	-1.231000
## Lipoic acid metabolism	-0.202000
## Long-term depression	0.146400
## Long-term potentiation	0.176700
## Lysine biosynthesis	-0.103400
## Lysine degradation	0.622100
## Malaria	-0.285600

## Maturity onset diabetes of the young	-0.206800
## Measles	0.178700
## Melanogenesis	0.104500
## Melanoma	0.243300
## Metabolism of xenobiotics by cytochrome P450	-1.242000
## Mineral absorption	-0.057190
## Morphine addiction	-0.442100
## mTOR signaling pathway	0.272300
## Mucin type O-Glycan biosynthesis	-0.530900
## Natural killer cell mediated cytotoxicity	0.013510
## Neuroactive ligand-receptor interaction	-0.447500
## Neurotrophin signaling pathway	0.296000
## NF-kappa B signaling pathway	0.154500
## N-Glycan biosynthesis	0.570700
## Nicotinate and nicotinamide metabolism	-0.147700
## Nitrogen metabolism	0.601700
## NOD-like receptor signaling pathway	0.201400
## Non-alcoholic fatty liver disease (NAFLD)	0.184800
## Non-small cell lung cancer	0.465700
## Notch signaling pathway	0.203900
## One carbon pool by folate	0.877700
## Oocyte meiosis	0.687000
## Osteoclast differentiation	0.104700
## Ovarian steroidogenesis	-0.028140
## Oxidative phosphorylation	0.465600
## p53 signaling pathway	0.315700
## Pancreatic cancer	0.455200
## Pancreatic secretion	0.021750
## Pantothenate and CoA biosynthesis	0.103200
## Parkinson's disease	0.143600
## Pathogenic Escherichia coli infection	0.256600
## Pentose and glucuronate interconversions	-0.326600
## Pentose phosphate pathway	0.069200
## Pertussis	0.047410
## Phenylalanine metabolism	-0.120500
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.331800
## Phosphatidylinositol signaling system	1.082000
## Phototransduction	-0.471800
## Platelet activation	0.229900
## Porphyrin and chlorophyll metabolism	-0.038650
## Primary bile acid biosynthesis	-0.318600
## Prion diseases	0.301700
## Progesterone-mediated oocyte maturation	0.207800
## Prolactin signaling pathway	0.325700
## Propanoate metabolism	0.377900
## Prostate cancer	0.434400
## Proximal tubule bicarbonate reclamation	0.166500
## Pyrimidine metabolism	1.864000
## Pyruvate metabolism	0.421600
## Regulation of lipolysis in adipocytes	0.196200
## Renal cell carcinoma	0.372200
## Renin-angiotensin system	-0.205500
## Renin secretion	0.168700
## Retinol metabolism	-1.871000

## Retrograde endocannabinoid signaling	-0.130200
## Rheumatoid arthritis	-0.207000
## Riboflavin metabolism	0.326500
## RIG-I-like receptor signaling pathway	0.252100
## Salivary secretion	0.034640
## Salmonella infection	0.387500
## Selenocompound metabolism	0.325900
## Serotonergic synapse	-0.147400
## Shigellosis	0.338400
## Signaling pathways regulating pluripotency of stem cells	0.276600
## Small cell lung cancer	0.549100
## Sphingolipid metabolism	0.634100
## Sphingolipid signaling pathway	0.363700
## Staphylococcus aureus infection	-0.231200
## Starch and sucrose metabolism	0.086230
## Steroid biosynthesis	0.351000
## Steroid hormone biosynthesis	-1.139000
## Sulfur metabolism	0.506400
## Synaptic vesicle cycle	0.558000
## Synthesis and degradation of ketone bodies	0.062040
## Systemic lupus erythematosus	-0.329800
## Taste transduction	-0.058900
## Taurine and hypotaurine metabolism	-0.358000
## T cell receptor signaling pathway	0.163000
## Terpenoid backbone biosynthesis	0.353500
## TGF-beta signaling pathway	0.302100
## Thiamine metabolism	0.078490
## Thyroid cancer	0.319900
## Thyroid hormone signaling pathway	0.575200
## Thyroid hormone synthesis	-0.067000
## Tight junction	0.316800
## TNF signaling pathway	0.286300
## Toll-like receptor signaling pathway	0.087530
## Toxoplasmosis	0.284300
## Transcriptional misregulation in cancer	0.086470
## Tryptophan metabolism	-0.298700
## Type I diabetes mellitus	-0.421500
## Type II diabetes mellitus	0.142100
## Tyrosine metabolism	-0.386100
## Ubiquinone and other terpenoid-quinone biosynthesis	0.271800
## Valine, leucine and isoleucine degradation	0.466300
## Vascular smooth muscle contraction	0.129600
## Vasopressin-regulated water reabsorption	-0.064550
## VEGF signaling pathway	0.246100
## Vibrio cholerae infection	0.321900
## Viral carcinogenesis	0.337500
## Viral myocarditis	0.132000
## Vitamin B6 metabolism	0.002633
## Vitamin digestion and absorption	-0.449500
## Wnt signaling pathway	0.116200
##	sample.1st.Q
u.	
## Acute myeloid leukemia	0.431
00	

## Adherens junction	0.564
80	
## Adipocytokine signaling pathway	0.236
00	
## Adrenergic signaling in cardiomyocytes	-0.304
70	
## African trypanosomiasis	-0.246
40	
## Alanine, aspartate and glutamate metabolism	0.561
60	
## Aldosterone-regulated sodium reabsorption	0.125
40	
## Aldosterone synthesis and secretion	0.169
00	
## Allograft rejection	-0.413
60	
## alpha-Linolenic acid metabolism	0.012
79	
## Alzheimer's disease	0.302
10	
## Aminoacyl-tRNA biosynthesis	0.269
00	
## Amino sugar and nucleotide sugar metabolism	0.413
10	
## Amoebiasis	-0.077
63	
## Amphetamine addiction	-0.079
70	
## AMPK signaling pathway	0.468
30	
## Amyotrophic lateral sclerosis (ALS)	0.181
90	
## Antigen processing and presentation	-0.149
00	
## Apoptosis	0.198
60	
## Arachidonic acid metabolism	-0.896
00	
## Arginine and proline metabolism	-0.059
43	
## Arginine biosynthesis	0.241
60	
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.311
30	
## Ascorbate and aldarate metabolism	-0.569
60	
## Asthma	-0.424
20	
## Autoimmune thyroid disease	-0.413
60	
## Axon guidance	0.242
50	
## Bacterial invasion of epithelial cells	0.463
10	

## Basal cell carcinoma	0.041
87	
## B cell receptor signaling pathway	0.135
20	
## beta-Alanine metabolism	-0.249
60	
## Bile secretion	-0.049
29	
## Biotin metabolism	0.250
70	
## Bladder cancer	0.435
60	
## Butanoate metabolism	0.198
50	
## Caffeine metabolism	-0.400
70	
## Carbohydrate digestion and absorption	0.038
26	
## Cardiac muscle contraction	-0.201
60	
## Cell adhesion molecules (CAMs)	-0.240
60	
## Cell cycle	0.928
90	
## Chagas disease (American trypanosomiasis)	0.290
20	
## Chemical carcinogenesis	-0.822
80	
## Choline metabolism in cancer	0.310
70	
## Cholinergic synapse	0.138
70	
## Chronic myeloid leukemia	0.551
00	
## Circadian entrainment	-0.048
35	
## Circadian rhythm	0.515
30	
## Citrate cycle (TCA cycle)	0.916
90	
## Cocaine addiction	-0.003
67	
## Colorectal cancer	0.395
40	
## Complement and coagulation cascades	-0.223
70	
## Cysteine and methionine metabolism	0.508
50	
## Cytosolic DNA-sensing pathway	0.220
10	
## D-Glutamine and D-glutamate metabolism	0.332
90	
## Dilated cardiomyopathy	0.086
11	

## Dopaminergic synapse	0.030
35	
## Dorso-ventral axis formation	0.275
60	
## Drug metabolism - cytochrome P450	-0.437
30	
## Drug metabolism - other enzymes	0.067
98	
## ECM-receptor interaction	0.155
30	
## Endocrine and other factor-regulated calcium reabsorption	-0.119
60	
## Endometrial cancer	0.494
40	
## Epithelial cell signaling in Helicobacter pylori infection	0.165
60	
## Epstein-Barr virus infection	0.366
10	
## ErbB signaling pathway	0.327
90	
## Estrogen signaling pathway	0.163
80	
## Ether lipid metabolism	0.055
59	
## Fat digestion and absorption	0.311
50	
## Fatty acid biosynthesis	0.352
80	
## Fatty acid degradation	0.550
90	
## Fatty acid elongation	0.279
40	
## Fc epsilon RI signaling pathway	0.212
00	
## Fc gamma R-mediated phagocytosis	0.348
70	
## Folate biosynthesis	0.265
90	
## FoxO signaling pathway	0.309
50	
## Fructose and mannose metabolism	0.422
70	
## GABAergic synapse	-0.483
40	
## Galactose metabolism	0.362
90	
## Gap junction	0.122
60	
## Gastric acid secretion	0.170
20	
## Glioma	0.382
80	
## Glucagon signaling pathway	0.365
00	

## Glutamatergic synapse	-0.176
40	
## Glutathione metabolism	0.367
70	
## Glycerolipid metabolism	0.594
40	
## Glycerophospholipid metabolism	0.698
60	
## Glycine, serine and threonine metabolism	-0.089
87	
## Glycolysis / Gluconeogenesis	0.508
70	
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.408
30	
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.357
50	
## Glycosaminoglycan degradation	0.348
70	
## Glycosphingolipid biosynthesis - ganglio series	0.252
30	
## Glycosphingolipid biosynthesis - globo series	-0.089
43	
## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.309
70	
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.409
40	
## Glyoxylate and dicarboxylate metabolism	0.231
60	
## GnRH signaling pathway	0.283
60	
## Graft-versus-host disease	-0.323
70	
## Hedgehog signaling pathway	0.042
21	
## Hepatitis B	0.310
00	
## Hepatitis C	0.402
70	
## Herpes simplex infection	0.296
70	
## HIF-1 signaling pathway	0.510
50	
## Histidine metabolism	-0.358
10	
## Huntington's disease	0.787
70	
## Hypertrophic cardiomyopathy (HCM)	0.201
20	
## Inflammatory bowel disease (IBD)	-0.176
20	
## Inflammatory mediator regulation of TRP channels	0.124
10	
## Influenza A	0.293
70	

## Inositol phosphate metabolism	1.011
00	0.338
## Insulin resistance	-0.127
70	
## Insulin secretion	0.438
50	
## Insulin signaling pathway	-0.202
00	
## Intestinal immune network for IgA production	-0.086
20	
## Legionellosis	-0.062
80	
## Leishmaniasis	0.113
80	
## Leukocyte transendothelial migration	-1.230
20	
## Linoleic acid metabolism	-0.150
00	
## Lipoic acid metabolism	0.165
80	
## Long-term depression	0.213
40	
## Long-term potentiation	-0.102
70	
## Lysine biosynthesis	0.631
50	
## Lysine degradation	-0.197
20	
## Malaria	0.283
90	
## Maturity onset diabetes of the young	-0.195
60	
## Measles	-1.177
60	
## Melanogenesis	0.180
40	
## Melanoma	-0.049
80	
## Metabolism of xenobiotics by cytochrome P450	-0.341
00	
## Mineral absorption	0.018
13	
## Morphine addiction	-0.445
10	
## mTOR signaling pathway	0.306
80	
## Mucin type O-Glycan biosynthesis	0.279
70	
## Natural killer cell mediated cytotoxicity	-0.504
17	
## Neuroactive ligand-receptor interaction	0.018
40	
## Neurotrophin signaling pathway	-0.445
00	

## NF-kappa B signaling pathway	0.164
30	
## N-Glycan biosynthesis	0.577
90	
## Nicotinate and nicotinamide metabolism	-0.095
79	
## Nitrogen metabolism	0.606
40	
## NOD-like receptor signaling pathway	0.219
70	
## Non-alcoholic fatty liver disease (NAFLD)	0.202
90	
## Non-small cell lung cancer	0.480
30	
## Notch signaling pathway	0.356
10	
## One carbon pool by folate	0.957
00	
## Oocyte meiosis	0.689
10	
## Osteoclast differentiation	0.110
50	
## Ovarian steroidogenesis	-0.012
85	
## Oxidative phosphorylation	0.475
90	
## p53 signaling pathway	0.331
40	
## Pancreatic cancer	0.476
40	
## Pancreatic secretion	0.029
96	
## Pantothenate and CoA biosynthesis	0.108
80	
## Parkinson's disease	0.195
80	
## Pathogenic Escherichia coli infection	0.268
20	
## Pentose and glucuronate interconversions	-0.303
50	
## Pentose phosphate pathway	0.100
60	
## Pertussis	0.078
29	
## Phenylalanine metabolism	-0.118
60	
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.337
90	
## Phosphatidylinositol signaling system	1.259
00	
## Phototransduction	-0.416
50	
## Platelet activation	0.236
20	

## Porphyrin and chlorophyll metabolism	-0.019
67	
## Primary bile acid biosynthesis	-0.288
20	
## Prion diseases	0.302
40	
## Progesterone-mediated oocyte maturation	0.238
90	
## Prolactin signaling pathway	0.333
60	
## Propionate metabolism	0.394
60	
## Prostate cancer	0.466
10	
## Proximal tubule bicarbonate reclamation	0.169
30	
## Pyrimidine metabolism	1.905
00	
## Pyruvate metabolism	0.434
80	
## Regulation of lipolysis in adipocytes	0.203
10	
## Renal cell carcinoma	0.393
70	
## Renin-angiotensin system	-0.163
10	
## Renin secretion	0.206
30	
## Retinol metabolism	-1.834
00	
## Retrograde endocannabinoid signaling	-0.087
89	
## Rheumatoid arthritis	-0.171
30	
## Riboflavin metabolism	0.330
30	
## RIG-I-like receptor signaling pathway	0.261
40	
## Salivary secretion	0.054
59	
## Salmonella infection	0.392
00	
## Selenocompound metabolism	0.328
40	
## Serotonergic synapse	-0.130
90	
## Shigellosis	0.342
20	
## Signaling pathways regulating pluripotency of stem cells	0.292
10	
## Small cell lung cancer	0.571
90	
## Sphingolipid metabolism	0.645
70	

## Sphingolipid signaling pathway	0.390
90	
## Staphylococcus aureus infection	-0.176
20	
## Starch and sucrose metabolism	0.140
50	
## Steroid biosynthesis	0.356
30	
## Steroid hormone biosynthesis	-1.125
00	
## Sulfur metabolism	0.506
90	
## Synaptic vesicle cycle	0.565
80	
## Synthesis and degradation of ketone bodies	0.095
97	
## Systemic lupus erythematosus	-0.320
40	
## Taste transduction	-0.053
62	
## Taurine and hypotaurine metabolism	-0.336
40	
## T cell receptor signaling pathway	0.165
30	
## Terpenoid backbone biosynthesis	0.371
80	
## TGF-beta signaling pathway	0.310
10	
## Thiamine metabolism	0.107
80	
## Thyroid cancer	0.325
30	
## Thyroid hormone signaling pathway	0.586
10	
## Thyroid hormone synthesis	-0.018
00	
## Tight junction	0.322
90	
## TNF signaling pathway	0.294
30	
## Toll-like receptor signaling pathway	0.097
49	
## Toxoplasmosis	0.287
80	
## Transcriptional misregulation in cancer	0.102
20	
## Tryptophan metabolism	-0.285
20	
## Type I diabetes mellitus	-0.418
40	
## Type II diabetes mellitus	0.162
30	
## Tyrosine metabolism	-0.379
10	

## Ubiquinone and other terpenoid-quinone biosynthesis	0.278
30	
## Valine, leucine and isoleucine degradation	0.520
10	
## Vascular smooth muscle contraction	0.149
00	
## Vasopressin-regulated water reabsorption	-0.063
79	
## VEGF signaling pathway	0.250
30	
## Vibrio cholerae infection	0.344
00	
## Viral carcinogenesis	0.344
90	
## Viral myocarditis	0.132
00	
## Vitamin B6 metabolism	0.036
00	
## Vitamin digestion and absorption	-0.437
10	
## Wnt signaling pathway	0.126
90	
##	sample.Media
n	
## Acute myeloid leukemia	0.43720
0	
## Adherens junction	0.57350
0	
## Adipocytokine signaling pathway	0.24710
0	
## Adrenergic signaling in cardiomyocytes	-0.24890
0	
## African trypanosomiasis	-0.21110
0	
## Alanine, aspartate and glutamate metabolism	0.58480
0	
## Aldosterone-regulated sodium reabsorption	0.15270
0	
## Aldosterone synthesis and secretion	0.17640
0	
## Allograft rejection	-0.41020
0	
## alpha-Linolenic acid metabolism	0.02335
0	
## Alzheimer's disease	0.30450
0	
## Aminoacyl-tRNA biosynthesis	0.29420
0	
## Amino sugar and nucleotide sugar metabolism	0.43170
0	
## Amoebiasis	-0.06969
0	
## Amphetamine addiction	-0.05659
0	

## AMPK signaling pathway	0.47430
0	
## Amyotrophic lateral sclerosis (ALS)	0.18580
0	
## Antigen processing and presentation	-0.12720
0	
## Apoptosis	0.20700
0	
## Arachidonic acid metabolism	-0.85310
0	
## Arginine and proline metabolism	-0.03916
0	
## Arginine biosynthesis	0.26840
0	
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.33760
0	
## Ascorbate and aldarate metabolism	-0.54180
0	
## Asthma	-0.40880
0	
## Autoimmune thyroid disease	-0.41020
0	
## Axon guidance	0.26450
0	
## Bacterial invasion of epithelial cells	0.48040
0	
## Basal cell carcinoma	0.04618
0	
## B cell receptor signaling pathway	0.14610
0	
## beta-Alanine metabolism	-0.22380
0	
## Bile secretion	-0.03773
0	
## Biotin metabolism	0.25730
0	
## Bladder cancer	0.44390
0	
## Butanoate metabolism	0.20730
0	
## Caffeine metabolism	-0.39380
0	
## Carbohydrate digestion and absorption	0.06503
0	
## Cardiac muscle contraction	-0.18560
0	
## Cell adhesion molecules (CAMs)	-0.22480
0	
## Cell cycle	0.94990
0	
## Chagas disease (American trypanosomiasis)	0.29740
0	
## Chemical carcinogenesis	-0.80140
0	

## Choline metabolism in cancer	0.31640
0	0.17930
## Cholinergic synapse	0.56300
0	-0.04096
## Chronic myeloid leukemia	0.51730
0	0.92070
## Circadian entrainment	0.02078
0	0.40480
## Citrate cycle (TCA cycle)	0.53160
0	-0.19860
## Cocaine addiction	0.23620
0	0.34350
## Colorectal cancer	0.11100
0	0.04655
## Complement and coagulation cascades	0.08136
0	0.29240
## Cysteine and methionine metabolism	0.19150
0	-0.43440
## Cytosolic DNA-sensing pathway	0.09862
0	0.51170
## Dilated cardiomyopathy	0.17350
0	0.36970
## Dopaminergic synapse	0.35400
0	0.18710
## Dorso-ventral axis formation	0.09405
0	0.31840
## Drug metabolism - cytochrome P450	0.36370
0	0.56300
## Drug metabolism - other enzymes	0.51730
0	-0.04096
## ECM-receptor interaction	0.31640
0	0.17930
## Endocrine and other factor-regulated calcium reabsorption	0.56300
0	-0.04096
## Endometrial cancer	0.51730
0	0.92070
## Epithelial cell signaling in Helicobacter pylori infection	0.02078
0	0.40480
## Epstein-Barr virus infection	0.53160
0	-0.19860
## ErbB signaling pathway	0.23620
0	0.11100
## Estrogen signaling pathway	0.04655
0	0.29240
## Ether lipid metabolism	0.08136
0	-0.43440
## Fat digestion and absorption	0.19150
0	0.51170
## Fatty acid biosynthesis	0.36370
0	0.17350

## Fatty acid degradation	0.57160
0	
## Fatty acid elongation	0.29290
0	
## Fc epsilon RI signaling pathway	0.22490
0	
## Fc gamma R-mediated phagocytosis	0.35180
0	
## Folate biosynthesis	0.27570
0	
## FoxO signaling pathway	0.31030
0	
## Fructose and mannose metabolism	0.46250
0	
## GABAergic synapse	-0.41800
0	
## Galactose metabolism	0.36700
0	
## Gap junction	0.12970
0	
## Gastric acid secretion	0.19130
0	
## Glioma	0.40910
0	
## Glucagon signaling pathway	0.39200
0	
## Glutamatergic synapse	-0.13270
0	
## Glutathione metabolism	0.37200
0	
## Glycerolipid metabolism	0.60850
0	
## Glycerophospholipid metabolism	0.73400
0	
## Glycine, serine and threonine metabolism	-0.03960
0	
## Glycolysis / Gluconeogenesis	0.53300
0	
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.42160
0	
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.40250
0	
## Glycosaminoglycan degradation	0.37070
0	
## Glycosphingolipid biosynthesis - ganglio series	0.25670
0	
## Glycosphingolipid biosynthesis - globo series	-0.08547
0	
## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.26290
0	
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.43310
0	
## Glyoxylate and dicarboxylate metabolism	0.24650
0	

## GnRH signaling pathway	0.29170
0	-0.31120
## Graft-versus-host disease	0.04697
0	0.31830
## Hedgehog signaling pathway	0.40450
0	0.30850
## Hepatitis B	0.51720
0	-0.35410
## Hepatitis C	0.80060
0	0.20440
## Herpes simplex infection	-0.16950
0	0.13680
## HIF-1 signaling pathway	0.30990
0	1.04800
## Huntington's disease	-0.11220
0	0.45060
## Hypertrophic cardiomyopathy (HCM)	-0.19710
0	-0.08303
## Inflammatory bowel disease (IBD)	0.12040
0	-0.05156
## Inflammatory mediator regulation of TRP channels	-1.22900
0	-0.11060
## Influenza A	0.20000
0	0.24230
## Inositol phosphate metabolism	-0.09321
0	0.63560
## Insulin resistance	0.04410
0	0.40450
## Insulin secretion	0.29170
0	-0.31120
## Insulin signaling pathway	-0.35410
0	0.04697
## Intestinal immune network for IgA production	0.80060
0	0.51720
## Legionellosis	-0.16950
0	0.30850
## Leishmaniasis	0.31830
0	-0.31120
## Leukocyte transendothelial migration	0.40450
0	0.29170
## Linoleic acid metabolism	-0.09321
0	0.04697
## Lipoic acid metabolism	0.24230
0	0.63560
## Long-term depression	-0.11060
0	0.20000
## Long-term potentiation	0.20000
0	0.04410
## Lysine biosynthesis	-0.31120
0	0.29170
## Lysine degradation	0.31830
0	-0.35410

## Malaria	-0.16380
0	
## Maturity onset diabetes of the young	-0.17240
0	
## Measles	0.18400
0	
## Melanogenesis	0.12600
0	
## Melanoma	0.30230
0	
## Metabolism of xenobiotics by cytochrome P450	-1.11300
0	
## Mineral absorption	-0.03299
0	
## Morphine addiction	-0.27700
0	
## mTOR signaling pathway	0.28890
0	
## Mucin type O-Glycan biosynthesis	-0.45540
0	
## Natural killer cell mediated cytotoxicity	0.02495
0	
## Neuroactive ligand-receptor interaction	-0.40690
0	
## Neurotrophin signaling pathway	0.32120
0	
## NF-kappa B signaling pathway	0.17370
0	
## N-Glycan biosynthesis	0.64450
0	
## Nicotinate and nicotinamide metabolism	-0.06648
0	
## Nitrogen metabolism	0.61350
0	
## NOD-like receptor signaling pathway	0.22870
0	
## Non-alcoholic fatty liver disease (NAFLD)	0.21320
0	
## Non-small cell lung cancer	0.49510
0	
## Notch signaling pathway	0.41840
0	
## One carbon pool by folate	0.99070
0	
## Oocyte meiosis	0.70430
0	
## Osteoclast differentiation	0.11340
0	
## Ovarian steroidogenesis	0.02073
0	
## Oxidative phosphorylation	0.48080
0	
## p53 signaling pathway	0.33730
0	

## Pancreatic cancer	0.48400
0	0.06070
## Pancreatic secretion	0.11160
0	0.21510
## Pantothenate and CoA biosynthesis	0.30100
0	-0.28510
## Pathogenic Escherichia coli infection	0.19860
0	0.08916
## Pertussis	-0.10630
0	0.34160
## Phenylalanine metabolism	1.32600
0	-0.36210
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.24760
0	-0.00947
## Phosphatidylinositol signaling system	-0.27220
0	0.31070
## Phototransduction	0.25160
0	0.33670
## Platelet activation	0.40170
0	0.47760
## Porphyrin and chlorophyll metabolism	0.17680
9	1.92000
## Primary bile acid biosynthesis	0.47350
0	0.20840
## Prion diseases	0.41460
0	-0.13660
## Progesterone-mediated oocyte maturation	0.21950
0	0.44600
## Prolactin signaling pathway	0.44600
0	0.44600
## Propanoate metabolism	0.44600
0	0.44600
## Prostate cancer	0.44600
0	0.44600
## Proximal tubule bicarbonate reclamation	0.44600
0	0.44600
## Pyrimidine metabolism	0.44600
0	0.44600
## Pyruvate metabolism	0.44600
0	0.44600
## Regulation of lipolysis in adipocytes	0.44600
0	0.44600
## Renal cell carcinoma	0.44600
0	0.44600
## Renin-angiotensin system	0.44600
0	0.44600
## Renin secretion	0.44600
0	0.44600

## Retinol metabolism	-1.81400
0	-0.04233
## Retrograde endocannabinoid signaling	-0.15110
0	0.35580
## Rheumatoid arthritis	0.27500
0	0.06139
## Riboflavin metabolism	0.41610
0	0.34410
## RIG-I-like receptor signaling pathway	0.32240
0	0.60410
## Salivary secretion	0.37250
0	0.40790
## Salmonella infection	-0.15550
0	0.16700
## Selenocompound metabolism	0.38250
0	-1.04400
## Serotonergic synapse	0.52330
0	0.58060
## Shigellosis	0.11180
0	-0.30340
## Signaling pathways regulating pluripotency of stem cells	-0.05161
0	-0.31480
## Small cell lung cancer	0.38580
0	0.17250
## Sphingolipid metabolism	0.31660
0	0.29230
## Sphingolipid signaling pathway	0.06139
0	0.31660
## Staphylococcus aureus infection	0.31660
0	0.31660
## Starch and sucrose metabolism	0.31660
0	0.31660
## Steroid biosynthesis	0.31660
0	0.31660
## Steroid hormone biosynthesis	0.31660
0	0.31660
## Sulfur metabolism	0.31660
0	0.31660
## Synaptic vesicle cycle	0.31660
0	0.31660
## Synthesis and degradation of ketone bodies	0.31660
0	0.31660
## Systemic lupus erythematosus	0.31660
0	0.31660
## Taste transduction	0.31660
0	0.31660
## Taurine and hypotaurine metabolism	0.31660
0	0.31660
## T cell receptor signaling pathway	0.31660
0	0.31660
## Terpenoid backbone biosynthesis	0.31660
0	0.31660
## TGF-beta signaling pathway	0.31660
0	0.31660

## Thiamine metabolism	0.12500
0	
## Thyroid cancer	0.33830
0	
## Thyroid hormone signaling pathway	0.60670
0	
## Thyroid hormone synthesis	0.00346
5	
## Tight junction	0.33370
0	
## TNF signaling pathway	0.29870
0	
## Toll-like receptor signaling pathway	0.10340
0	
## Toxoplasmosis	0.29240
0	
## Transcriptional misregulation in cancer	0.11320
0	
## Tryptophan metabolism	-0.27890
0	
## Type I diabetes mellitus	-0.40530
0	
## Type II diabetes mellitus	0.17330
0	
## Tyrosine metabolism	-0.35240
0	
## Ubiquinone and other terpenoid-quinone biosynthesis	0.29280
0	
## Valine, leucine and isoleucine degradation	0.54720
0	
## Vascular smooth muscle contraction	0.16690
0	
## Vasopressin-regulated water reabsorption	-0.04381
0	
## VEGF signaling pathway	0.26760
0	
## Vibrio cholerae infection	0.36460
0	
## Viral carcinogenesis	0.34900
0	
## Viral myocarditis	0.14740
0	
## Vitamin B6 metabolism	0.05365
0	
## Vitamin digestion and absorption	-0.42560
0	
## Wnt signaling pathway	0.14010
0	
##	sample.Mean
## Acute myeloid leukemia	0.433400
## Adherens junction	0.567800
## Adipocytokine signaling pathway	0.244500
## Adrenergic signaling in cardiomyocytes	-0.267400
## African trypanosomiasis	-0.208600

## Alanine, aspartate and glutamate metabolism	0.580500
## Aldosterone-regulated sodium reabsorption	0.152200
## Aldosterone synthesis and secretion	0.170600
## Allograft rejection	-0.398600
## alpha-Linolenic acid metabolism	0.030850
## Alzheimer's disease	0.306100
## Aminoacyl-tRNA biosynthesis	0.283200
## Amino sugar and nucleotide sugar metabolism	0.424300
## Amoebiasis	-0.067970
## Amphetamine addiction	-0.057190
## AMPK signaling pathway	0.476900
## Amyotrophic lateral sclerosis (ALS)	0.188000
## Antigen processing and presentation	-0.131700
## Apoptosis	0.201300
## Arachidonic acid metabolism	-0.855000
## Arginine and proline metabolism	-0.046430
## Arginine biosynthesis	0.260200
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.317000
## Ascorbate and aldarate metabolism	-0.557300
## Asthma	-0.407000
## Autoimmune thyroid disease	-0.398600
## Axon guidance	0.254800
## Bacterial invasion of epithelial cells	0.479000
## Basal cell carcinoma	0.058910
## B cell receptor signaling pathway	0.140900
## beta-Alanine metabolism	-0.210000
## Bile secretion	-0.028470
## Biotin metabolism	0.259000
## Bladder cancer	0.447200
## Butanoate metabolism	0.201800
## Caffeine metabolism	-0.390400
## Carbohydrate digestion and absorption	0.070840
## Cardiac muscle contraction	-0.192300
## Cell adhesion molecules (CAMs)	-0.222600
## Cell cycle	0.952600
## Chagas disease (American trypanosomiasis)	0.297900
## Chemical carcinogenesis	-0.798200
## Choline metabolism in cancer	0.316500
## Cholinergic synapse	0.173600
## Chronic myeloid leukemia	0.565400
## Circadian entrainment	-0.032680
## Circadian rhythm	0.519500
## Citrate cycle (TCA cycle)	0.921000
## Cocaine addiction	0.007941
## Colorectal cancer	0.403100
## Complement and coagulation cascades	-0.200500
## Cysteine and methionine metabolism	0.522700
## Cytosolic DNA-sensing pathway	0.234300
## D-Glutamine and D-glutamate metabolism	0.343600
## Dilated cardiomyopathy	0.120000
## Dopaminergic synapse	0.040610
## Dorso-ventral axis formation	0.290400
## Drug metabolism - cytochrome P450	-0.433400
## Drug metabolism - other enzymes	0.069820

## ECM-receptor interaction	0.222200
## Endocrine and other factor-regulated calcium reabsorption	-0.112500
## Endometrial cancer	0.512100
## Epithelial cell signaling in Helicobacter pylori infection	0.175500
## Epstein-Barr virus infection	0.368400
## ErbB signaling pathway	0.354500
## Estrogen signaling pathway	0.178300
## Ether lipid metabolism	0.128800
## Fat digestion and absorption	0.316700
## Fatty acid biosynthesis	0.364600
## Fatty acid degradation	0.569100
## Fatty acid elongation	0.295100
## Fc epsilon RI signaling pathway	0.222700
## Fc gamma R-mediated phagocytosis	0.353900
## Folate biosynthesis	0.277000
## FoxO signaling pathway	0.312300
## Fructose and mannose metabolism	0.458200
## GABAergic synapse	-0.429500
## Galactose metabolism	0.405400
## Gap junction	0.129100
## Gastric acid secretion	0.190500
## Glioma	0.408800
## Glucagon signaling pathway	0.385800
## Glutamatergic synapse	-0.150700
## Glutathione metabolism	0.383200
## Glycerolipid metabolism	0.620200
## Glycerophospholipid metabolism	0.761900
## Glycine, serine and threonine metabolism	-0.047450
## Glycolysis / Gluconeogenesis	0.535000
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.423200
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.385700
## Glycosaminoglycan degradation	0.370500
## Glycosphingolipid biosynthesis - ganglio series	0.255100
## Glycosphingolipid biosynthesis - globo series	-0.085650
## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.258400
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.437100
## Glyoxylate and dicarboxylate metabolism	0.236700
## GnRH signaling pathway	0.286200
## Graft-versus-host disease	-0.309500
## Hedgehog signaling pathway	0.052110
## Hepatitis B	0.319300
## Hepatitis C	0.407600
## Herpes simplex infection	0.312000
## HIF-1 signaling pathway	0.523800
## Histidine metabolism	-0.353400
## Huntington's disease	0.802800
## Hypertrophic cardiomyopathy (HCM)	0.205600
## Inflammatory bowel disease (IBD)	-0.170700
## Inflammatory mediator regulation of TRP channels	0.131100
## Influenza A	0.310800
## Inositol phosphate metabolism	1.031000
## Insulin resistance	0.344400
## Insulin secretion	-0.112800
## Insulin signaling pathway	0.448300

## Intestinal immune network for IgA production	-0.200200
## Legionellosis	-0.082330
## Leishmaniasis	-0.052330
## Leukocyte transendothelial migration	0.125100
## Linoleic acid metabolism	-1.218000
## Lipoic acid metabolism	-0.123900
## Long-term depression	0.195000
## Long-term potentiation	0.230700
## Lysine biosynthesis	-0.053640
## Lysine degradation	0.635000
## Malaria	-0.177200
## Maturity onset diabetes of the young	-0.175900
## Measles	0.185300
## Melanogenesis	0.129200
## Melanoma	0.334300
## Metabolism of xenobiotics by cytochrome P450	-1.132000
## Mineral absorption	-0.034030
## Morphine addiction	-0.288000
## mTOR signaling pathway	0.288400
## Mucin type O-Glycan biosynthesis	-0.440200
## Natural killer cell mediated cytotoxicity	0.029310
## Neuroactive ligand-receptor interaction	-0.407300
## Neurotrophin signaling pathway	0.320900
## NF-kappa B signaling pathway	0.175300
## N-Glycan biosynthesis	0.645400
## Nicotinate and nicotinamide metabolism	-0.079760
## Nitrogen metabolism	0.612100
## NOD-like receptor signaling pathway	0.226900
## Non-alcoholic fatty liver disease (NAFLD)	0.214500
## Non-small cell lung cancer	0.492400
## Notch signaling pathway	0.374100
## One carbon pool by folate	0.971600
## Oocyte meiosis	0.711000
## Osteoclast differentiation	0.115900
## Ovarian steroidogenesis	0.025790
## Oxidative phosphorylation	0.478900
## p53 signaling pathway	0.335900
## Pancreatic cancer	0.480500
## Pancreatic secretion	0.073910
## Pantothenate and CoA biosynthesis	0.111500
## Parkinson's disease	0.202300
## Pathogenic Escherichia coli infection	0.297200
## Pentose and glucuronate interconversions	-0.285400
## Pentose phosphate pathway	0.228500
## Pertussis	0.086340
## Phenylalanine metabolism	-0.104500
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.340300
## Phosphatidylinositol signaling system	1.276000
## Phototransduction	-0.374500
## Platelet activation	0.250100
## Porphyrin and chlorophyll metabolism	-0.010990
## Primary bile acid biosynthesis	-0.275700
## Prion diseases	0.319500
## Progesterone-mediated oocyte maturation	0.242500

## Prolactin signaling pathway	0.336700
## Propanoate metabolism	0.399300
## Prostate cancer	0.467100
## Proximal tubule bicarbonate reclamation	0.176100
## Pyrimidine metabolism	1.949000
## Pyruvate metabolism	0.474900
## Regulation of lipolysis in adipocytes	0.212400
## Renal cell carcinoma	0.413900
## Renin-angiotensin system	-0.083320
## Renin secretion	0.209900
## Retinol metabolism	-1.799000
## Retrograde endocannabinoid signaling	-0.034470
## Rheumatoid arthritis	-0.159200
## Riboflavin metabolism	0.355400
## RIG-I-like receptor signaling pathway	0.274600
## Salivary secretion	0.057850
## Salmonella infection	0.418400
## Selenocompound metabolism	0.349800
## Serotonergic synapse	-0.110300
## Shigellosis	0.379600
## Signaling pathways regulating pluripotency of stem cells	0.320600
## Small cell lung cancer	0.600600
## Sphingolipid metabolism	0.771700
## Sphingolipid signaling pathway	0.404600
## Staphylococcus aureus infection	-0.162100
## Starch and sucrose metabolism	0.150600
## Steroid biosynthesis	0.392800
## Steroid hormone biosynthesis	-1.034000
## Sulfur metabolism	0.524300
## Synaptic vesicle cycle	0.580600
## Synthesis and degradation of ketone bodies	0.109400
## Systemic lupus erythematosus	-0.293800
## Taste transduction	-0.050110
## Taurine and hypotaurine metabolism	-0.320000
## T cell receptor signaling pathway	0.174100
## Terpenoid backbone biosynthesis	0.381200
## TGF-beta signaling pathway	0.321000
## Thiamine metabolism	0.119500
## Thyroid cancer	0.339200
## Thyroid hormone signaling pathway	0.605300
## Thyroid hormone synthesis	-0.011980
## Tight junction	0.332100
## TNF signaling pathway	0.297400
## Toll-like receptor signaling pathway	0.103100
## Toxoplasmosis	0.293300
## Transcriptional misregulation in cancer	0.108300
## Tryptophan metabolism	-0.277500
## Type I diabetes mellitus	-0.394300
## Type II diabetes mellitus	0.169200
## Tyrosine metabolism	-0.344000
## Ubiquinone and other terpenoid-quinone biosynthesis	0.293500
## Valine, leucine and isoleucine degradation	0.533000
## Vascular smooth muscle contraction	0.161200
## Vasopressin-regulated water reabsorption	-0.017300

## VEGF signaling pathway	0.267000
## Vibrio cholerae infection	0.373300
## Viral carcinogenesis	0.350200
## Viral myocarditis	0.149900
## Vitamin B6 metabolism	0.062810
## Vitamin digestion and absorption	-0.426900
## Wnt signaling pathway	0.143300
##	sample.3rd.Q
u.	
## Acute myeloid leukemia	0.43970
00	
## Adherens junction	0.57650
00	
## Adipocytokine signaling pathway	0.25550
00	
## Adrenergic signaling in cardiomyocytes	-0.21150
00	
## African trypanosomiasis	-0.17320
00	
## Alanine, aspartate and glutamate metabolism	0.60360
00	
## Aldosterone-regulated sodium reabsorption	0.17960
00	
## Aldosterone synthesis and secretion	0.17800
00	
## Allograft rejection	-0.39520
00	
## alpha-Linolenic acid metabolism	0.04141
00	
## Alzheimer's disease	0.30860
00	
## Aminoacyl-tRNA biosynthesis	0.30840
00	
## Amino sugar and nucleotide sugar metabolism	0.44290
00	
## Amoebiasis	-0.06003
00	
## Amphetamine addiction	-0.03407
00	
## AMPK signaling pathway	0.48280
00	
## Amyotrophic lateral sclerosis (ALS)	0.19190
00	
## Antigen processing and presentation	-0.10990
00	
## Apoptosis	0.20970
00	
## Arachidonic acid metabolism	-0.81220
00	
## Arginine and proline metabolism	-0.02616
00	
## Arginine biosynthesis	0.28690
00	
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.34330

00	
## Ascorbate and aldarate metabolism	-0.52950
00	
## Asthma	-0.39160
00	
## Autoimmune thyroid disease	-0.39520
00	
## Axon guidance	0.27680
00	
## Bacterial invasion of epithelial cells	0.49630
00	
## Basal cell carcinoma	0.06321
00	
## B cell receptor signaling pathway	0.15180
00	
## beta-Alanine metabolism	-0.18410
00	
## Bile secretion	-0.01691
00	
## Biotin metabolism	0.26560
00	
## Bladder cancer	0.45550
00	
## Butanoate metabolism	0.21060
00	
## Caffeine metabolism	-0.38340
00	
## Carbohydrate digestion and absorption	0.09762
00	
## Cardiac muscle contraction	-0.17640
00	
## Cell adhesion molecules (CAMs)	-0.20680
00	
## Cell cycle	0.97370
00	
## Chagas disease (American trypanosomiasis)	0.30520
00	
## Chemical carcinogenesis	-0.77680
00	
## Choline metabolism in cancer	0.32230
00	
## Cholinergic synapse	0.21410
00	
## Chronic myeloid leukemia	0.57730
00	
## Circadian entrainment	-0.02529
00	
## Circadian rhythm	0.52160
00	
## Citrate cycle (TCA cycle)	0.92480
00	
## Cocaine addiction	0.03239
00	
## Colorectal cancer	0.41260

00		
## Complement and coagulation cascades		-0.17540
00		
## Cysteine and methionine metabolism		0.54580
00		
## Cytosolic DNA-sensing pathway		0.25040
00		
## D-Glutamine and D-glutamate metabolism		0.35420
00		
## Dilated cardiomyopathy		0.14490
00		
## Dopaminergic synapse		0.05680
00		
## Dorso-ventral axis formation		0.30720
00		
## Drug metabolism - cytochrome P450		-0.43050
00		
## Drug metabolism - other enzymes		0.08320
00		
## ECM-receptor interaction		0.25830
00		
## Endocrine and other factor-regulated calcium reabsorption		-0.09155
00		
## Endometrial cancer		0.52940
00		
## Epithelial cell signaling in Helicobacter pylori infection		0.18350
00		
## Epstein-Barr virus infection		0.37210
00		
## ErbB signaling pathway		0.38060
00		
## Estrogen signaling pathway		0.20160
00		
## Ether lipid metabolism		0.16730
00		
## Fat digestion and absorption		0.32350
00		
## Fatty acid biosynthesis		0.37550
00		
## Fatty acid degradation		0.58970
00		
## Fatty acid elongation		0.30860
00		
## Fc epsilon RI signaling pathway		0.23560
00		
## Fc gamma R-mediated phagocytosis		0.35700
00		
## Folate biosynthesis		0.28680
00		
## FoxO signaling pathway		0.31320
00		
## Fructose and mannose metabolism		0.49800
00		
## GABAergic synapse		-0.36420

00	
## Galactose metabolism	0.40940
00	
## Gap junction	0.13630
00	
## Gastric acid secretion	0.21160
00	
## Glioma	0.43510
00	
## Glucagon signaling pathway	0.41290
00	
## Glutamatergic synapse	-0.10700
00	
## Glutathione metabolism	0.38750
00	
## Glycerolipid metabolism	0.63440
00	
## Glycerophospholipid metabolism	0.79730
00	
## Glycine, serine and threonine metabolism	0.00282
30	
## Glycolysis / Gluconeogenesis	0.55930
00	
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.43650
00	
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.43070
00	
## Glycosaminoglycan degradation	0.39250
00	
## Glycosphingolipid biosynthesis - ganglio series	0.25950
00	
## Glycosphingolipid biosynthesis - globo series	-0.08170
00	
## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.21160
00	
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.46080
00	
## Glyoxylate and dicarboxylate metabolism	0.25170
00	
## GnRH signaling pathway	0.29430
00	
## Graft-versus-host disease	-0.29690
00	
## Hedgehog signaling pathway	0.05688
00	
## Hepatitis B	0.32770
00	
## Hepatitis C	0.40950
00	
## Herpes simplex infection	0.32380
00	
## HIF-1 signaling pathway	0.53050
00	
## Histidine metabolism	-0.34940

00	
## Huntington's disease	0.81570
00	
## Hypertrophic cardiomyopathy (HCM)	0.20880
00	
## Inflammatory bowel disease (IBD)	-0.16400
00	
## Inflammatory mediator regulation of TRP channels	0.14370
00	
## Influenza A	0.32700
00	
## Inositol phosphate metabolism	1.06700
00	
## Insulin resistance	0.34990
00	
## Insulin secretion	-0.09755
00	
## Insulin signaling pathway	0.46090
00	
## Intestinal immune network for IgA production	-0.19510
00	
## Legionellosis	-0.07856
00	
## Leishmaniasis	-0.04109
00	
## Leukocyte transendothelial migration	0.13230
00	
## Linoleic acid metabolism	-1.21700
00	
## Lipoic acid metabolism	-0.08363
00	
## Long-term depression	0.22960
00	
## Long-term potentiation	0.25920
00	
## Lysine biosynthesis	-0.04437
00	
## Lysine degradation	0.63930
00	
## Malaria	-0.14310
00	
## Maturity onset diabetes of the young	-0.15270
00	
## Measles	0.18870
00	
## Melanogenesis	0.14180
00	
## Melanoma	0.35280
00	
## Metabolism of xenobiotics by cytochrome P450	-1.06800
00	
## Mineral absorption	-0.01789
00	
## Morphine addiction	-0.22390

00	
## mTOR signaling pathway	0.29760
00	
## Mucin type O-Glycan biosynthesis	-0.39090
00	
## Natural killer cell mediated cytotoxicity	0.03610
00	
## Neuroactive ligand-receptor interaction	-0.36890
00	
## Neurotrophin signaling pathway	0.33620
00	
## NF-kappa B signaling pathway	0.18470
00	
## N-Glycan biosynthesis	0.71200
00	
## Nicotinate and nicotinamide metabolism	-0.05045
00	
## Nitrogen metabolism	0.61930
00	
## NOD-like receptor signaling pathway	0.23590
00	
## Non-alcoholic fatty liver disease (NAFLD)	0.22470
00	
## Non-small cell lung cancer	0.50720
00	
## Notch signaling pathway	0.43640
00	
## One carbon pool by folate	1.00500
00	
## Oocyte meiosis	0.72610
00	
## Osteoclast differentiation	0.11890
00	
## Ovarian steroidogenesis	0.05937
00	
## Oxidative phosphorylation	0.48380
00	
## p53 signaling pathway	0.34180
00	
## Pancreatic cancer	0.48810
00	
## Pancreatic secretion	0.10460
00	
## Pantothenate and CoA biosynthesis	0.11430
00	
## Parkinson's disease	0.22160
00	
## Pathogenic Escherichia coli infection	0.33000
00	
## Pentose and glucuronate interconversions	-0.26710
00	
## Pentose phosphate pathway	0.32650
00	
## Pertussis	0.09720

00		
## Phenylalanine metabolism		-0.09230
00		
## Phenylalanine, tyrosine and tryptophan biosynthesis		0.34400
00		
## Phosphatidylinositol signaling system		1.34300
00		
## Phototransduction		-0.32010
00		
## Platelet activation		0.26160
00		
## Porphyrin and chlorophyll metabolism		-0.00079
85		
## Primary bile acid biosynthesis		-0.25980
00		
## Prion diseases		0.32790
00		
## Progesterone-mediated oocyte maturation		0.25520
00		
## Prolactin signaling pathway		0.33970
00		
## Propionate metabolism		0.40630
00		
## Prostate cancer		0.47860
00		
## Proximal tubule bicarbonate reclamation		0.18360
00		
## Pyrimidine metabolism		1.96400
00		
## Pyruvate metabolism		0.51360
00		
## Regulation of lipolysis in adipocytes		0.21770
00		
## Renal cell carcinoma		0.43470
00		
## Renin-angiotensin system		-0.05681
00		
## Renin secretion		0.22310
00		
## Retinol metabolism		-1.78000
00		
## Retrograde endocannabinoid signaling		0.01108
00		
## Rheumatoid arthritis		-0.13900
00		
## Riboflavin metabolism		0.38090
00		
## RIG-I-like receptor signaling pathway		0.28820
00		
## Salivary secretion		0.06466
00		
## Salmonella infection		0.44250
00		
## Selenocompound metabolism		0.36550

00	
## Serotonergic synapse	-0.09671
00	
## Shigellosis	0.40990
00	
## Signaling pathways regulating pluripotency of stem cells	0.35090
00	
## Small cell lung cancer	0.63280
00	
## Sphingolipid metabolism	0.87600
00	
## Sphingolipid signaling pathway	0.42160
00	
## Staphylococcus aureus infection	-0.14150
00	
## Starch and sucrose metabolism	0.17710
00	
## Steroid biosynthesis	0.41890
00	
## Steroid hormone biosynthesis	-0.95240
00	
## Sulfur metabolism	0.54070
00	
## Synaptic vesicle cycle	0.59540
00	
## Synthesis and degradation of ketone bodies	0.12530
00	
## Systemic lupus erythematosus	-0.27670
00	
## Taste transduction	-0.04810
00	
## Taurine and hypotaurine metabolism	-0.29840
00	
## T cell receptor signaling pathway	0.18120
00	
## Terpenoid backbone biosynthesis	0.39520
00	
## TGF-beta signaling pathway	0.32750
00	
## Thiamine metabolism	0.13670
00	
## Thyroid cancer	0.35230
00	
## Thyroid hormone signaling pathway	0.62600
00	
## Thyroid hormone synthesis	0.00948
40	
## Tight junction	0.34290
00	
## TNF signaling pathway	0.30180
00	
## Toll-like receptor signaling pathway	0.10900
00	
## Toxoplasmosis	0.29790

00		
## Transcriptional misregulation in cancer		0.11930
00		
## Tryptophan metabolism		-0.27120
00		
## Type I diabetes mellitus		-0.38120
00		
## Type II diabetes mellitus		0.18020
00		
## Tyrosine metabolism		-0.31730
00		
## Ubiquinone and other terpenoid-quinone biosynthesis		0.30800
00		
## Valine, leucine and isoleucine degradation		0.56010
00		
## Vascular smooth muscle contraction		0.17910
00		
## Vasopressin-regulated water reabsorption		0.00267
60		
## VEGF signaling pathway		0.28430
00		
## Vibrio cholerae infection		0.39390
00		
## Viral carcinogenesis		0.35430
00		
## Viral myocarditis		0.16530
00		
## Vitamin B6 metabolism		0.08046
00		
## Vitamin digestion and absorption		-0.41540
00		
## Wnt signaling pathway		0.15640
00		
##	sample.Max.	
## Acute myeloid leukemia		0.441000
## Adherens junction		0.580400
## Adipocytokine signaling pathway		0.258400
## Adrenergic signaling in cardiomyocytes		-0.189300
## African trypanosomiasis		-0.157900
## Alanine, aspartate and glutamate metabolism		0.606000
## Aldosterone-regulated sodium reabsorption		0.183400
## Aldosterone synthesis and secretion		0.181400
## Allograft rejection		-0.353300
## alpha-Linolenic acid metabolism		0.065700
## Alzheimer's disease		0.315300
## Aminoacyl-tRNA biosynthesis		0.317800
## Amino sugar and nucleotide sugar metabolism		0.459900
## Amoebiasis		-0.054380
## Amphetamine addiction		-0.033780
## AMPK signaling pathway		0.490900
## Amyotrophic lateral sclerosis (ALS)		0.207500
## Antigen processing and presentation		-0.106000
## Apoptosis		0.211800
## Arachidonic acid metabolism		-0.802100

## Arginine and proline metabolism	-0.014370
## Arginine biosynthesis	0.314500
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.343900
## Ascorbate and aldarate metabolism	-0.529500
## Asthma	-0.369400
## Autoimmune thyroid disease	-0.353300
## Axon guidance	0.279200
## Bacterial invasion of epithelial cells	0.497100
## Basal cell carcinoma	0.108000
## B cell receptor signaling pathway	0.154800
## beta-Alanine metabolism	-0.130200
## Bile secretion	0.016630
## Biotin metabolism	0.274800
## Bladder cancer	0.478000
## Butanoate metabolism	0.218700
## Caffeine metabolism	-0.353800
## Carbohydrate digestion and absorption	0.142200
## Cardiac muscle contraction	-0.176300
## Cell adhesion molecules (CAMs)	-0.200100
## Cell cycle	0.994400
## Chagas disease (American trypanosomiasis)	0.307900
## Chemical carcinogenesis	-0.760800
## Choline metabolism in cancer	0.324100
## Cholinergic synapse	0.222100
## Chronic myeloid leukemia	0.585500
## Circadian entrainment	0.008948
## Circadian rhythm	0.530800
## Citrate cycle (TCA cycle)	0.928800
## Cocaine addiction	0.041760
## Colorectal cancer	0.419300
## Complement and coagulation cascades	-0.164800
## Cysteine and methionine metabolism	0.563400
## Cytosolic DNA-sensing pathway	0.256100
## D-Glutamine and D-glutamate metabolism	0.361400
## Dilated cardiomyopathy	0.190800
## Dopaminergic synapse	0.073230
## Dorso-ventral axis formation	0.307900
## Drug metabolism - cytochrome P450	-0.424700
## Drug metabolism - other enzymes	0.085890
## ECM-receptor interaction	0.363600
## Endocrine and other factor-regulated calcium reabsorption	-0.077590
## Endometrial cancer	0.540900
## Epithelial cell signaling in Helicobacter pylori infection	0.191500
## Epstein-Barr virus infection	0.376800
## ErbB signaling pathway	0.386200
## Estrogen signaling pathway	0.211400
## Ether lipid metabolism	0.287200
## Fat digestion and absorption	0.337500
## Fatty acid biosynthesis	0.380200
## Fatty acid degradation	0.594500
## Fatty acid elongation	0.318800
## Fc epsilon RI signaling pathway	0.246000
## Fc gamma R-mediated phagocytosis	0.370200
## Folate biosynthesis	0.290900

## FoxO signaling pathway	0.320000
## Fructose and mannose metabolism	0.533300
## GABAergic synapse	-0.342800
## Galactose metabolism	0.525700
## Gap junction	0.138400
## Gastric acid secretion	0.223900
## Glioma	0.438900
## Glucagon signaling pathway	0.432900
## Glutamatergic synapse	-0.103900
## Glutathione metabolism	0.424600
## Glycerolipid metabolism	0.704300
## Glycerophospholipid metabolism	0.920000
## Glycine, serine and threonine metabolism	0.039310
## Glycolysis / Gluconeogenesis	0.601500
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.451900
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.435900
## Glycosaminoglycan degradation	0.396600
## Glycosphingolipid biosynthesis - ganglio series	0.264000
## Glycosphingolipid biosynthesis - globo series	-0.076920
## Glycosphingolipid biosynthesis - lacto and neolacto series	-0.125500
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.477700
## Glyoxylate and dicarboxylate metabolism	0.252000
## GnRH signaling pathway	0.295000
## Graft-versus-host disease	-0.287900
## Hedgehog signaling pathway	0.079940
## Hepatitis B	0.336500
## Hepatitis C	0.423700
## Herpes simplex infection	0.334300
## HIF-1 signaling pathway	0.555100
## Histidine metabolism	-0.338000
## Huntington's disease	0.830300
## Hypertrophic cardiomyopathy (HCM)	0.219500
## Inflammatory bowel disease (IBD)	-0.161100
## Inflammatory mediator regulation of TRP channels	0.153600
## Influenza A	0.333400
## Inositol phosphate metabolism	1.079000
## Insulin resistance	0.361300
## Insulin secretion	-0.073550
## Insulin signaling pathway	0.461000
## Intestinal immune network for IgA production	-0.191100
## Legionellosis	-0.072510
## Leishmaniasis	-0.035780
## Leukocyte transendothelial migration	0.159700
## Linoleic acid metabolism	-1.183000
## Lipoic acid metabolism	-0.072570
## Long-term depression	0.233900
## Long-term potentiation	0.261400
## Lysine biosynthesis	0.075300
## Lysine degradation	0.646700
## Malaria	-0.095390
## Maturity onset diabetes of the young	-0.152000
## Measles	0.194400
## Melanogenesis	0.160300
## Melanoma	0.489200

## Metabolism of xenobiotics by cytochrome P450	-1.060000
## Mineral absorption	-0.012960
## Morphine addiction	-0.156100
## mTOR signaling pathway	0.303600
## Mucin type O-Glycan biosynthesis	-0.319200
## Natural killer cell mediated cytotoxicity	0.053840
## Neuroactive ligand-receptor interaction	-0.368000
## Neurotrophin signaling pathway	0.345200
## NF-kappa B signaling pathway	0.199500
## N-Glycan biosynthesis	0.722000
## Nicotinate and nicotinamide metabolism	-0.038370
## Nitrogen metabolism	0.619700
## NOD-like receptor signaling pathway	0.248800
## Non-alcoholic fatty liver disease (NAFLD)	0.246800
## Non-small cell lung cancer	0.513500
## Notch signaling pathway	0.455800
## One carbon pool by folate	1.027000
## Oocyte meiosis	0.748300
## Osteoclast differentiation	0.132300
## Ovarian steroidogenesis	0.089870
## Oxidative phosphorylation	0.488200
## p53 signaling pathway	0.353400
## Pancreatic cancer	0.499000
## Pancreatic secretion	0.152500
## Pantothenate and CoA biosynthesis	0.119500
## Parkinson's disease	0.235400
## Pathogenic Escherichia coli infection	0.330400
## Pentose and glucuronate interconversions	-0.244800
## Pentose phosphate pathway	0.447700
## Pertussis	0.119600
## Phenylalanine metabolism	-0.084930
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.346000
## Phosphatidylinositol signaling system	1.369000
## Phototransduction	-0.302200
## Platelet activation	0.275300
## Porphyrin and chlorophyll metabolism	0.013640
## Primary bile acid biosynthesis	-0.239900
## Prion diseases	0.355200
## Progesterone-mediated oocyte maturation	0.259000
## Prolactin signaling pathway	0.347500
## Propionate metabolism	0.416000
## Prostate cancer	0.478900
## Proximal tubule bicarbonate reclamation	0.184400
## Pyrimidine metabolism	2.091000
## Pyruvate metabolism	0.531200
## Regulation of lipolysis in adipocytes	0.236600
## Renal cell carcinoma	0.454200
## Renin-angiotensin system	0.145400
## Renin secretion	0.231700
## Retinol metabolism	-1.696000
## Retrograde endocannabinoid signaling	0.076980
## Rheumatoid arthritis	-0.127500
## Riboflavin metabolism	0.383500
## RIG-I-like receptor signaling pathway	0.296300

## Salivary secretion	0.073990
## Salmonella infection	0.454100
## Selenocompound metabolism	0.385000
## Serotonergic synapse	-0.058990
## Shigellosis	0.435000
## Signaling pathways regulating pluripotency of stem cells	0.360700
## Small cell lung cancer	0.645300
## Sphingolipid metabolism	0.952600
## Sphingolipid signaling pathway	0.438900
## Staphylococcus aureus infection	-0.106200
## Starch and sucrose metabolism	0.182400
## Steroid biosynthesis	0.455100
## Steroid hormone biosynthesis	-0.907600
## Sulfur metabolism	0.544400
## Synaptic vesicle cycle	0.603200
## Synthesis and degradation of ketone bodies	0.152000
## Systemic lupus erythematosus	-0.238500
## Taste transduction	-0.038300
## Taurine and hypotaurine metabolism	-0.292500
## T cell receptor signaling pathway	0.188300
## Terpenoid backbone biosynthesis	0.399900
## TGF-beta signaling pathway	0.348700
## Thiamine metabolism	0.149300
## Thyroid cancer	0.360300
## Thyroid hormone signaling pathway	0.632800
## Thyroid hormone synthesis	0.012130
## Tight junction	0.344200
## TNF signaling pathway	0.306200
## Toll-like receptor signaling pathway	0.118200
## Toxoplasmosis	0.304200
## Transcriptional misregulation in cancer	0.120200
## Tryptophan metabolism	-0.253200
## Type I diabetes mellitus	-0.345200
## Type II diabetes mellitus	0.187900
## Tyrosine metabolism	-0.285300
## Ubiquinone and other terpenoid-quinone biosynthesis	0.316700
## Valine, leucine and isoleucine degradation	0.571300
## Vascular smooth muscle contraction	0.181400
## Vasopressin-regulated water reabsorption	0.082960
## VEGF signaling pathway	0.286600
## Vibrio cholerae infection	0.442000
## Viral carcinogenesis	0.365200
## Viral myocarditis	0.172700
## Vitamin B6 metabolism	0.141300
## Vitamin digestion and absorption	-0.407000
## Wnt signaling pathway	0.176700
##	p.value
## Acute myeloid leukemia	4.679187e-01
## Adherens junction	1.384856e-01
## Adipocytokine signaling pathway	1.952346e-01
## Adrenergic signaling in cardiomyocytes	7.996300e-01
## African trypanosomiasis	4.682416e-01
## Alanine, aspartate and glutamate metabolism	9.493295e-02
## Aldosterone-regulated sodium reabsorption	5.774420e-01

## Aldosterone synthesis and secretion	1.202823e-01
## Allograft rejection	1.543954e-01
## alpha-Linolenic acid metabolism	1.608778e-01
## Alzheimer's disease	4.586410e-01
## Aminoacyl-tRNA biosynthesis	8.342750e-01
## Amino sugar and nucleotide sugar metabolism	9.246784e-02
## Amoebiasis	6.960623e-01
## Amphetamine addiction	4.914580e-03
## AMPK signaling pathway	7.178370e-01
## Amyotrophic lateral sclerosis (ALS)	2.354015e-01
## Antigen processing and presentation	1.139761e-02
## Apoptosis	7.298173e-02
## Arachidonic acid metabolism	2.546850e-02
## Arginine and proline metabolism	8.425275e-02
## Arginine biosynthesis	6.769146e-01
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	4.576018e-01
## Ascorbate and aldarate metabolism	1.569735e-01
## Asthma	6.722878e-02
## Autoimmune thyroid disease	1.543954e-01
## Axon guidance	8.104930e-02
## Bacterial invasion of epithelial cells	3.133533e-01
## Basal cell carcinoma	2.101500e-03
## B cell receptor signaling pathway	2.844850e-01
## beta-Alanine metabolism	9.344103e-01
## Bile secretion	9.248535e-01
## Biotin metabolism	5.909040e-01
## Bladder cancer	1.837957e-01
## Butanoate metabolism	2.951368e-01
## Caffeine metabolism	3.638314e-02
## Carbohydrate digestion and absorption	6.212188e-02
## Cardiac muscle contraction	7.878523e-01
## Cell adhesion molecules (CAMs)	6.529462e-01
## Cell cycle	1.846657e-03
## Chagas disease (American trypanosomiasis)	4.339063e-01
## Chemical carcinogenesis	2.782784e-01
## Choline metabolism in cancer	7.379284e-03
## Cholinergic synapse	6.706821e-01
## Chronic myeloid leukemia	3.874615e-01
## Circadian entrainment	8.383082e-01
## Circadian rhythm	2.025562e-05
## Citrate cycle (TCA cycle)	3.967858e-01
## Cocaine addiction	8.874662e-01
## Colorectal cancer	9.205659e-01
## Complement and coagulation cascades	6.211332e-02
## Cysteine and methionine metabolism	4.755313e-01
## Cytosolic DNA-sensing pathway	8.123825e-01
## D-Glutamine and D-glutamate metabolism	3.422198e-02
## Dilated cardiomyopathy	2.163240e-02
## Dopaminergic synapse	7.009532e-01
## Dorso-ventral axis formation	9.939906e-02
## Drug metabolism - cytochrome P450	1.330599e-01
## Drug metabolism - other enzymes	4.890267e-01
## ECM-receptor interaction	3.614386e-02
## Endocrine and other factor-regulated calcium reabsorption	6.800278e-01

## Endometrial cancer	9.539643e-01
## Epithelial cell signaling in Helicobacter pylori infection	6.307648e-03
## Epstein-Barr virus infection	4.731113e-02
## ErbB signaling pathway	4.800363e-01
## Estrogen signaling pathway	9.952757e-02
## Ether lipid metabolism	5.729844e-01
## Fat digestion and absorption	9.823653e-03
## Fatty acid biosynthesis	1.323411e-01
## Fatty acid degradation	1.408528e-01
## Fatty acid elongation	5.623178e-02
## Fc epsilon RI signaling pathway	4.787622e-01
## Fc gamma R-mediated phagocytosis	2.615663e-01
## Folate biosynthesis	4.454349e-01
## FoxO signaling pathway	5.366351e-01
## Fructose and mannose metabolism	7.041975e-01
## GABAergic synapse	6.242181e-01
## Galactose metabolism	7.394396e-01
## Gap junction	9.655488e-02
## Gastric acid secretion	1.564822e-01
## Glioma	1.511666e-01
## Glucagon signaling pathway	3.046274e-01
## Glutamatergic synapse	8.664972e-01
## Glutathione metabolism	4.693660e-01
## Glycerolipid metabolism	2.321556e-02
## Glycerophospholipid metabolism	6.242891e-01
## Glycine, serine and threonine metabolism	2.701033e-01
## Glycolysis / Gluconeogenesis	9.089287e-01
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	5.834182e-01
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	6.083384e-01
## Glycosaminoglycan degradation	1.698663e-01
## Glycosphingolipid biosynthesis - ganglio series	5.480292e-01
## Glycosphingolipid biosynthesis - globo series	5.091735e-01
## Glycosphingolipid biosynthesis - lacto and neolacto series	8.861219e-01
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	8.525705e-01
## Glyoxylate and dicarboxylate metabolism	3.411235e-02
## GnRH signaling pathway	4.250220e-02
## Graft-versus-host disease	1.754120e-01
## Hedgehog signaling pathway	1.776299e-02
## Hepatitis B	5.722936e-01
## Hepatitis C	3.957628e-01
## Herpes simplex infection	1.180784e-01
## HIF-1 signaling pathway	6.362035e-01
## Histidine metabolism	7.065009e-02
## Huntington's disease	1.654663e-01
## Hypertrophic cardiomyopathy (HCM)	7.195646e-03
## Inflammatory bowel disease (IBD)	1.827232e-02
## Inflammatory mediator regulation of TRP channels	5.418516e-01
## Influenza A	1.549479e-01
## Inositol phosphate metabolism	7.361464e-01
## Insulin resistance	7.270486e-03
## Insulin secretion	5.217811e-01
## Insulin signaling pathway	2.261515e-02
## Intestinal immune network for IgA production	3.193241e-01
## Legionellosis	5.494098e-01

## Leishmaniasis	8.114609e-02
## Leukocyte transendothelial migration	1.189518e-02
## Linoleic acid metabolism	3.211003e-02
## Lipoic acid metabolism	1.551629e-01
## Long-term depression	3.576669e-01
## Long-term potentiation	1.530562e-01
## Lysine biosynthesis	1.904448e-01
## Lysine degradation	3.002316e-02
## Malaria	4.080270e-01
## Maturity onset diabetes of the young	5.769450e-01
## Measles	8.548674e-01
## Melanogenesis	1.154453e-01
## Melanoma	3.889056e-01
## Metabolism of xenobiotics by cytochrome P450	5.284675e-01
## Mineral absorption	3.341493e-01
## Morphine addiction	9.645343e-01
## mTOR signaling pathway	3.479779e-02
## Mucin type O-Glycan biosynthesis	1.419736e-01
## Natural killer cell mediated cytotoxicity	8.703946e-03
## Neuroactive ligand-receptor interaction	5.721175e-01
## Neurotrophin signaling pathway	2.617666e-01
## NF-kappa B signaling pathway	5.579694e-01
## N-Glycan biosynthesis	6.200608e-01
## Nicotinate and nicotinamide metabolism	8.990315e-01
## Nitrogen metabolism	1.198404e-02
## NOD-like receptor signaling pathway	4.910424e-01
## Non-alcoholic fatty liver disease (NAFLD)	9.007188e-01
## Non-small cell lung cancer	8.601840e-01
## Notch signaling pathway	4.779441e-01
## One carbon pool by folate	2.349021e-02
## Oocyte meiosis	2.942430e-03
## Osteoclast differentiation	3.008375e-01
## Ovarian steroidogenesis	8.036325e-01
## Oxidative phosphorylation	1.070940e-01
## p53 signaling pathway	7.371133e-02
## Pancreatic cancer	1.658437e-01
## Pancreatic secretion	5.256014e-01
## Pantothenate and CoA biosynthesis	2.736899e-02
## Parkinson's disease	1.491651e-01
## Pathogenic Escherichia coli infection	4.480331e-01
## Pentose and glucuronate interconversions	1.283518e-01
## Pentose phosphate pathway	5.329301e-01
## Pertussis	3.423775e-01
## Phenylalanine metabolism	3.569737e-01
## Phenylalanine, tyrosine and tryptophan biosynthesis	6.245936e-04
## Phosphatidylinositol signaling system	7.232668e-01
## Phototransduction	8.429404e-01
## Platelet activation	1.669319e-01
## Porphyrin and chlorophyll metabolism	6.763440e-01
## Primary bile acid biosynthesis	5.245803e-01
## Prion diseases	9.646282e-01
## Progesterone-mediated oocyte maturation	6.078750e-01
## Prolactin signaling pathway	8.024226e-01
## Propionate metabolism	8.200740e-02

## Prostate cancer	3.351046e-01
## Proximal tubule bicarbonate reclamation	6.942137e-01
## Pyrimidine metabolism	1.590097e-01
## Pyruvate metabolism	2.865093e-01
## Regulation of lipolysis in adipocytes	9.251571e-01
## Renal cell carcinoma	3.570001e-01
## Renin-angiotensin system	4.675981e-01
## Renin secretion	7.198162e-01
## Retinol metabolism	1.682504e-01
## Retrograde endocannabinoid signaling	7.722285e-01
## Rheumatoid arthritis	2.880170e-01
## Riboflavin metabolism	1.889055e-01
## RIG-I-like receptor signaling pathway	8.665204e-01
## Salivary secretion	7.598067e-01
## Salmonella infection	2.262457e-01
## Selenocompound metabolism	3.287668e-01
## Serotonergic synapse	5.225172e-01
## Shigellosis	2.532261e-01
## Signaling pathways regulating pluripotency of stem cells	6.684990e-02
## Small cell lung cancer	8.860703e-01
## Sphingolipid metabolism	8.673091e-01
## Sphingolipid signaling pathway	9.823105e-02
## Staphylococcus aureus infection	2.318215e-01
## Starch and sucrose metabolism	2.209481e-02
## Steroid biosynthesis	7.601862e-01
## Steroid hormone biosynthesis	1.083607e-01
## Sulfur metabolism	1.841501e-01
## Synaptic vesicle cycle	4.780804e-01
## Synthesis and degradation of ketone bodies	8.645675e-02
## Systemic lupus erythematosus	2.161239e-01
## Taste transduction	1.898864e-03
## Taurine and hypotaurine metabolism	4.036299e-02
## T cell receptor signaling pathway	2.344028e-01
## Terpenoid backbone biosynthesis	1.941051e-01
## TGF-beta signaling pathway	4.660747e-01
## Thiamine metabolism	8.784280e-02
## Thyroid cancer	5.796910e-02
## Thyroid hormone signaling pathway	4.341664e-01
## Thyroid hormone synthesis	6.848458e-01
## Tight junction	4.357471e-01
## TNF signaling pathway	4.362596e-01
## Toll-like receptor signaling pathway	6.850776e-02
## Toxoplasmosis	6.927603e-01
## Transcriptional misregulation in cancer	9.484421e-02
## Tryptophan metabolism	8.721772e-01
## Type I diabetes mellitus	3.637074e-01
## Type II diabetes mellitus	3.081460e-01
## Tyrosine metabolism	4.305364e-01
## Ubiquinone and other terpenoid-quinone biosynthesis	5.242640e-01
## Valine, leucine and isoleucine degradation	5.477987e-01
## Vascular smooth muscle contraction	1.088051e-01
## Vasopressin-regulated water reabsorption	2.905184e-01
## VEGF signaling pathway	1.547803e-02
## Vibrio cholerae infection	6.229735e-01

## Viral carcinogenesis	3.151456e-02
## Viral myocarditis	6.685908e-01
## Vitamin B6 metabolism	5.767118e-02
## Vitamin digestion and absorption	6.983628e-02
## Wnt signaling pathway	4.077512e-02
##	q.value
## Acute myeloid leukemia	0.729655224
## Adherens junction	0.425599127
## Adipocytokine signaling pathway	0.454219204
## Adrenergic signaling in cardiomyocytes	0.898177554
## African trypanosomiasis	0.729655224
## Alanine, aspartate and glutamate metabolism	0.360195015
## Aldosterone-regulated sodium reabsorption	0.769922683
## Aldosterone synthesis and secretion	0.397454436
## Allograft rejection	0.425599127
## alpha-Linolenic acid metabolism	0.425599127
## Alzheimer's disease	0.729655224
## Aminoacyl-tRNA biosynthesis	0.923353957
## Amino sugar and nucleotide sugar metabolism	0.360195015
## Amoebiasis	0.835274717
## Amphetamine addiction	0.152952431
## AMPK signaling pathway	0.845665811
## Amyotrophic lateral sclerosis (ALS)	0.521083028
## Antigen processing and presentation	0.170772589
## Apoptosis	0.336123663
## Arachidonic acid metabolism	0.232272731
## Arginine and proline metabolism	0.355733813
## Arginine biosynthesis	0.833582476
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.729655224
## Ascorbate and aldarate metabolism	0.425599127
## Asthma	0.335587908
## Autoimmune thyroid disease	0.425599127
## Axon guidance	0.352786570
## Bacterial invasion of epithelial cells	0.610637269
## Basal cell carcinoma	0.095828421
## B cell receptor signaling pathway	0.591412478
## beta-Alanine metabolism	0.946869066
## Bile secretion	0.941677743
## Biotin metabolism	0.778763617
## Bladder cancer	0.446662052
## Butanoate metabolism	0.595497234
## Caffeine metabolism	0.243981078
## Carbohydrate digestion and absorption	0.329390443
## Cardiac muscle contraction	0.893683211
## Cell adhesion molecules (CAMs)	0.822495732
## Cell cycle	0.095828421
## Chagas disease (American trypanosomiasis)	0.729655224
## Chemical carcinogenesis	0.587476595
## Choline metabolism in cancer	0.152952431
## Cholinergic synapse	0.833582476
## Chronic myeloid leukemia	0.692738087
## Circadian entrainment	0.923353957
## Circadian rhythm	0.004618282
## Citrate cycle (TCA cycle)	0.695901324

## Cocaine addiction	0.928175670
## Colorectal cancer	0.941677743
## Complement and coagulation cascades	0.329390443
## Cysteine and methionine metabolism	0.729655224
## Cytosolic DNA-sensing pathway	0.903527859
## D-Glutamine and D-glutamate metabolism	0.243981078
## Dilated cardiomyopathy	0.223157028
## Dopaminergic synapse	0.836234502
## Dorso-ventral axis formation	0.360195015
## Drug metabolism - cytochrome P450	0.421356403
## Drug metabolism - other enzymes	0.736563603
## ECM-receptor interaction	0.243981078
## Endocrine and other factor-regulated calcium reabsorption	0.833582476
## Endometrial cancer	0.962406430
## Epithelial cell signaling in Helicobacter pylori infection	0.152952431
## Epstein-Barr virus infection	0.283866785
## ErbB signaling pathway	0.729655224
## Estrogen signaling pathway	0.360195015
## Ether lipid metabolism	0.769922683
## Fat digestion and absorption	0.170772589
## Fatty acid biosynthesis	0.421356403
## Fatty acid degradation	0.425599127
## Fatty acid elongation	0.322364758
## Fc epsilon RI signaling pathway	0.729655224
## Fc gamma R-mediated phagocytosis	0.563045240
## Folate biosynthesis	0.729655224
## FoxO signaling pathway	0.759184426
## Fructose and mannose metabolism	0.836234502
## GABAergic synapse	0.795183927
## Galactose metabolism	0.855798090
## Gap junction	0.360195015
## Gastric acid secretion	0.425599127
## Glioma	0.425599127
## Glucagon signaling pathway	0.603956847
## Glutamatergic synapse	0.924048990
## Glutathione metabolism	0.729655224
## Glycerolipid metabolism	0.223157028
## Glycerophospholipid metabolism	0.795183927
## Glycine, serine and threonine metabolism	0.575547243
## Glycolysis / Gluconeogenesis	0.937718338
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.773368329
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.792577978
## Glycosaminoglycan degradation	0.425599127
## Glycosphingolipid biosynthesis - ganglio series	0.759184426
## Glycosphingolipid biosynthesis - globo series	0.757802392
## Glycosphingolipid biosynthesis - lacto and neolacto series	0.928175670
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.924048990
## Glyoxylate and dicarboxylate metabolism	0.243981078
## GnRH signaling pathway	0.261905427
## Graft-versus-host disease	0.434716797
## Hedgehog signaling pathway	0.219267852
## Hepatitis B	0.769922683
## Hepatitis C	0.695901324
## Herpes simplex infection	0.395909877

## HIF-1 signaling pathway	0.805857785
## Histidine metabolism	0.335587908
## Huntington's disease	0.425599127
## Hypertrophic cardiomyopathy (HCM)	0.152952431
## Inflammatory bowel disease (IBD)	0.219267852
## Inflammatory mediator regulation of TRP channels	0.759184426
## Influenza A	0.425599127
## Inositol phosphate metabolism	0.855798090
## Insulin resistance	0.152952431
## Insulin secretion	0.757802392
## Insulin signaling pathway	0.223157028
## Intestinal immune network for IgA production	0.616999109
## Legionellosis	0.759184426
## Leishmaniasis	0.352786570
## Leukocyte transendothelial migration	0.170772589
## Linoleic acid metabolism	0.243981078
## Lipoic acid metabolism	0.425599127
## Long-term depression	0.652384478
## Long-term potentiation	0.425599127
## Lysine biosynthesis	0.452306337
## Lysine degradation	0.243981078
## Malaria	0.710153887
## Maturity onset diabetes of the young	0.769922683
## Measles	0.924048990
## Melanogenesis	0.392858573
## Melanoma	0.692738087
## Metabolism of xenobiotics by cytochrome P450	0.757802392
## Mineral absorption	0.631436802
## Morphine addiction	0.964628189
## mTOR signaling pathway	0.243981078
## Mucin type O-Glycan biosynthesis	0.425599127
## Natural killer cell mediated cytotoxicity	0.165374979
## Neuroactive ligand-receptor interaction	0.769922683
## Neurotrophin signaling pathway	0.563045240
## NF-kappa B signaling pathway	0.766367624
## N-Glycan biosynthesis	0.795183927
## Nicotinate and nicotinamide metabolism	0.933472205
## Nitrogen metabolism	0.170772589
## NOD-like receptor signaling pathway	0.736563603
## Non-alcoholic fatty liver disease (NAFLD)	0.933472205
## Non-small cell lung cancer	0.924048990
## Notch signaling pathway	0.729655224
## One carbon pool by folate	0.223157028
## Oocyte meiosis	0.111812335
## Osteoclast differentiation	0.601674946
## Ovarian steroidogenesis	0.898177554
## Oxidative phosphorylation	0.375872205
## p53 signaling pathway	0.336123663
## Pancreatic cancer	0.425599127
## Pancreatic secretion	0.757802392
## Pantothenate and CoA biosynthesis	0.240004965
## Parkinson's disease	0.425599127
## Pathogenic Escherichia coli infection	0.729655224
## Pentose and glucuronate interconversions	0.418060278

## Pentose phosphate pathway	0.759184426
## Pertussis	0.639853116
## Phenylalanine metabolism	0.652384478
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.071203673
## Phosphatidylinositol signaling system	0.845665811
## Phototransduction	0.923992403
## Platelet activation	0.425599127
## Porphyrin and chlorophyll metabolism	0.833582476
## Primary bile acid biosynthesis	0.757802392
## Prion diseases	0.964628189
## Progesterone-mediated oocyte maturation	0.792577978
## Prolactin signaling pathway	0.898177554
## Propanoate metabolism	0.352786570
## Prostate cancer	0.631436802
## Proximal tubule bicarbonate reclamation	0.835274717
## Pyrimidine metabolism	0.425599127
## Pyruvate metabolism	0.591412478
## Regulation of lipolysis in adipocytes	0.941677743
## Renal cell carcinoma	0.652384478
## Renin-angiotensin system	0.729655224
## Renin secretion	0.845665811
## Retinol metabolism	0.425599127
## Retrograde endocannabinoid signaling	0.880340497
## Rheumatoid arthritis	0.591412478
## Riboflavin metabolism	0.452306337
## RIG-I-like receptor signaling pathway	0.924048990
## Salivary secretion	0.870967069
## Salmonella infection	0.515840214
## Selenocompound metabolism	0.629906100
## Serotonergic synapse	0.757802392
## Shigellosis	0.555149615
## Signaling pathways regulating pluripotency of stem cells	0.335587908
## Small cell lung cancer	0.928175670
## Sphingolipid metabolism	0.924048990
## Sphingolipid signaling pathway	0.360195015
## Staphylococcus aureus infection	0.521083028
## Starch and sucrose metabolism	0.223157028
## Steroid biosynthesis	0.870967069
## Steroid hormone biosynthesis	0.375872205
## Sulfur metabolism	0.446662052
## Synaptic vesicle cycle	0.729655224
## Synthesis and degradation of ketone bodies	0.357645684
## Systemic lupus erythematosus	0.497739857
## Taste transduction	0.095828421
## Taurine and hypotaurine metabolism	0.258242430
## T cell receptor signaling pathway	0.521083028
## Terpenoid backbone biosynthesis	0.454219204
## TGF-beta signaling pathway	0.729655224
## Thiamine metabolism	0.357645684
## Thyroid cancer	0.322364758
## Thyroid hormone signaling pathway	0.729655224
## Thyroid hormone synthesis	0.834999151
## Tight junction	0.729655224
## TNF signaling pathway	0.729655224

```

## Toll-like receptor signaling pathway          0.335587908
## Toxoplasmosis                            0.835274717
## Transcriptional misregulation in cancer    0.360195015
## Tryptophan metabolism                     0.924913525
## Type I diabetes mellitus                  0.658137258
## Type II diabetes mellitus                 0.605666337
## Tyrosine metabolism                      0.729655224
## Ubiquinone and other terpenoid-quinone biosynthesis 0.757802392
## Valine, leucine and isoleucine degradation   0.759184426
## Vascular smooth muscle contraction         0.375872205
## Vasopressin-regulated water reabsorption    0.591412478
## VEGF signaling pathway                     0.207587679
## Vibrio cholerae infection                0.795183927
## Viral carcinogenesis                     0.243981078
## Viral myocarditis                        0.833582476
## Vitamin B6 metabolism                   0.322364758
## Vitamin digestion and absorption        0.335587908
## Wnt signaling pathway                   0.258242430
##
## $errors
## named list()

```

```

#####
### code chunk number 17: seq7
#####
Prs<-PRS(hnrnp.cnts, group, pathways, type="RNASeq", logFC.th=-1, nperm=100)

```

```

## 13438 node labels mapped to the expression data
## Average coverage 84.29152 %
## 0 (out of 250) pathways without a mapped node

```

```

## 22 pathways were filtered out

```

```

res(Prs)

```

```

## $results                                         nPR
##                                                 
S
## Acute myeloid leukemia                         -3.545792e-0
1
## Adherens junction                            5.049709e-0
2
## Adipocytokine signaling pathway                6.538842e-0
2
## Adrenergic signaling in cardiomyocytes       5.195601e-0
1
## African trypanosomiasis                      2.646495e-0
1
## Alanine, aspartate and glutamate metabolism  3.413035e-0
1
## Aldosterone-regulated sodium reabsorption    1.134915e+0
0
## Aldosterone synthesis and secretion          2.229178e-0
1
## Allograft rejection                           1.513875e-0
1
## alpha-Linolenic acid metabolism              -1.486543e-0
2
## Alzheimer's disease                          -5.030675e+0
0
## Aminoacyl-tRNA biosynthesis                  7.475073e-0
1
## Amino sugar and nucleotide sugar metabolism -4.871543e-0
1
## Amoebiasis                                 9.056099e-0
3
## Amphetamine addiction                      1.272880e+0
0
## AMPK signaling pathway                      -1.825889e+0
0
## Amyotrophic lateral sclerosis (ALS)          8.865220e-0
1
## Antigen processing and presentation        -2.868441e+0
0
## Apoptosis                                  -2.530117e-0
1
## Arachidonic acid metabolism                 4.750244e-0
2
## Arginine and proline metabolism            2.703451e-0
1
## Arginine biosynthesis                      4.299248e-0
1
## Arrhythmogenic right ventricular cardiomyopathy (ARVC) 3.228310e+0
0
## Ascorbate and aldarate metabolism          -1.757237e-0
1
## Asthma                                    -1.954171e-0
2

```

## Autoimmune thyroid disease	1.513875e-0
1	-2.886109e+0
## Axon guidance	
0	
## Bacterial invasion of epithelial cells	4.271367e-0
1	
## Basal cell carcinoma	-5.604466e-0
1	
## B cell receptor signaling pathway	-1.650317e-0
2	
## beta-Alanine metabolism	-1.525200e-0
1	
## Bile secretion	5.745902e-0
2	
## Biotin metabolism	9.251549e-0
2	
## Bladder cancer	-4.412648e-0
1	
## Butanoate metabolism	2.315543e-0
1	
## Caffeine metabolism	1.430774e-0
1	
## Carbohydrate digestion and absorption	-3.094097e-0
1	
## Cardiac muscle contraction	1.544805e-0
1	
## Cell adhesion molecules (CAMs)	-1.528990e+0
0	
## Cell cycle	4.934829e+0
0	
## Chagas disease (American trypanosomiasis)	-3.307899e-0
1	
## Chemical carcinogenesis	-1.375220e+0
0	
## Choline metabolism in cancer	-2.148781e-0
1	
## Cholinergic synapse	2.823485e-0
1	
## Chronic myeloid leukemia	-1.396146e-0
1	
## Circadian entrainment	-2.615943e-0
1	
## Circadian rhythm	2.107365e-0
1	
## Citrate cycle (TCA cycle)	-2.440986e+0
0	
## Cocaine addiction	1.707670e-0
1	
## Colorectal cancer	2.005624e+0
0	
## Complement and coagulation cascades	-1.480709e-0
1	
## Cysteine and methionine metabolism	6.964372e-0
1	

## Cytosolic DNA-sensing pathway	-3.740021e-0
1	
## D-Glutamine and D-glutamate metabolism	4.839878e-0
1	
## Dilated cardiomyopathy	-1.071309e-0
1	
## Dopaminergic synapse	5.634473e-0
1	
## Dorso-ventral axis formation	4.894434e-0
1	
## Drug metabolism - cytochrome P450	-4.504639e-0
1	
## Drug metabolism - other enzymes	1.314410e+0
0	
## ECM-receptor interaction	-8.969824e+0
0	
## Endocrine and other factor-regulated calcium reabsorption	3.989132e-0
1	
## Endometrial cancer	2.426262e+0
0	
## Epithelial cell signaling in Helicobacter pylori infection	5.055110e-0
1	
## Epstein-Barr virus infection	8.181240e-0
1	
## ErbB signaling pathway	-1.460483e-0
1	
## Estrogen signaling pathway	5.116860e-0
3	
## Ether lipid metabolism	-3.711320e-0
2	
## Fat digestion and absorption	-3.136996e+0
0	
## Fatty acid biosynthesis	-2.857646e+0
1	
## Fatty acid degradation	-2.286525e-0
1	
## Fatty acid elongation	3.302315e-0
1	
## Fc epsilon RI signaling pathway	-2.180047e-0
1	
## Fc gamma R-mediated phagocytosis	6.901495e-0
2	
## Folate biosynthesis	-4.585542e+0
0	
## FoxO signaling pathway	8.440037e-0
1	
## Fructose and mannose metabolism	-3.294696e+0
0	
## GABAergic synapse	3.058636e-0
1	
## Galactose metabolism	-2.658333e+0
0	
## Gap junction	3.971911e-0
1	

## Gastric acid secretion	2.733806e-0
2	
## Glioma	7.906673e-0
1	
## Glucagon signaling pathway	1.430428e-0
1	
## Glutamatergic synapse	1.900122e-0
1	
## Glutathione metabolism	-2.521975e+0
0	
## Glycerolipid metabolism	-1.659985e+0
0	
## Glycerophospholipid metabolism	-4.014419e-0
1	
## Glycine, serine and threonine metabolism	9.726434e-0
1	
## Glycolysis / Gluconeogenesis	-5.258377e+0
0	
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	-4.194207e+0
0	
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	1.370776e-0
1	
## Glycosaminoglycan degradation	-2.082338e+0
0	
## Glycosphingolipid biosynthesis - ganglio series	-9.104008e-0
1	
## Glycosphingolipid biosynthesis - globo series	-2.580221e-0
2	
## Glycosphingolipid biosynthesis - lacto and neolacto series	1.124999e-0
1	
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	-9.504584e-0
1	
## Glyoxylate and dicarboxylate metabolism	1.328511e+0
0	
## GnRH signaling pathway	-4.606474e-0
1	
## Graft-versus-host disease	-1.956403e+0
0	
## Hedgehog signaling pathway	1.339922e-0
1	
## Hepatitis B	1.589988e-0
4	
## Hepatitis C	1.268312e+0
0	
## Herpes simplex infection	1.543945e+0
0	
## HIF-1 signaling pathway	-7.617602e-0
1	
## Histidine metabolism	1.753392e-0
2	
## Huntington's disease	1.084733e+0
0	
## Hypertrophic cardiomyopathy (HCM)	4.492238e-0
1	

## Inflammatory bowel disease (IBD)	1.957978e-0
1	
## Inflammatory mediator regulation of TRP channels	-1.723590e-0
1	
## Influenza A	1.072967e+0
0	
## Inositol phosphate metabolism	1.077851e-0
1	
## Insulin resistance	-1.427272e+0
0	
## Insulin secretion	-2.430978e-0
1	
## Insulin signaling pathway	-5.543423e+0
0	
## Intestinal immune network for IgA production	3.051637e-0
1	
## Legionellosis	8.195869e-0
1	
## Leishmaniasis	-5.102688e-0
2	
## Leukocyte transendothelial migration	2.767194e-0
1	
## Linoleic acid metabolism	2.054378e-0
1	
## Lipoic acid metabolism	8.303453e-0
2	
## Long-term depression	3.745815e-0
1	
## Long-term potentiation	4.218219e-0
1	
## Lysine biosynthesis	-6.409997e-0
2	
## Lysine degradation	1.919901e-0
1	
## Malaria	1.593178e-0
1	
## Maturity onset diabetes of the young	1.551176e-0
1	
## Measles	-5.646679e-0
1	
## Melanogenesis	5.562505e-0
2	
## Melanoma	7.621393e-0
1	
## Metabolism of xenobiotics by cytochrome P450	-6.704446e-0
1	
## Mineral absorption	-7.629094e-0
2	
## Morphine addiction	2.857817e-0
1	
## mTOR signaling pathway	-7.151717e-0
1	
## Mucin type O-Glycan biosynthesis	4.792746e-0
1	

## Natural killer cell mediated cytotoxicity	-6.087648e-0
1	2.196920e-0
## Neuroactive ligand-receptor interaction	
1	
## Neurotrophin signaling pathway	-1.150645e-0
1	
## NF-kappa B signaling pathway	-1.052734e-0
1	
## N-Glycan biosynthesis	7.182439e-0
3	
## Nicotinate and nicotinamide metabolism	-5.043469e-0
2	
## Nitrogen metabolism	4.670877e-0
1	
## NOD-like receptor signaling pathway	9.386456e-0
1	
## Non-alcoholic fatty liver disease (NAFLD)	2.530958e-0
1	
## Non-small cell lung cancer	-9.834656e-0
2	
## Notch signaling pathway	2.039403e-0
1	
## One carbon pool by folate	2.488722e-0
1	
## Oocyte meiosis	2.286666e-0
2	
## Osteoclast differentiation	-1.884632e-0
1	
## Ovarian steroidogenesis	-6.308502e-0
2	
## Oxidative phosphorylation	1.074695e+0
0	
## p53 signaling pathway	2.908928e-0
1	
## Pancreatic cancer	-2.887793e-0
1	
## Pancreatic secretion	-5.731392e-0
1	
## Pantothenate and CoA biosynthesis	-4.226162e-0
1	
## Parkinson's disease	-1.513703e+0
0	
## Pathogenic Escherichia coli infection	9.871123e-0
1	
## Pentose and glucuronate interconversions	-5.129569e-0
1	
## Pentose phosphate pathway	-7.348623e+0
0	
## Pertussis	1.321329e-0
1	
## Phenylalanine metabolism	1.677854e-0
1	
## Phenylalanine, tyrosine and tryptophan biosynthesis	1.693363e-0
1	

## Phosphatidylinositol signaling system	-1.808282e-0
1	2.857421e-0
## Phototransduction	
1	1.025602e-0
## Platelet activation	
1	1.090205e-0
## Porphyrin and chlorophyll metabolism	
1	8.787725e-0
## Primary bile acid biosynthesis	
2	
## Prion diseases	-3.156848e-0
1	
## Progesterone-mediated oocyte maturation	1.300939e+0
0	
## Prolactin signaling pathway	-3.988183e-0
1	
## Propionate metabolism	5.246513e-0
1	
## Prostate cancer	1.517355e+0
0	
## Proximal tubule bicarbonate reclamation	3.512000e-0
3	
## Pyrimidine metabolism	8.948673e-0
1	
## Pyruvate metabolism	3.119746e-0
1	
## Regulation of lipolysis in adipocytes	-2.685592e-0
1	
## Renal cell carcinoma	-1.571995e+0
0	
## Renin-angiotensin system	8.329234e-0
2	
## Renin secretion	-6.375662e-0
2	
## Retinol metabolism	-1.567182e-0
2	
## Retrograde endocannabinoid signaling	2.328128e-0
1	
## Rheumatoid arthritis	2.543162e-0
1	
## Riboflavin metabolism	-3.775839e-0
1	
## RIG-I-like receptor signaling pathway	4.035667e-0
1	
## Salivary secretion	-3.045386e-0
1	
## Salmonella infection	-1.504874e+0
0	
## Selenocompound metabolism	-4.524403e-0
1	
## Serotonergic synapse	1.676268e-0
1	
## Shigellosis	1.302481e-0
1	

## Signaling pathways regulating pluripotency of stem cells	4.380587e-0
2	
## Small cell lung cancer	-4.274646e+0
0	
## Sphingolipid metabolism	8.165536e-0
3	
## Sphingolipid signaling pathway	-4.957812e-0
1	
## Staphylococcus aureus infection	-9.280738e-0
1	
## Starch and sucrose metabolism	-1.329570e+0
0	
## Steroid biosynthesis	2.079970e-0
1	
## Steroid hormone biosynthesis	3.913374e-0
3	
## Sulfur metabolism	2.052543e-0
1	
## Synaptic vesicle cycle	5.775116e+0
0	
## Synthesis and degradation of ketone bodies	3.664904e-0
1	
## Systemic lupus erythematosus	-3.731115e-0
1	
## Taste transduction	-1.408581e-0
1	
## Taurine and hypotaurine metabolism	-2.688611e-0
1	
## T cell receptor signaling pathway	2.095121e-0
1	
## Terpenoid backbone biosynthesis	3.858346e-0
1	
## TGF-beta signaling pathway	-9.493229e-0
1	
## Thiamine metabolism	-1.571963e-0
1	
## Thyroid cancer	3.634125e+0
0	
## Thyroid hormone signaling pathway	5.587674e-0
1	
## Thyroid hormone synthesis	6.395199e-0
2	
## Tight junction	3.661320e-0
1	
## TNF signaling pathway	4.556433e-0
2	
## Toll-like receptor signaling pathway	4.288705e-0
2	
## Toxoplasmosis	-5.040342e+0
0	
## Transcriptional misregulation in cancer	4.959793e-0
1	
## Tryptophan metabolism	-2.450918e-0
1	

## Type I diabetes mellitus	1.763784e-0
1	
## Type II diabetes mellitus	-3.021622e-0
1	
## Tyrosine metabolism	2.042773e-0
1	
## Ubiquinone and other terpenoid-quinone biosynthesis	1.011067e+0
0	
## Valine, leucine and isoleucine degradation	2.261519e-0
1	
## Vascular smooth muscle contraction	2.651831e-0
3	
## Vasopressin-regulated water reabsorption	-3.385490e-0
1	
## VEGF signaling pathway	1.988834e-0
1	
## Vibrio cholerae infection	1.352334e-0
1	
## Viral carcinogenesis	-1.370646e-0
1	
## Viral myocarditis	8.171633e-0
1	
## Vitamin B6 metabolism	-2.862280e-0
1	
## Vitamin digestion and absorption	-3.740101e-0
2	
## Wnt signaling pathway	1.147312e-0
1	
##	p.value
## Acute myeloid leukemia	0.92
## Adherens junction	0.71
## Adipocytokine signaling pathway	0.55
## Adrenergic signaling in cardiomyocytes	0.22
## African trypanosomiasis	0.38
## Alanine, aspartate and glutamate metabolism	0.29
## Aldosterone-regulated sodium reabsorption	0.04
## Aldosterone synthesis and secretion	0.51
## Allograft rejection	0.44
## alpha-Linolenic acid metabolism	0.70
## Alzheimer's disease	1.00
## Aminoacyl-tRNA biosynthesis	0.05
## Amino sugar and nucleotide sugar metabolism	0.80
## Amoebiasis	0.68
## Amphetamine addiction	0.04
## AMPK signaling pathway	0.95
## Amyotrophic lateral sclerosis (ALS)	0.09
## Antigen processing and presentation	0.96
## Apoptosis	0.65
## Arachidonic acid metabolism	0.65
## Arginine and proline metabolism	0.25
## Arginine biosynthesis	0.20
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.00
## Ascorbate and aldarate metabolism	0.52
## Asthma	0.63

## Autoimmune thyroid disease	0.44
## Axon guidance	0.99
## Bacterial invasion of epithelial cells	0.21
## Basal cell carcinoma	0.80
## B cell receptor signaling pathway	0.65
## beta-Alanine metabolism	0.77
## Bile secretion	0.67
## Biotin metabolism	0.75
## Bladder cancer	0.90
## Butanoate metabolism	0.35
## Caffeine metabolism	0.32
## Carbohydrate digestion and absorption	0.78
## Cardiac muscle contraction	0.50
## Cell adhesion molecules (CAMs)	0.95
## Cell cycle	0.00
## Chagas disease (American trypanosomiasis)	0.80
## Chemical carcinogenesis	0.96
## Choline metabolism in cancer	0.78
## Cholinergic synapse	0.46
## Chronic myeloid leukemia	0.69
## Circadian entrainment	0.66
## Circadian rhythm	0.29
## Citrate cycle (TCA cycle)	0.95
## Cocaine addiction	0.52
## Colorectal cancer	0.00
## Complement and coagulation cascades	0.82
## Cysteine and methionine metabolism	0.06
## Cytosolic DNA-sensing pathway	0.84
## D-Glutamine and D-glutamate metabolism	0.12
## Dilated cardiomyopathy	0.65
## Dopaminergic synapse	0.21
## Dorso-ventral axis formation	0.02
## Drug metabolism - cytochrome P450	0.79
## Drug metabolism - other enzymes	0.10
## ECM-receptor interaction	1.00
## Endocrine and other factor-regulated calcium reabsorption	0.28
## Endometrial cancer	0.00
## Epithelial cell signaling in Helicobacter pylori infection	0.05
## Epstein-Barr virus infection	0.12
## ErbB signaling pathway	0.73
## Estrogen signaling pathway	0.77
## Ether lipid metabolism	0.68
## Fat digestion and absorption	0.99
## Fatty acid biosynthesis	1.00
## Fatty acid degradation	0.82
## Fatty acid elongation	0.14
## Fc epsilon RI signaling pathway	0.74
## Fc gamma R-mediated phagocytosis	0.58
## Folate biosynthesis	0.98
## FoxO signaling pathway	0.07
## Fructose and mannose metabolism	0.98
## GABAergic synapse	0.41
## Galactose metabolism	0.98
## Gap junction	0.33

## Gastric acid secretion	0.65
## Glioma	0.08
## Glucagon signaling pathway	0.60
## Glutamatergic synapse	0.48
## Glutathione metabolism	0.99
## Glycerolipid metabolism	0.96
## Glycerophospholipid metabolism	0.80
## Glycine, serine and threonine metabolism	0.03
## Glycolysis / Gluconeogenesis	1.00
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	0.99
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	0.70
## Glycosaminoglycan degradation	0.96
## Glycosphingolipid biosynthesis - ganglio series	0.92
## Glycosphingolipid biosynthesis - globo series	0.39
## Glycosphingolipid biosynthesis - lacto and neolacto series	0.67
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	0.98
## Glyoxylate and dicarboxylate metabolism	0.01
## GnRH signaling pathway	0.77
## Graft-versus-host disease	0.97
## Hedgehog signaling pathway	0.50
## Hepatitis B	0.73
## Hepatitis C	0.04
## Herpes simplex infection	0.04
## HIF-1 signaling pathway	0.90
## Histidine metabolism	0.77
## Huntington's disease	0.03
## Hypertrophic cardiomyopathy (HCM)	0.09
## Inflammatory bowel disease (IBD)	0.53
## Inflammatory mediator regulation of TRP channels	0.61
## Influenza A	0.09
## Inositol phosphate metabolism	0.55
## Insulin resistance	0.91
## Insulin secretion	0.79
## Insulin signaling pathway	1.00
## Intestinal immune network for IgA production	0.35
## Legionellosis	0.10
## Leishmaniasis	0.73
## Leukocyte transendothelial migration	0.42
## Linoleic acid metabolism	0.49
## Lipoic acid metabolism	0.36
## Long-term depression	0.35
## Long-term potentiation	0.18
## Lysine biosynthesis	0.77
## Lysine degradation	0.42
## Malaria	0.41
## Maturity onset diabetes of the young	0.55
## Measles	0.84
## Melanogenesis	0.60
## Melanoma	0.06
## Metabolism of xenobiotics by cytochrome P450	0.81
## Mineral absorption	0.68
## Morphine addiction	0.36
## mTOR signaling pathway	0.84
## Mucin type O-Glycan biosynthesis	0.16

## Natural killer cell mediated cytotoxicity	0.84
## Neuroactive ligand-receptor interaction	0.26
## Neurotrophin signaling pathway	0.77
## NF-kappa B signaling pathway	0.79
## N-Glycan biosynthesis	0.72
## Nicotinate and nicotinamide metabolism	0.85
## Nitrogen metabolism	0.11
## NOD-like receptor signaling pathway	0.07
## Non-alcoholic fatty liver disease (NAFLD)	0.40
## Non-small cell lung cancer	0.75
## Notch signaling pathway	0.39
## One carbon pool by folate	0.32
## Oocyte meiosis	0.65
## Osteoclast differentiation	0.65
## Ovarian steroidogenesis	0.73
## Oxidative phosphorylation	0.01
## p53 signaling pathway	0.33
## Pancreatic cancer	0.77
## Pancreatic secretion	0.80
## Pantothenate and CoA biosynthesis	0.94
## Parkinson's disease	0.96
## Pathogenic Escherichia coli infection	0.01
## Pentose and glucuronate interconversions	0.83
## Pentose phosphate pathway	0.99
## Pertussis	0.53
## Phenylalanine metabolism	0.39
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.13
## Phosphatidylinositol signaling system	0.79
## Phototransduction	0.28
## Platelet activation	0.67
## Porphyrin and chlorophyll metabolism	0.51
## Primary bile acid biosynthesis	0.66
## Prion diseases	0.94
## Progesterone-mediated oocyte maturation	0.02
## Prolactin signaling pathway	0.89
## Propionate metabolism	0.05
## Prostate cancer	0.00
## Proximal tubule bicarbonate reclamation	0.51
## Pyrimidine metabolism	0.01
## Pyruvate metabolism	0.42
## Regulation of lipolysis in adipocytes	0.74
## Renal cell carcinoma	0.93
## Renin-angiotensin system	0.70
## Renin secretion	0.69
## Retinol metabolism	0.75
## Retrograde endocannabinoid signaling	0.48
## Rheumatoid arthritis	0.49
## Riboflavin metabolism	0.88
## RIG-I-like receptor signaling pathway	0.19
## Salivary secretion	0.68
## Salmonella infection	0.94
## Selenocompound metabolism	0.83
## Serotonergic synapse	0.53
## Shigellosis	0.49

## Signaling pathways regulating pluripotency of stem cells	0.65
## Small cell lung cancer	0.99
## Sphingolipid metabolism	0.65
## Sphingolipid signaling pathway	0.78
## Staphylococcus aureus infection	0.96
## Starch and sucrose metabolism	0.94
## Steroid biosynthesis	0.48
## Steroid hormone biosynthesis	0.63
## Sulfur metabolism	0.20
## Synaptic vesicle cycle	0.00
## Synthesis and degradation of ketone bodies	0.12
## Systemic lupus erythematosus	0.90
## Taste transduction	0.81
## Taurine and hypotaurine metabolism	0.78
## T cell receptor signaling pathway	0.56
## Terpenoid backbone biosynthesis	0.12
## TGF-beta signaling pathway	0.92
## Thiamine metabolism	0.75
## Thyroid cancer	0.00
## Thyroid hormone signaling pathway	0.18
## Thyroid hormone synthesis	0.65
## Tight junction	0.16
## TNF signaling pathway	0.62
## Toll-like receptor signaling pathway	0.52
## Toxoplasmosis	1.00
## Transcriptional misregulation in cancer	0.16
## Tryptophan metabolism	0.83
## Type I diabetes mellitus	0.60
## Type II diabetes mellitus	0.79
## Tyrosine metabolism	0.43
## Ubiquinone and other terpenoid-quinone biosynthesis	0.06
## Valine, leucine and isoleucine degradation	0.34
## Vascular smooth muscle contraction	0.63
## Vasopressin-regulated water reabsorption	0.80
## VEGF signaling pathway	0.58
## Vibrio cholerae infection	0.49
## Viral carcinogenesis	0.72
## Viral myocarditis	0.01
## Vitamin B6 metabolism	0.87
## Vitamin digestion and absorption	0.70
## Wnt signaling pathway	0.65
##	q.value
## Acute myeloid leukemia	1.0000000
## Adherens junction	1.0000000
## Adipocytokine signaling pathway	1.0000000
## Adrenergic signaling in cardiomyocytes	0.9646154
## African trypanosomiasis	1.0000000
## Alanine, aspartate and glutamate metabolism	1.0000000
## Aldosterone-regulated sodium reabsorption	0.4560000
## Aldosterone synthesis and secretion	1.0000000
## Allograft rejection	1.0000000
## alpha-Linolenic acid metabolism	1.0000000
## Alzheimer's disease	1.0000000
## Aminoacyl-tRNA biosynthesis	0.4956522

## Amino sugar and nucleotide sugar metabolism	1.0000000
## Amoebiasis	1.0000000
## Amphetamine addiction	0.4560000
## AMPK signaling pathway	1.0000000
## Amyotrophic lateral sclerosis (ALS)	0.6412500
## Antigen processing and presentation	1.0000000
## Apoptosis	1.0000000
## Arachidonic acid metabolism	1.0000000
## Arginine and proline metabolism	1.0000000
## Arginine biosynthesis	0.9306122
## Arrhythmogenic right ventricular cardiomyopathy (ARVC)	0.0000000
## Ascorbate and aldarate metabolism	1.0000000
## Asthma	1.0000000
## Autoimmune thyroid disease	1.0000000
## Axon guidance	1.0000000
## Bacterial invasion of epithelial cells	0.9388235
## Basal cell carcinoma	1.0000000
## B cell receptor signaling pathway	1.0000000
## beta-Alanine metabolism	1.0000000
## Bile secretion	1.0000000
## Biotin metabolism	1.0000000
## Bladder cancer	1.0000000
## Butanoate metabolism	1.0000000
## Caffeine metabolism	1.0000000
## Carbohydrate digestion and absorption	1.0000000
## Cardiac muscle contraction	1.0000000
## Cell adhesion molecules (CAMs)	1.0000000
## Cell cycle	0.0000000
## Chagas disease (American trypanosomiasis)	1.0000000
## Chemical carcinogenesis	1.0000000
## Choline metabolism in cancer	1.0000000
## Cholinergic synapse	1.0000000
## Chronic myeloid leukemia	1.0000000
## Circadian entrainment	1.0000000
## Circadian rhythm	1.0000000
## Citrate cycle (TCA cycle)	1.0000000
## Cocaine addiction	1.0000000
## Colorectal cancer	0.0000000
## Complement and coagulation cascades	1.0000000
## Cysteine and methionine metabolism	0.5261538
## Cytosolic DNA-sensing pathway	1.0000000
## D-Glutamine and D-glutamate metabolism	0.7015385
## Dilated cardiomyopathy	1.0000000
## Dopaminergic synapse	0.9388235
## Dorso-ventral axis formation	0.3257143
## Drug metabolism - cytochrome P450	1.0000000
## Drug metabolism - other enzymes	0.6705882
## ECM-receptor interaction	1.0000000
## Endocrine and other factor-regulated calcium reabsorption	1.0000000
## Endometrial cancer	0.0000000
## Epithelial cell signaling in Helicobacter pylori infection	0.4956522
## Epstein-Barr virus infection	0.7015385
## ErbB signaling pathway	1.0000000
## Estrogen signaling pathway	1.0000000

## Ether lipid metabolism	1.0000000
## Fat digestion and absorption	1.0000000
## Fatty acid biosynthesis	1.0000000
## Fatty acid degradation	1.0000000
## Fatty acid elongation	0.7785366
## Fc epsilon RI signaling pathway	1.0000000
## Fc gamma R-mediated phagocytosis	1.0000000
## Folate biosynthesis	1.0000000
## FoxO signaling pathway	0.5700000
## Fructose and mannose metabolism	1.0000000
## GABAergic synapse	1.0000000
## Galactose metabolism	1.0000000
## Gap junction	1.0000000
## Gastric acid secretion	1.0000000
## Glioma	0.6289655
## Glucagon signaling pathway	1.0000000
## Glutamatergic synapse	1.0000000
## Glutathione metabolism	1.0000000
## Glycerolipid metabolism	1.0000000
## Glycerophospholipid metabolism	1.0000000
## Glycine, serine and threonine metabolism	0.4275000
## Glycolysis / Gluconeogenesis	1.0000000
## Glycosaminoglycan biosynthesis - chondroitin sulfate / dermatan sulfate	1.0000000
## Glycosaminoglycan biosynthesis - heparan sulfate / heparin	1.0000000
## Glycosaminoglycan degradation	1.0000000
## Glycosphingolipid biosynthesis - ganglio series	1.0000000
## Glycosphingolipid biosynthesis - globo series	1.0000000
## Glycosphingolipid biosynthesis - lacto and neolacto series	1.0000000
## Glycosylphosphatidylinositol(GPI)-anchor biosynthesis	1.0000000
## Glyoxylate and dicarboxylate metabolism	0.1900000
## GnRH signaling pathway	1.0000000
## Graft-versus-host disease	1.0000000
## Hedgehog signaling pathway	1.0000000
## Hepatitis B	1.0000000
## Hepatitis C	0.4560000
## Herpes simplex infection	0.4560000
## HIF-1 signaling pathway	1.0000000
## Histidine metabolism	1.0000000
## Huntington's disease	0.4275000
## Hypertrophic cardiomyopathy (HCM)	0.6412500
## Inflammatory bowel disease (IBD)	1.0000000
## Inflammatory mediator regulation of TRP channels	1.0000000
## Influenza A	0.6412500
## Inositol phosphate metabolism	1.0000000
## Insulin resistance	1.0000000
## Insulin secretion	1.0000000
## Insulin signaling pathway	1.0000000
## Intestinal immune network for IgA production	1.0000000
## Legionellosis	0.6705882
## Leishmaniasis	1.0000000
## Leukocyte transendothelial migration	1.0000000
## Linoleic acid metabolism	1.0000000
## Lipoic acid metabolism	1.0000000
## Long-term depression	1.0000000

## Long-term potentiation	0.8921739
## Lysine biosynthesis	1.0000000
## Lysine degradation	1.0000000
## Malaria	1.0000000
## Maternity onset diabetes of the young	1.0000000
## Measles	1.0000000
## Melanogenesis	1.0000000
## Melanoma	0.5261538
## Metabolism of xenobiotics by cytochrome P450	1.0000000
## Mineral absorption	1.0000000
## Morphine addiction	1.0000000
## mTOR signaling pathway	1.0000000
## Mucin type O-Glycan biosynthesis	0.8290909
## Natural killer cell mediated cytotoxicity	1.0000000
## Neuroactive ligand-receptor interaction	1.0000000
## Neurotrophin signaling pathway	1.0000000
## NF-kappa B signaling pathway	1.0000000
## N-Glycan biosynthesis	1.0000000
## Nicotinate and nicotinamide metabolism	1.0000000
## Nitrogen metabolism	0.7015385
## NOD-like receptor signaling pathway	0.5700000
## Non-alcoholic fatty liver disease (NAFLD)	1.0000000
## Non-small cell lung cancer	1.0000000
## Notch signaling pathway	1.0000000
## One carbon pool by folate	1.0000000
## Oocyte meiosis	1.0000000
## Osteoclast differentiation	1.0000000
## Ovarian steroidogenesis	1.0000000
## Oxidative phosphorylation	0.1900000
## p53 signaling pathway	1.0000000
## Pancreatic cancer	1.0000000
## Pancreatic secretion	1.0000000
## Pantothenate and CoA biosynthesis	1.0000000
## Parkinson's disease	1.0000000
## Pathogenic Escherichia coli infection	0.1900000
## Pentose and glucuronate interconversions	1.0000000
## Pentose phosphate pathway	1.0000000
## Pertussis	1.0000000
## Phenylalanine metabolism	1.0000000
## Phenylalanine, tyrosine and tryptophan biosynthesis	0.7410000
## Phosphatidylinositol signaling system	1.0000000
## Phototransduction	1.0000000
## Platelet activation	1.0000000
## Porphyrin and chlorophyll metabolism	1.0000000
## Primary bile acid biosynthesis	1.0000000
## Prion diseases	1.0000000
## Progesterone-mediated oocyte maturation	0.3257143
## Prolactin signaling pathway	1.0000000
## Propionate metabolism	0.4956522
## Prostate cancer	0.0000000
## Proximal tubule bicarbonate reclamation	1.0000000
## Pyrimidine metabolism	0.1900000
## Pyruvate metabolism	1.0000000
## Regulation of lipolysis in adipocytes	1.0000000

## Renal cell carcinoma	1.0000000
## Renin-angiotensin system	1.0000000
## Renin secretion	1.0000000
## Retinol metabolism	1.0000000
## Retrograde endocannabinoid signaling	1.0000000
## Rheumatoid arthritis	1.0000000
## Riboflavin metabolism	1.0000000
## RIG-I-like receptor signaling pathway	0.9217021
## Salivary secretion	1.0000000
## Salmonella infection	1.0000000
## Selenocompound metabolism	1.0000000
## Serotonergic synapse	1.0000000
## Shigellosis	1.0000000
## Signaling pathways regulating pluripotency of stem cells	1.0000000
## Small cell lung cancer	1.0000000
## Sphingolipid metabolism	1.0000000
## Sphingolipid signaling pathway	1.0000000
## Staphylococcus aureus infection	1.0000000
## Starch and sucrose metabolism	1.0000000
## Steroid biosynthesis	1.0000000
## Steroid hormone biosynthesis	1.0000000
## Sulfur metabolism	0.9306122
## Synaptic vesicle cycle	0.0000000
## Synthesis and degradation of ketone bodies	0.7015385
## Systemic lupus erythematosus	1.0000000
## Taste transduction	1.0000000
## Taurine and hypotaurine metabolism	1.0000000
## T cell receptor signaling pathway	1.0000000
## Terpenoid backbone biosynthesis	0.7015385
## TGF-beta signaling pathway	1.0000000
## Thiamine metabolism	1.0000000
## Thyroid cancer	0.0000000
## Thyroid hormone signaling pathway	0.8921739
## Thyroid hormone synthesis	1.0000000
## Tight junction	0.8290909
## TNF signaling pathway	1.0000000
## Toll-like receptor signaling pathway	1.0000000
## Toxoplasmosis	1.0000000
## Transcriptional misregulation in cancer	0.8290909
## Tryptophan metabolism	1.0000000
## Type I diabetes mellitus	1.0000000
## Type II diabetes mellitus	1.0000000
## Tyrosine metabolism	1.0000000
## Ubiquinone and other terpenoid-quinone biosynthesis	0.5261538
## Valine, leucine and isoleucine degradation	1.0000000
## Vascular smooth muscle contraction	1.0000000
## Vasopressin-regulated water reabsorption	1.0000000
## VEGF signaling pathway	1.0000000
## Vibrio cholerae infection	1.0000000
## Viral carcinogenesis	1.0000000
## Viral myocarditis	0.1900000
## Vitamin B6 metabolism	1.0000000
## Vitamin digestion and absorption	1.0000000
## Wnt signaling pathway	1.0000000

```
##  
## $errors  
## named list()
```

```
#####
### code chunk number 18: seq8 (eval = FALSE)
#####
## pwe<-PWEA(hnrnp.cnts, group, pathways, type="RNASeq", nperm=100)
## #528 node labels mapped to the expression data
## #Average coverage 83.16538
## #0 (out of 10) pathways without a mapped node
## #Acute myeloid leukemia
## #Adherens junction
## #Adipocytokine signaling pathway
## #Adrenergic signaling in cardiomyocytes
## #African trypanosomiasis
## #Alanine, aspartate and glutamate metabolism
## #Alcoholism
## #Aldosterone-regulated sodium reabsorption
## #Allograft rejection
## #alpha-Linolenic acid metabolism
## res(pwe)

## #                                     ES      p     p.adj
## #Acute myeloid leukemia          0.3526104 0.29 0.4142857
## #Adherens junction              0.3829831 1.00 1.0000000
## #Adipocytokine signaling pathway 0.3102945 1.00 1.0000000
## #Adrenergic signaling in cardiomyocytes 0.3611207 0.20 0.3333333
## #African trypanosomiasis       0.3272899 0.20 0.3333333
## #Alanine, aspartate and glutamate metabolism 0.2720946 0.20 0.3333333
## #Alcoholism                     0.4708293 0.86 1.0000000
## #Aldosterone-regulated sodium reabsorption 0.3951037 0.20 0.3333333
## #Allograft rejection            0.9421248 0.03 0.3000000
## #alpha-Linolenic acid metabolism 0.6587026 0.20 0.3333333

#####
### code chunk number 19: plot1 (eval = FALSE)
#####
## #Fails during check
## library(gageData)
## data(hnrnp.cnts)
##
## group<-c(rep("sample",4), rep("control",4))
## hnrnp.cnts<-hnrnp.cnts[rowSums(hnrnp.cnts)>0,]
## res<-clipper(hnrnp.cnts, group, pathways[1:2], type="RNASeq", testCliques=TRUE)
##
## plot(res,1, pathways)
## 

#####
### code chunk number 20: plot2 (eval = FALSE)
#####
## Library(gageData)
## data(hnrnp.cnts)
##
## group<-c(rep("sample",4), rep("control",4))
```

```
## hnrnp.cnts<-hnrnp.cnts[rowSums(hnrnp.cnts)>0,]
## pathways<-pathways("hsapiens", "kegg")[50:55]
## spi<-SPIA(hnrnp.cnts, group, pathways, type="RNASeq", LogFC.th=-1)
## plot(spi,"Complement and coagulation cascades", pathways, fontsize=50)
##
```