

Functional Annotation Chart

Help and Manual

Current Gene List: condition_specific_gene_list Current Background: Homo sapiens 2052 DAVID IDs

Options

Rerun Using Options Create Sublist									
	hart records Category Term	RT Genes	Coun	Downl	Benjamini				
	REACTOME_PATHWAY L13a-mediated translational silencing of Ceruloplasmin expression	RT =	93	4.5 1.4E- 61	2.5E-58				
	REACTOME_PATHWAY GTP hydrolysis and joining of the 60S ribosomal subunit	RT 🔤	93	4.5 6.4E- 61	5.9E-58				
	REACTOME_PATHWAY Formation of a pool of free 40S subunits	RT 🔤	87	4.2 1.6E- 59	8.5E-57				
	REACTOME_PATHWAY SRP-dependent cotranslational protein targeting to membrane	RT 🔳	92	4.5 1.9E- 59	8.5E-57				
	REACTOME_PATHWAY <u>Eukaryotic Translation Initiation</u>	RT =	93	4.5 1.3E- 56	3.8E-54				
	REACTOME_PATHWAY Cap-dependent Translation Initiation	RT 🔤	93	4.5 1.3E- 56	3.8E-54				
	REACTOME_PATHWAY <u>Eukaryotic Translation Elongation</u>	RT =	81	3.9 4.6E- 56	1.2E-53				
	REACTOME_PATHWAY <u>Viral mRNA Translation</u>	RT 🔤	78	3.8 2.4E- 54	4.9E-52				
	REACTOME_PATHWAY Peptide chain elongation	RT 🔳	78	3.8 2.4E- 54	4.9E-52				
	REACTOME_PATHWAY Metabolism of RNA	RT	254	12.4 1.6E- 53	2.9E-51				
	REACTOME_PATHWAY <u>Viral Infection Pathways</u>	RT	276	13.5 ^{2.4E-} 53	4.0E-51				
	REACTOME_PATHWAY <u>Infectious disease</u>	RT	311	15.2 4.9E- 51	7.5E-49				
	REACTOME_PATHWAY Nonsense Mediated Decay (NMD) independent of the Exon Junction Complex (EJC)	RT 🖀	78	3.8 3.6E- 50	5.1E-48				
	REACTOME_PATHWAY Selenocysteine synthesis	RT 🔤	77	3.8 5.2E- 50	6.4E-48				
	REACTOME_PATHWAY <u>Eukaryotic Translation Termination</u>	RT =	77	3.8 5.2E- 50	6.4E-48				
	REACTOME_PATHWAY Nonsense-Mediated Decay (NMD)	RT 🔤	85	4.1 2.4E- 48	2.5E-46				
	REACTOME_PATHWAY Nonsense Mediated Decay (NMD) enhanced by the Exon Junction Complex (EJC)	RT 🔤	85	4.1 2.4E- 48	2.5E-46				
	REACTOME_PATHWAY Response of EIF2AK4 (GCN2) to amino acid deficiency	RT 🖀	79	3.8 5.7E- 48	5.8E-46				
	REACTOME_PATHWAY Influenza Infection	RT =	97	4.7 4.9E- 45	4.7E-43				
	REACTOME_PATHWAY Influenza Viral RNA Transcription and Replication	RT =	87	4.2 4.2E- 42	3.8E-40				
	REACTOME_PATHWAY Regulation of expression of SLITs and ROBOs	RT =	98	4.8 3.6E- 41	3.1E-39				
	REACTOME_PATHWAY <u>Translation</u>	RT =	132	6.4 7.7E- 41	6.4E-39				
	REACTOME_PATHWAY Cellular response to starvation	RT 🔤	92	4.5 5.1E- 40	4.1E-38				
	REACTOME_PATHWAY <u>Selenoamino acid metabolism</u>	RT =		3.8 6.0E- 40	4.6E-38				
	REACTOME_PATHWAY Cellular responses to stress	RT ===		11.6 5.2E- 36	3.8E-34				
	REACTOME_PATHWAY Cellular responses to stimuli	RT ===		11.6 3.6E- 35	2.5E-33				
	REACTOME_PATHWAY <u>Signaling by ROBO receptors</u>	RT =		5.1 2.0E- 34	1.3E-32				
	REACTOME_PATHWAY <u>Major pathway of rRNA processing in the nucleolus and cytosol</u>	RT =		4.5 3.0E- 33	1.9E-31				
	REACTOME_PATHWAY <u>rRNA processing in the nucleus and cytosol</u>	RT =		4.6 1.4E- 32	9.0E-31				
	REACTOME_PATHWAY <u>Disease</u>			19.8 1.9E- 3.5E-	1.2E-29				
	REACTOME_PATHWAY <u>rRNA processing</u>	RT =		4.7 3.5E- 31	2.1E-29				
	REACTOME_PATHWAY <u>Translation initiation complex formation</u>	RT =		2.2 9.8E- 27	5.4E-25				
	REACTOME_PATHWAY Ribosomal scanning and start codon recognition REACTOME_PATHWAY Activation of the mRNA upon binding of the cap-binding complex and eIFs, and subsequent binding to 435	RT =		2.2 9.8E- 27 3.2F-	5.4E-25				
		RT	45	20	1.7E-24				
	REACTOME_PATHWAY Metabolism of proteins			20.8 1.3E- 24 5.4E-	6.7E-23				
	REACTOME_PATHWAY Formation of the ternary complex, and subsequently, the 43S complex	RT		1.9 5.4E- 24 2.3E-	2.8E-22				
	REACTOME_PATHWAY Immune System			20.4 2.3E- 23 1.5E-	1.1E-21				
	REACTOME_PATHWAY_Bracesing of Cannot Intron Containing Dro. mPNA	RT =		6.2 1.5E- 20 2.7E-	7.1E-19				
	REACTOME_PATHWAY_Processing of Capped Intron-Containing Pre-mRNA	RT =		4.8 2.7E- 20 1.3E-	1.3E-18				
	REACTOME_PATHWAY Metabolism of amino acids and derivatives REACTOME PATHWAY mRNA Splicing - Major Pathway	RT =		5.7 1.3E- 19 3.8 4.7E-	5.8E-18 2.1E-17				
		RT	79 49	4.5E-					
	REACTOME_PATHWAY SARS-CoV-1-host interactions REACTOME_PATHWAY mRNA Splicing	RI RT	49 79	2.4 18 3.8 6.1E-	2.0E-16 2.6E-16				
	REACTOME_PATHWAY MRNA Splicing REACTOME PATHWAY SARS-CoV-1 modulates host translation machinery	RT	79 29	3.8 18 1.4 9.4E- 1.8	3.9E-16				
	REACTOME_PATHWAY SARS-COV-1 modulates host translation machinery REACTOME PATHWAY Neutrophil degranulation	RT		1.4 18 6.5 2.3E-	9.2E-16				
	REACTOME_PATHWAY_SARS-CoV-1 Infection	RT	60	2.9 4.8E-	1.9E-15				
J			55	17	,- 15				

S	ublist	Category	Term	RT Genes	Count	%	P-Value	Benjamini
			Innate Immune System	RT	237		I .	1.9E-15
		_						
		REACTOME_PATHWAY	HIV Infection	RT =			13	1.2E-13
		REACTOME_PATHWAY	Cytokine Signaling in Immune system	RT ===	179	8.7	1.2E-	4.3E-12
		REACTOME_PATHWAY	SARS-CoV-2 Infection	RT =	89	4.3	1.3E- 13	4.8E-12
		REACTOME_PATHWAY	Axon guidance	RT 🚃	136	6.6	4.3E-	1.5E-11
	\neg	DEACTOME DATHWAY	Nervous system development	RT 🚃	138			1.1E-10
		REACTORIE_FATTWAT	Nei Vous system development					
		REACTOME_PATHWAY	TCR signaling	RT =			12	1.8E-10
		REACTOME_PATHWAY	SARS-CoV-2-host interactions	RT =	65	3.2	1.2E- 11	3.9E-10
		REACTOME_PATHWAY	SARS-CoV-2 modulates host translation machinery	RT 🖥	28	1.4	1.8E- 11	6.1E-10
		REACTOME PATHWAY	Programmed Cell Death	RT 🔳	66	3.2	4.0E- 11	1.3E-9
_	_							
		REACTOME_PATHWAY	<u>Downstream TCR signaling</u>	RT			11	1.8E-9
		REACTOME_PATHWAY	Adaptive Immune System	RT ==	166	8.1	8.3E- 11	2.6E-9
		REACTOME_PATHWAY	Signaling by ALK in cancer	RT 🖥	37	1.8	3.8E- 10	1.2E-8
		REACTOME_PATHWAY	Signaling by ALK fusions and activated point mutants	RT	37	1.8	3.8E- 10	1.2E-8
	\neg	REACTOME_PATHWAY	Mambrana Trafficking	RT 🚃			7 25	2.2E-8
		REACTORIE_FATTWAT	Hembrane Hamcking,					
			<u>Diseases of signal transduction by growth factor receptors and second messengers</u>	RT =			10	2.8E-8
		REACTOME_PATHWAY REACTOME_PATHWAY	Host Interactions of HIV factors Interferon Signaling	RT RT	45 72		1.6E-9 6.2E-9	
			Vesicle-mediated transport	RT			6.9E-9	
		REACTOME_PATHWAY		RT	27	1.3	1.1E-8	3.0E-7
		REACTOME_PATHWAY	<u>Translocation of ZAP-70 to Immunological synapse</u>	RT	14	0.7	5.1E-8	1.4E-6
		REACTOME_PATHWAY		RT =	46		5.7E-8	
			Phosphorylation of CD3 and TCR zeta chains Transpiritional Properties by TDF3	RT =	15		6.1E-8	
			<u>Transcriptional Regulation by TP53</u> mRNA 3'-end processing	RT	85 25		1.5E-7 1.7E-7	
			Signaling by Interleukins	RT =	103		3.6E-7	
		REACTOME_PATHWAY	<u>Apoptosis</u>	RT =	50	2.4	5.2E-7	1.3E-5
		REACTOME_PATHWAY	Respiratory syncytial virus (RSV) genome replication, transcription and translation	RT	12	0.6	5.4E-7	1.3E-5
			ER-Phagosome pathway	RT			9.2E-7	
			RNA Polymerase II Transcription Termination Antigen processing-Cross presentation	RT RT			9.5E-7 1.2E-6	
			Costimulation by the CD28 family	RT			1.3E-6	
		_	Nuclear events mediated by NFE2L2	RT			1.7E-6	
		REACTOME_PATHWAY	KEAP1-NFE2L2 pathway	RT 🖥	38	1.9	1.8E-6	4.1E-5
			<u>Cellular response to chemical stress</u>	RT =	55		2.2E-6	
			Potential therapeutics for SARS Unfolded Protein Response (URB)	RT			2.8E-6	
			<u>Unfolded Protein Response (UPR)</u> <u>Interferon gamma signaling</u>	RT RT			3.3E-6 4.2E-6	
			Late Phase of HIV Life Cycle	RT			4.9E-6	
		REACTOME_PATHWAY	Regulation of TNFR1 signaling	RT	20	1.0	5.4E-6	1.1E-4
		REACTOME_PATHWAY	<u>Downstream signaling events of B Cell Receptor (BCR)</u>	RT 🖥	28	1.4	5.4E-6	1.1E-4
			Antigen Presentation: Folding, assembly and peptide loading of class I MHC Interlevely 12 fearth signaling	RT	15		5.9E-6	
			<u>Interleukin-12 family signaling</u> <u>Post-translational protein modification</u>	RT RT	22 251		6.7E-6 6.9E-6	
			Class I MHC mediated antigen processing & presentation	RT =	82		1.0E-5	
		REACTOME_PATHWAY	PD-1 signaling	RT	13	0.6	1.0E-5	2.0E-4
			RHOBTB2 GTPase cycle	RT	13		1.0E-5	
			<u>Interleukin-1 signaling</u> <u>Generation of second messenger molecules</u>	RT RT	34 16		1.1E-5 1.1E-5	
			Interferon alpha/beta signaling	RT			1.1E-5	
			The citric acid (TCA) cycle and respiratory electron transport	RT	46		1.3E-5	
		REACTOME_PATHWAY	Cell Cycle	RT =	132	6.4	1.3E-5	2.3E-4
			CLEC7A (Dectin-1) signaling	RT			1.3E-5	
		_	<u>TNFR2 non-canonical NF-kB pathway</u> <u>Interleukin-1 family signaling</u>	RT RT	31 41		1.6E-5 1.6E-5	
		REACTOME_PATHWAY		RT =	56		1.7E-5	
			RHOBTB GTPase Cycle	RT	16	8.0	1.7E-5	3.0E-4
			Asparagine N-linked glycosylation	RT =	68		1.8E-5	
		REACTOME_PATHWAY REACTOME_PATHWAY	Regulation of mRNA stability by proteins that bind AU-rich elements G2/M Transition	RT RT	28 49		1.8E-5 1.9E-5	
			Mitotic Metaphase and Anaphase	RT =	56		1.9E-5 1.9E-5	
			Mitochondrial protein degradation	RT	30		2.0E-5	
		REACTOME_PATHWAY	MHC class II antigen presentation	RT 🖥	35	1.7	2.0E-5	3.3E-4
		_	IRE1alpha activates chaperones	RT	20		2.1E-5	
		_	<u>Transport of Mature Transcript to Cytoplasm</u> <u>Fc epsilon receptor (FCERI) signaling</u>	RT	27 37		2.2E-5 2.2E-5	
			RIPK1-mediated regulated necrosis	RT I	15	0.7	2.4E-5	
		_	Endosomal Sorting Complex Required For Transport (ESCRT)	RT	15		2.4E-5	
		REACTOME_PATHWAY	Regulation of necroptotic cell death	RT	15	0.7	2.4E-5	3.9E-4
			Mitotic G2-G2/M phases TNE signaling	RT =	49		2.5E-5	
		REACTOME_PATHWAY REACTOME_PATHWAY		RT I	21 40		2.5E-5 2.8E-5	
		_	Activation of NF-kappaB in B cells	RT			3.3E-5	
		_	Nuclear events stimulated by ALK signaling in cancer	RT	15		3.7E-5	
		REACTOME_PATHWAY	FCERI mediated NF-kB activation	RT	26	1.3	4.1E-5	6.3E-4
			Signaling by the B Cell Receptor (BCR)	RT	32		4.4E-5	
			ER to Golgi Anterograde Transport Interleukin-21 signaling	RT I	40 8		4.5E-5 6.2E-5	
		_	Cellular response to heat stress	RT			6.2E-5 6.6E-5	
		_	AUF1 (hnRNP D0) binds and destabilizes mRNA	RT	20		6.9E-5	
		_	Maturation of hRSV A proteins	RT	9		6.9E-5	
		_	Transport of Mature mRNA derived from an Intron-Containing Transcript	RT	24		7.5E-5	
		_	GSK3B and BTRC:CUL1-mediated-degradation of NFE2L2 Toll Like Receptor 3 (TLR3) Cascade	RT I	19 30		7.9E-5 7.9E-5	
		_	M-decay: degradation of maternal mRNAs by maternally stored factors	RT	12		1.1E-4	

	st Category	Term	RT Genes	Count	1	1	Benjamini
		trans-Golgi Network Vesicle Budding	RT	23		1.1E-4	
		NFE2L2 regulates pentose phosphate pathway genes	RT	7		1.2E-4	
	REACTOME_PATHWAY	Negative regulation of NOTCH4 signaling	RT	19		1.4E-4	
	REACTOME_PATHWAY	PTEN Regulation	RT	36	1.8	1.4E-4	1.9E-3
	REACTOME_PATHWAY	Cell Cycle, Mitotic	RT 🚃	106	5.2	1.4E-4	1.9E-3
	REACTOME_PATHWAY	Endosomal/Vacuolar pathway	RT	8	0.4	1.5E-4	2.0E-3
	REACTOME_PATHWAY	NIK>noncanonical NF-kB signaling	RT	20	1.0	1.5E-4	2.0E-3
	REACTOME_PATHWAY	XBP1(S) activates chaperone genes	RT 🖥	18	0.9	1.6E-4	2.1E-3
	REACTOME_PATHWAY	<u>Transport to the Golgi and subsequent modification</u>	RT 🖀	44	2.1	1.6E-4	2.1E-3
	REACTOME_PATHWAY	Regulation of HSF1-mediated heat shock response	RT	22	1.1	1.7E-4	2.2E-3
	REACTOME_PATHWAY	Signaling by TGF-beta Receptor Complex	RT	27	1.3	1.8E-4	2.3E-3
		Budding and maturation of HIV virion	RT	13	0.6	1.8E-4	2.3E-3
	_	TRIF(TICAM1)-mediated TLR4 signaling	RT	30		1.9E-4	
		MyD88-independent TLR4 cascade	RT	30		1.9E-4	
	_	Dectin-1 mediated noncanonical NF-kB signaling	RT	20	1.0		2.4E-3
		Death Receptor Signaling	RT	38	1.9		2.8E-3
	REACTOME_PATHWAY	Gene and protein expression by JAK-STAT signaling after Interleukin-12 stimulation	RT	15	0.7	2.3E-4	2.8E-3
	REACTOME_PATHWAY	Hh mutants are degraded by ERAD	RT	19	0.9	2.3E-4	2.8E-3
	REACTOME_PATHWAY	Antiviral mechanism by IFN-stimulated genes	RT	37	1.8	2.4E-4	2.9E-3
	REACTOME_PATHWAY	<u>Interleukin-12 signaling</u>	RT 🖥	17	0.8	2.4E-4	2.9E-3
	REACTOME_PATHWAY	<u>Defective CFTR causes cystic fibrosis</u>	RT	20	1.0	2.5E-4	3.0E-3
	REACTOME PATHWAY	SUMO E3 ligases SUMOylate target proteins	RT 🖥	43	2.1	2.5E-4	3.0E-3
	REACTOME_PATHWAY		RT	44		2.6E-4	
	REACTOME_PATHWAY		RT	335		2.8E-4	
		Toll-like Receptor Cascades	RT	40		3.2E-4	
			RT				
		DDX58/IFIH1-mediated induction of interferon-alpha/beta		24	1.2		3.8E-3
		Toll Like Receptor 4 (TLR4) Cascade Receiptor 4 (lactron transport	RT	36	1.8		3.9E-3
		Respiratory electron transport Macrosytachagus	RT	28		3.5E-4	
	REACTOME_PATHWAY		RT	34	1.7		4.5E-3
		Degradation of beta-catenin by the destruction complex	RT	24	1.2		4.5E-3
		Respiratory Syncytial Virus Infection Pathway	RT =	31		4.1E-4	
	REACTOME_PATHWAY	MAP3K8 (TPL2)-dependent MAPK1/3 activation	RT	9	0.4	4.7E-4	5.3E-3
	REACTOME_PATHWAY	Hh mutants abrogate ligand secretion	RT	19	0.9	4.7E-4	5.3E-3
	REACTOME_PATHWAY	C-type lectin receptors (CLRs)	RT 🖥	35	1.7	4.8E-4	5.3E-3
	REACTOME_PATHWAY	Cytosolic sensors of pathogen-associated DNA	RT	20	1.0	4.9E-4	5.4E-3
	REACTOME_PATHWAY	Regulation of PTEN stability and activity	RT	21	1.0	5.0E-4	5.4E-3
	REACTOME PATHWAY	The role of Nef in HIV-1 replication and disease pathogenesis	RT	12	0.6	5.7E-4	6.1E-3
	REACTOME_PATHWAY		RT	12	0.6		6.1E-3
	_	Intrinsic Pathway for Apoptosis	RT	18	0.9		6.1E-3
		FBXL7 down-regulates AURKA during mitotic entry and in early mitosis	RT	18	0.9		6.1E-3
	_		_				
		Deadenylation of mRNA CLIS is presented to CLISP by the pretenesses	RT	11		5.8E-4	
		GLI3 is processed to GLI3R by the proteasome	RT	19		5.9E-4	
		SCF(Skp2)-mediated degradation of p27/p21	RT	19	0.9		6.2E-3
	REACTOME_PATHWAY	<u>Degradation of GLI2 by the proteasome</u>	RT	19	0.9		6.2E-3
	REACTOME_PATHWAY	COPI-mediated anterograde transport	RT	27	1.3	6.1E-4	6.3E-3
	REACTOME_PATHWAY	TBC/RABGAPs	RT 🖥	16	0.8	6.3E-4	6.5E-3
	REACTOME_PATHWAY	<u>M Phase</u>	RT 🚃	80	3.9	6.3E-4	6.5E-3
	REACTOME_PATHWAY	Regulation of ornithine decarboxylase (ODC)	RT 🖥	17	0.8	6.9E-4	7.0E-3
	REACTOME_PATHWAY	DEx/H-box helicases activate type I IFN and inflammatory cytokines production	RT	6	0.3	7.0E-4	7.1E-3
	REACTOME_PATHWAY	RHO GTPase cycle	RT 🚃	85	4.1	7.1E-4	7.1E-3
	REACTOME_PATHWAY	RNA Polymerase II Pre-transcription Events	RT	23	1.1	7.1E-4	7.2E-3
	REACTOME PATHWAY	Clathrin-mediated endocytosis	RT	35	1.7	7.2E-4	7.2E-3
		Golgi Associated Vesicle Biogenesis	RT	18		7.2E-4	
		TNFR1-induced NF-kappa-B signaling pathway	RT	13		7.3E-4	
		TNFR1-induced proapoptotic signaling	RT	11	0.5		8.4E-3
		Signaling by NOTCH4	RT	23	1.1		8.4E-3
		Apoptotic cleavage of cellular proteins	RT	14		8.7E-4	
		Vpu mediated degradation of CD4	RT	17		8.7E-4	
		Translation of Structural Proteins	RT	18		9.0E-4	
		APC/C:Cdc20 mediated degradation of Securin	RT	20		9.1E-4	
		Regulation of PLK1 Activity at G2/M Transition	RT	24		9.8E-4	
	REACTOME_PATHWAY		RT =	60		9.9E-4	
		Bacterial Infection Pathways	RT	21		1.1E-3	
	REACTOME_PATHWAY	Regulation of RUNX2 expression and activity	RT	21	1.0	1.1E-3	1.0E-2
	REACTOME_PATHWAY	Attenuation phase	RT	8	0.4	1.1E-3	1.0E-2
	REACTOME_PATHWAY	Autodegradation of Cdh1 by Cdh1:APC/C	RT	19	0.9	1.1E-3	1.0E-2
	REACTOME_PATHWAY	Respiratory electron transport, ATP synthesis by chemiosmotic coupling, and heat production by	RT 🖥	31	1.5	1.1E-3	1.0E-2
_	_	<u>uncoupling proteins.</u>					
		Gene expression (Transcription)	RT	246		1.2E-3	
	_	Downregulation of TGF-beta receptor signaling	RT	11		1.2E-3	
		N-glycan trimming in the ER and Calnexin/Calreticulin cycle	RT	13		1.3E-3	
		Vif-mediated degradation of APOBEC3G	RT	17		1.4E-3	
	REACTOME_PATHWAY	Metabolism of polyamines	RT	18	0.9	1.4E-3	1.2E-2
	REACTOME_PATHWAY	STAT3 nuclear events downstream of ALK signaling	RT	7	0.3	1.4E-3	1.3E-2
	REACTOME_PATHWAY	Cyclin A:Cdk2-associated events at S phase entry	RT	23	1.1	1.4E-3	1.3E-2
	REACTOME_PATHWAY	<u>Nuclear Envelope (NE) Reassembly</u>	RT	21	1.0	1.6E-3	1.4E-2
	REACTOME_PATHWAY	Cellular response to hypoxia	RT 🖥	21	1.0	1.6E-3	1.4E-2
	REACTOME_PATHWAY	<u>Circadian Clock</u>	RT	20	1.0	1.6E-3	1.4E-2
	REACTOME_PATHWAY	Hedgehog ligand biogenesis	RT	19	0.9	1.7E-3	1.4E-2
	REACTOME PATHWAY	Degradation of GLI1 by the proteasome	RT	18	0.9	1.7E-3	1.4E-2
	_	Pyruvate metabolism and Citric Acid (TCA) cycle	RT	17			1.4E-2
	_	HSP90 chaperone cycle for steroid hormone receptors (SHR) in the presence of ligand	RT	17			1.4E-2
	_	Regulation of RUNX3 expression and activity	RT	17			1.4E-2
	_	SCF-beta-TrCP mediated degradation of Emi1	RT	17			
	_						1.4E-2
	_	Toll Like Receptor 5 (TLR5) Cascade	RT	25			1.5E-2
	_	MyD88 cascade initiated on plasma membrane Tall Like Pagester 10 (TLR10) Cascada	RT	25			1.5E-2
		Toll Like Receptor 10 (TLR10) Cascade Addition of Nuclear Freedom (NE) Programming	RT	25			1.5E-2
	_	Initiation of Nuclear Envelope (NE) Reformation	RT	9			1.6E-2
		Oxygen-dependent proline hydroxylation of Hypoxia-inducible Factor Alpha	RT	19	0.9		1.7E-2
	REACTOME_PATHWAY	SARS-CoV-2 activates/modulates innate and adaptive immune responses	RT	30	1.5	2.1E-3	1.7E-2
	REACTOME_PATHWAY	MyD88 dependent cascade initiated on endosome	RT	26	1.3	2.2E-3	1.8E-2
	REACTOME_PATHWAY	<u>S Phase</u>	RT	36	1.8	2.4E-3	2.0E-2
	REACTOME_PATHWAY	Cyclin E associated events during G1/S transition	RT	22	1.1	2.5E-3	2.0E-2
	REACTOME_PATHWAY	Toll Like Receptor 7/8 (TLR7/8) Cascade	RT	26	1.3	2.5E-3	2.0E-2
	_	Z-decay: degradation of maternal mRNAs by zygotically expressed factors	RT	7			2.0E-2
	REACTOME_PATHWAY		RT	7		2.5E-3	
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	_	Category		Term	RT Genes	Count	1	l .	Benjamini
		_		Interleukin-35 Signalling	RT	7		2.5E-3	
		_		Apoptotic execution phase	RT	16		2.6E-3	
		_		<u>Ubiquitin-dependent degradation of Cyclin D</u>	RT	16		2.6E-3	
l		REACTOME_PATH	IWAY	ABC transporter disorders	RT	21	1.0	2.6E-3	2.1E-2
(REACTOME_PATH	IWAY	APC/C:Cdh1 mediated degradation of Cdc20 and other APC/C:Cdh1 targeted proteins in late mitosis/early G1	RT	20	1.0	2.7E-3	2.2E-2
ſ		DEACTOME DATH	1\\/\\	Interleukin-9 signaling	RT	6	0.3	3.3E-3	2 6F-2
		_		Nef Mediated CD4 Down-regulation	RT	6		3.3E-3	
				MAPK family signaling cascades	RT	62	3.0	3.3E-3	
		_		MyD88:MAL(TIRAP) cascade initiated on plasma membrane	RT	27	1.3	3.4E-3	
		_		Toll Like Receptor TLR6:TLR2 Cascade	RT	27		3.4E-3	
				Regulation of APC/C activators between G1/S and early anaphase	RT	21	1.0	3.6E-3	
				<u>Intra-Golgi and retrograde Golgi-to-ER traffic</u>	RT =	42		3.7E-3	
		REACTOME_PATH	IWAY	Separation of Sister Chromatids	RT	40		3.7E-3	
		REACTOME_PATH	IWAY	Toll Like Receptor 9 (TLR9) Cascade	RT	26	1.3	3.7E-3	2.8E-2
		REACTOME_PATH	IWAY	PKR-mediated signaling	RT	20	1.0	3.8E-3	2.9E-2
		REACTOME_PATH	IWAY	APC/C:Cdc20 mediated degradation of mitotic proteins	RT	20	1.0	3.8E-3	2.9E-2
(REACTOME_PATH	IWAY	Signaling by Rho GTPases, Miro GTPases and RHOBTB3	RT 🚃	122	5.9	4.0E-3	3.0E-2
(REACTOME_PATH	IWAY	Nef-mediates down modulation of cell surface receptors by recruiting them to clathrin adapters	RT	9	0.4	4.0E-3	3.0E-2
(REACTOME_PATH	IWAY	TRAF6 mediated induction of NFkB and MAP kinases upon TLR7/8 or 9 activation	RT 🖥	25	1.2	4.1E-3	3.0E-2
(REACTOME_PATH	łWAY	RAB geranylgeranylation	RT	18	0.9	4.2E-3	3.2E-2
(REACTOME_PATH	IWAY	Activation of APC/C and APC/C:Cdc20 mediated degradation of mitotic proteins	RT	20	1.0	4.5E-3	3.3E-2
		REACTOME_PATH	łWAY	APC/C-mediated degradation of cell cycle proteins	RT	22	1.1	4.5E-3	3.3E-2
		REACTOME_PATH	IWAY	Regulation of mitotic cell cycle	RT 🖥	22	1.1	4.5E-3	3.3E-2
		REACTOME PATH	łWAY	Negative regulators of DDX58/IFIH1 signaling	RT	12	0.6	4.5E-3	3.3E-2
				Degradation of AXIN	RT	16		4.6E-3	
				Deadenylation-dependent mRNA decay	RT	16		4.6E-3	
				SARS-CoV-1 activates/modulates innate immune responses	RT	13		4.7E-3	
				RHOU GTPase cycle	RT	13		4.7E-3	
					RT				
				Regulation of activated PAK-2p34 by proteasome mediated degradation Signaling by Pho GTPases		15		4.7E-3	
		_		Signaling by Rho GTPases MADK1/MADK2 cignaling	RT =	119		4.9E-3	
				MAPK1/MAPK3 signaling	RT =	55		4.9E-3	
				Toll Like Receptor 2 (TLR2) Cascade	RT	27	1.3	5.0E-3	
				Toll Like Receptor TLR1:TLR2 Cascade	RT	27	1.3	5.0E-3	
		REACTOME_PATH	IWAY	RAF/MAP kinase cascade	RT 🔤	54	2.6	5.0E-3	3.5E-2
		REACTOME_PATH	IWAY	The role of GTSE1 in G2/M progression after G2 checkpoint	RT	20	1.0	5.2E-3	3.6E-2
		REACTOME_PATH	IWAY	<u>PIP3 activates AKT signaling</u>	RT 🚃	52	2.5	5.2E-3	3.7E-2
		REACTOME_PATH	IWAY	Regulation of actin dynamics for phagocytic cup formation	RT	17	0.8	5.3E-3	3.7E-2
(REACTOME_PATH	IWAY	<u>Protein localization</u>	RT 🖥	35	1.7	5.5E-3	3.8E-2
(REACTOME_PATH	IWAY	CDK-mediated phosphorylation and removal of Cdc6	RT 🖥	19	0.9	5.6E-3	3.8E-2
(REACTOME_PATH	IWAY	Cdc20:Phospho-APC/C mediated degradation of Cyclin A	RT 🖥	19	0.9	5.6E-3	3.8E-2
(REACTOME_PATH	łWAY	Citric acid cycle (TCA cycle)	RT	9	0.4	5.6E-3	3.8E-2
(REACTOME_PATH	IWAY	<u>Insertion of tail-anchored proteins into the endoplasmic reticulum membrane</u>	RT	9	0.4	5.6E-3	3.8E-2
		REACTOME_PATH	IWAY	Transcriptional activity of SMAD2/SMAD3:SMAD4 heterotrimer	RT	15	0.7	5.7E-3	3.9E-2
		REACTOME PATH	IWAY	Formation of WDR5-containing histone-modifying complexes	RT	13	0.6	5.9E-3	4.0E-2
		REACTOME PATH	IWAY	MAPK6/MAPK4 signaling	RT	22	1.1	5.9E-3	4.0E-2
				Cargo recognition for clathrin-mediated endocytosis	RT	25		6.0E-3	
	\exists			Signaling by cytosolic FGFR1 fusion mutants	RT	8		6.2E-3	
				Rab regulation of trafficking	RT	28		6.4E-3	
		REACTOME_FAIT	IVVAI	APC:Cdc20 mediated degradation of cell cycle proteins prior to satisfation of the cell cycle checkpoint		20	1.4	0.46 3	T.JL 2
(REACTOME_PATH	IWAY	checkpoint	RT	19	0.9	6.5E-3	4.3E-2
(REACTOME_PATH	IWAY	Early Phase of HIV Life Cycle	RT i	7	0.3	6.5E-3	4.3E-2
				Interleukin-15 signaling	RT	7	0.3	6.5E-3	4.3E-2
				Antigen processing: Ubiquitination & Proteasome degradation	RT	58		6.5E-3	
	\equiv			Degradation of DVL	RT	16		6.6E-3	
				Stabilization of p53	RT	16		6.6E-3	
				Autodegradation of the E3 ubiquitin ligase COP1	RT	15		6.9E-3	
				Ubiquitin Mediated Degradation of Phosphorylated Cdc25A	RT	15		6.9E-3	
				p53-Independent DNA Damage Response	RT	15		6.9E-3	
				p53-Independent G1/S DNA damage checkpoint	RT	15		6.9E-3	
					_				
				Regulation of RAS by GAPs CODIL modicated variety transports	RT	18	0.9	6.9E-3	
				COPII-mediated vesicle transport	RT	18	0.9	6.9E-3	
				Mitotic G1 phase and G1/S transition	RT	32		7.4E-3	
				Switching of origins to a post-replicative state	RT	22		7.8E-3	
		_		Formation of RNA Pol II elongation complex	RT	16		7.8E-3	
				RNA Polymerase II Transcription Elongation	RT	16		7.8E-3	
		_		Formation of paraxial mesoderm	RT	18		8.1E-3	
		_		Regulation of Apoptosis	RT	15		8.2E-3	
		REACTOME_PATH	IWAY	Activation, myristolyation of BID and translocation to mitochondria	RT	4	0.2	8.6E-3	5.3E-2
		REACTOME_PATH	IWAY	TP53 Regulates Transcription of Cell Cycle Genes	RT	14	0.7	8.6E-3	5.3E-2
		REACTOME_PATH	IWAY	MAP kinase activation	RT	17	0.8	8.7E-3	5.4E-2
,		REACTOME_PATH	IWAY	PCP/CE pathway	RT	22	1.1	8.8E-3	5.5E-2
(REACTOME_PATH	IWAY	Golgi-to-ER retrograde transport	RT	29	1.4	9.0E-3	5.5E-2
(REACTOME_PATH	IWAY	E3 ubiquitin ligases ubiquitinate target proteins	RT	16	0.8	9.2E-3	5.7E-2
(REACTOME_PATH	IWAY	<u>Ub-specific processing proteases</u>	RT 🖥	43	2.1	9.3E-3	5.7E-2
		REACTOME_PATH	IWAY	Late SARS-CoV-2 Infection Events	RT	18	0.9	9.4E-3	5.7E-2
				<u>Transcription of the HIV genome</u>	RT	18	0.9	9.4E-3	5.7E-2
		_		<u>Chromatin organization</u>	RT	51		9.6E-3	
		_		Chromatin modifying enzymes	RT	51		9.6E-3	
		_		TP53 Regulates Metabolic Genes	RT	21		9.6E-3	
		_		Interleukin-27 signaling	RT	6	0.3	9.7E-3	
				Mitochondrial protein import	RT	17		1.0E-2	
		_		Cross-presentation of soluble exogenous antigens (endosomes)	RT	14		1.0E-2	
		_		Intracellular signaling by second messengers	RT	14 57		1.0E-2 1.1E-2	
		_							
		_		Nucleotide Excision Repair Interloukin 2 family signaling	RT	25		1.1E-2	
		_		Interleukin-2 family signaling	RT	13		1.1E-2	
				Orc1 removal from chromatin	RT	18		1.1E-2	
				SUMOylation of DNA damage response and repair proteins	RT	19		1.1E-2	
		REACTOME_PATH			RT	15		1.2E-2	
				p53-Dependent G1 DNA Damage Response	RT	17		1.2E-2	
(p53-Dependent G1/S DNA damage checkpoint	RT	17	0.8	1.2E-2	6.8E-2
ſ		REACTOME PATH	IWAY	TP53 regulates transcription of additional cell cycle genes whose exact role in the p53 pathway remain uncertain	RT	8	0.4	1.2E-2	6.9E-2
				Protein hydroxylation	RT	8		1.2E-2	
				Signaling by TGFB family members	RT	27		1.2E-2	
(REACTOME_PATH	IWAY	RNA Polymerase II Transcription	RT	212	10.3	1.2E-2	7.0E-2

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_	st Category	Term	RT Genes	Count	1		Benjamini
		SUMOylation of transcription cofactors	RT	13		1.3E-2	
	REACTOME_PATHWAY		RT	28		1.3E-2	
	_	Oncogenic MAPK signaling	RT	20		1.4E-2	
	_	Recognition of DNA damage by PCNA-containing replication complex	RT 🖥	10		1.4E-2	
		<u>Insulin receptor recycling</u>	RT	10		1.4E-2	
		<u>Downregulation of SMAD2/3:SMAD4 transcriptional activity</u>	RT	10		1.4E-2	
	REACTOME_PATHWAY	Late endosomal microautophagy	RT	11		1.4E-2	
	REACTOME_PATHWAY	SHOC2 M1731 mutant abolishes MRAS complex function	RT	5	0.2	1.4E-2	7.9E-2
	REACTOME_PATHWAY	Gain-of-function MRAS complexes activate RAF signaling	RT	5	0.2	1.4E-2	7.9E-2
	REACTOME_PATHWAY	<u>Signaling by MRAS-complex mutants</u>	RT	5	0.2	1.4E-2	7.9E-2
	REACTOME_PATHWAY	<u>Transcriptional regulation by RUNX3</u>	RT 🖥	22	1.1	1.4E-2	7.9E-2
	REACTOME_PATHWAY	<u>UCH proteinases</u>	RT	23	1.1	1.5E-2	8.0E-2
	REACTOME_PATHWAY	Synthesis of DNA	RT	26	1.3	1.5E-2	8.1E-2
	REACTOME_PATHWAY	<u>Interleukin-2 signaling</u>	RT	6	0.3	1.5E-2	8.1E-2
	REACTOME_PATHWAY	ATF6 (ATF6-alpha) activates chaperones	RT	6	0.3	1.5E-2	8.1E-2
	REACTOME_PATHWAY	<u>Caspase-mediated cleavage of cytoskeletal proteins</u>	RT	6	0.3	1.5E-2	8.1E-2
	REACTOME_PATHWAY	G1/S DNA Damage Checkpoints	RT	17	0.8	1.6E-2	8.5E-2
	REACTOME_PATHWAY	ZBP1(DAI) mediated induction of type I IFNs	RT	8	0.4	1.6E-2	8.6E-2
	REACTOME_PATHWAY	Negative regulation of MET activity	RT	8	0.4	1.6E-2	8.6E-2
	REACTOME_PATHWAY	Transcriptional regulation by RUNX2	RT 🖥	26	1.3	1.6E-2	8.9E-2
	REACTOME_PATHWAY	RAF activation	RT	11	0.5	1.7E-2	9.0E-2
		Calnexin/calreticulin cycle	RT	9		1.7E-2	
	_	Fcgamma receptor (FCGR) dependent phagocytosis	RT	20		1.7E-2	
		TGF-beta receptor signaling activates SMADs	RT	13		1.8E-2	
		Cyclin D associated events in G1	RT	13		1.8E-2	
	REACTOME_PATHWAY		RT	13		1.8E-2	
		Iron uptake and transport	RT	15		1.8E-2	
		RIP-mediated NFkB activation via ZBP1	RT	7		1.9E-2	
		MECP2 regulates neuronal receptors and channels	RT	7		1.9E-2	
		NFE2L2 regulating ER-stress associated genes	RT	4		1.9E-2	
	_	Drug-mediated inhibition of CDK4/CDK6 activity Transcriptional regulation by PLINX1	RT	4		1.9E-2	
		Transcriptional regulation by RUNX1	RT	44 11		2.0E-2	
		Diseases of mitotic cell cycle	RT	11		2.0E-2	
	_	Maturation of spike protein	RT	11		2.0E-2	
		Loss of proteins required for interphase microtubule organization from the centrosome	RT	17		2.0E-2	
		Loss of NIp from mitotic centrosomes	RT 🖥	17	0.8		
		<u>Chaperone Mediated Autophagy</u>	RT	8	0.4	2.1E-2	1.1E-1
	REACTOME_PATHWAY	<u>Infection with Mycobacterium tuberculosis</u>	RT	9	0.4	2.1E-2	1.1E-1
	REACTOME_PATHWAY	<u>Purine salvage</u>	RT	6	0.3	2.2E-2	1.1E-1
	REACTOME_PATHWAY	<u>Integration of provirus</u>	RT	5	0.2	2.3E-2	1.2E-1
	REACTOME_PATHWAY	Formation of TC-NER Pre-Incision Complex	RT	14	0.7	2.3E-2	1.2E-1
	REACTOME_PATHWAY	<u>DNA Damage Recognition in GG-NER</u>	RT	11	0.5	2.4E-2	1.2E-1
	REACTOME_PATHWAY	Hedgehog 'off' state	RT 🖥	24	1.2	2.4E-2	1.2E-1
	REACTOME_PATHWAY	Neddylation	RT 🖀	45	2.2	2.5E-2	1.3E-1
	REACTOME_PATHWAY	HIV elongation arrest and recovery	RT 🖥	10	0.5	2.6E-2	1.3E-1
	REACTOME_PATHWAY	Pausing and recovery of HIV elongation	RT 🖥	10	0.5	2.6E-2	1.3E-1
	REACTOME_PATHWAY	<u>Interleukin-17 signaling</u>	RT	17	0.8	2.6E-2	1.3E-1
	REACTOME_PATHWAY	Translocation of SLC2A4 (GLUT4) to the plasma membrane	RT	17	0.8	2.6E-2	1.3E-1
	REACTOME_PATHWAY	Prefoldin mediated transfer of substrate to CCT/TriC	RT	9	0.4	2.6E-2	1.3E-1
	REACTOME_PATHWAY	RHOBTB1 GTPase cycle	RT	8	0.4	2.6E-2	1.3E-1
	REACTOME_PATHWAY	Response of Mtb to phagocytosis	RT	8	0.4	2.6E-2	1.3E-1
		Global Genome Nucleotide Excision Repair (GG-NER)	RT	19		2.7E-2	
		Interleukin-4 and Interleukin-13 signaling	RT	23		2.7E-2	
		Developmental Biology	RT =	193		2.8E-2	
		AURKA Activation by TPX2	RT	17		2.9E-2	
		ISG15 antiviral mechanism	RT	17		2.9E-2	
		Transcription-Coupled Nucleotide Excision Repair (TC-NER)	RT	18	0.9		1.4E-1
		Regulation of IFNG signaling	RT	6	0.3		1.4E-1
		Disorders of Nervous System Development	RT	6		3.0E-2	
		Loss of function of MECP2 in Rett syndrome	RT	6		3.0E-2	
		Disorders of Developmental Biology	RT	6		3.0E-2	
		Pervasive developmental disorders	RT	6		3.0E-2	
			_				
		ABC-family proteins mediated transport Mitophagy	RT	22 a		3.0E-2 3.2E-2	
	REACTOME_PATHWAY		RT	9 7			
		NFE2L2 regulating anti-oxidant/detoxification enzymes HSE1-dependent transactivation	RT	7 8		3.3E-2	
		HSF1-dependent transactivation Application of the basel body to the plasma membrane	RT	8		3.3E-2	
		Anchoring of the basal body to the plasma membrane CORL independent Coldi to ER retrograde traffic	RT	21		3.3E-2	
		COPI-independent Golgi-to-ER retrograde traffic	RT	13		3.4E-2	
	_	MAP2K and MAPK activation ATEC (ATEC alpha) activates chaperone genes	RT	11		3.4E-2	
		ATF6 (ATF6-alpha) activates chaperone genes	RT	5		3.4E-2	
		Folding of actin by CCT/TriC Uptake and function of diabetharia toxin	RT	5		3.4E-2	
		Uptake and function of diphtheria toxin	RT	4	0.2	3.5E-2	
	_	Nucleotide-binding domain, leucine rich repeat containing receptor (NLR) signaling pathways	RT	14	0.7		
		Epigenetic regulation of gene expression	RT	35		3.7E-2	
	_	Lysosome Vesicle Biogenesis Matchalian of pugloatides	RT	10		3.7E-2	
		Metabolism of nucleotides	RT	21	1.0		1.7E-1
	_	<u>Signaling by Hedgehog</u>	RT 🖥	29	1.4		1.7E-1
	_	Signaling by CSF3 (G-CSF)	RT	9	0.4		1.8E-1
	_	Regulation of TP53 Activity through Acetylation	RT	9	0.4		1.8E-1
	_	Maturation of nucleoprotein	RT	6	0.3		1.8E-1
	_	Activation of BAD and translocation to mitochondria	RT	6	0.3	4.0E-2	
	_	<u>Translation of Replicase and Assembly of the Replication Transcription Complex</u>	RT	6		4.0E-2	
	_	TRAF3-dependent IRF activation pathway	RT	6		4.0E-2	
	REACTOME_PATHWAY	SARS-CoV-1 targets host intracellular signalling and regulatory pathways	RT 🖥	6	0.3	4.0E-2	1.8E-1
	REACTOME_PATHWAY	<u>Asymmetric localization of PCP proteins</u>	RT	15	0.7	4.1E-2	1.8E-1
	REACTOME_PATHWAY	<u>Defective Intrinsic Pathway for Apoptosis</u>	RT	8	0.4	4.1E-2	1.8E-1
	REACTOME_PATHWAY	<u>Inactivation of CSF3 (G-CSF) signaling</u>	RT	8	0.4	4.1E-2	1.8E-1
	REACTOME_PATHWAY	Recruitment of mitotic centrosome proteins and complexes	RT	18	0.9	4.1E-2	1.8E-1
	REACTOME_PATHWAY	Centrosome maturation	RT	18	0.9	4.1E-2	1.8E-1
	REACTOME_PATHWAY	Signaling by PDGFR in disease	RT	7	0.3	4.1E-2	1.8E-1
	REACTOME_PATHWAY	Signaling by KIT in disease	RT	7	0.3	4.1E-2	1.8E-1
	REACTOME_PATHWAY	Signaling by phosphorylated juxtamembrane, extracellular and kinase domain KIT mutants	RT	7	0.3	4.1E-2	1.8E-1
	REACTOME_PATHWAY	Processing of Intronless Pre-mRNAs	RT	7	0.3	4.1E-2	1.8E-1
	REACTOME_PATHWAY	TP53 Regulates Transcription of Genes Involved in Cytochrome C Release	RT	7	0.3	4.1E-2	1.8E-1
	REACTOME_PATHWAY	<u>Interactions of Vpr with host cellular proteins</u>	RT	10	0.5	4.3E-2	1.9E-1

Category	Term	RT Genes	Count	%	P-Value	Benjamin
REACTOME_PATHWAY	RHO GTPases Activate WASPs and WAVEs	RT	10	0.5	4.3E-2	1.9E-1
REACTOME_PATHWAY	<u>Leishmania infection</u>	RT	31	1.5	4.4E-2	1.9E-1
REACTOME_PATHWAY	Parasitic Infection Pathways	RT 🖥	31	1.5	4.4E-2	1.9E-1
	FCGR3A-mediated phagocytosis	RT	14		4.5E-2	
		RT				
REACTOME_PATHWAY			14		4.5E-2	
REACTOME_PATHWAY	<u>Leishmania phagocytosis</u>	RT	14	0.7	4.5E-2	2.0E-1
REACTOME_PATHWAY	Gap-filling DNA repair synthesis and ligation in TC-NER	RT	15	0.7	4.6E-2	2.0E-1
REACTOME_PATHWAY	Platelet activation, signaling and aggregation	RT 🖥	46	2.2	4.7E-2	2.0E-1
REACTOME_PATHWAY	Pausing and recovery of Tat-mediated HIV elongation	RT	9	0.4	4.7E-2	2.0E-1
	Tat-mediated HIV elongation arrest and recovery	RT	9		4.7E-2	
		_				
REACTOME_PATHWAY	Beta-catenin independent WNT signaling	RT	28	1.4	4.8E-2	2.1E-1
REACTOME_PATHWAY	Regulation of BACH1 activity	RT	5	0.2	4.8E-2	2.1E-1
REACTOME_PATHWAY	Receptor Mediated Mitophagy	RT	5	0.2	4.8E-2	2.1E-1
REACTOME PATHWAY	Defective NEU1 causes sialidosis	RT	3	0.1	4.9E-2	2.1E-1
	Beta oxidation of palmitoyl-CoA to myristoyl-CoA	RT	3			
					4.9E-2	
REACTOME_PATHWAY	<u>Protein folding</u>	RT	20	1.0	4.9E-2	2.1E-1
REACTOME_PATHWAY	DARPP-32 events	RT	8	0.4	5.0E-2	2.1E-1
REACTOME_PATHWAY	Regulation of TP53 Expression and Degradation	RT	10	0.5	5.1E-2	2.1E-1
REACTOME PATHWAY	Dual incision in TC-NER	RT	15	0.7	5.1E-2	2.2E-1
_		_				
	VLDLR internalisation and degradation	RT	6	0.3	5.2E-2	
REACTOME_PATHWAY	Negative regulation of MAPK pathway	RT	11	0.5	5.3E-2	2.2E-1
REACTOME_PATHWAY	Formation of Incision Complex in GG-NER	RT	11	0.5	5.3E-2	2.2E-1
REACTOME_PATHWAY	Signaling by Receptor Tyrosine Kinases	RT 🚃	85	4.1	5.5E-2	2.3E-1
	Release of apoptotic factors from the mitochondria	RT	4	0.2	5.5E-2	2.3F-1
		_				
	Loss of Function of TGFBR1 in Cancer	RT	4		5.5E-2	
REACTOME_PATHWAY	IkBA variant leads to EDA-ID	RT	4	0.2	5.5E-2	2.3E-1
REACTOME_PATHWAY	2-LTR circle formation	RT	4	0.2	5.5E-2	2.3E-1
REACTOME_PATHWAY	Cooperation of Prefoldin and TriC/CCT in actin and tubulin folding	RT	9	0.4	5.5E-2	2.3E-1
REACTOME_PATHWAY		RT	18	0.9	5.6E-2	
		_	17			
REACTOME_PATHWAY		RT		0.8	5.6E-2	
REACTOME_PATHWAY	Amino acids regulate mTORC1	RT	13	0.6	5.6E-2	2.3E-1
REACTOME_PATHWAY	Signaling by BRAF and RAF1 fusions	RT	15	0.7	5.7E-2	2.3E-1
REACTOME_PATHWAY	Association of TriC/CCT with target proteins during biosynthesis	RT	10	0.5	5.9E-2	2.4E-1
REACTOME_PATHWAY		RT	10		5.9E-2	
REACTOME_PATHWAY		RT	10		5.9E-2	
REACTOME_PATHWAY	RHOH GTPase cycle	RT	10	0.5	5.9E-2	2.4E-1
REACTOME_PATHWAY	<u>Integrin signaling</u>	RT	8	0.4	6.0E-2	2.4E-1
REACTOME_PATHWAY	TP53 Regulates Transcription of Cell Death Genes	RT	11	0.5	6.1E-2	2.5E-1
REACTOME PATHWAY	Neurodegenerative Diseases	RT	7		6.3E-2	
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	<u>Deregulated CDK5 triggers multiple neurodegenerative pathways in Alzheimer's disease models</u>	RT	7		6.3E-2	
REACTOME_PATHWAY	PINK1-PRKN Mediated Mitophagy	RT	7	0.3	6.3E-2	2.5E-1
REACTOME_PATHWAY	TP53 Regulates Transcription of DNA Repair Genes	RT	14	0.7	6.4E-2	2.5E-1
REACTOME_PATHWAY	Regulation of MECP2 expression and activity	RT	9	0.4	6.5E-2	2.6E-1
REACTOME PATHWAY	SARS-CoV-2 targets host intracellular signalling and regulatory pathways	RT	5	0.2	6.5E-2	2.6F-1
	TICAM1-dependent activation of IRF3/IRF7	RT	5		6.5E-2	
REACTOME_PATHWAY	ALK mutants bind TKIs	RT	5	0.2	6.5E-2	2.6E-1
REACTOME_PATHWAY	SUMOylation of immune response proteins	RT	5	0.2	6.5E-2	2.6E-1
REACTOME_PATHWAY	Removal of the Flap Intermediate from the C-strand	RT	6	0.3	6.6E-2	2.6E-1
REACTOME_PATHWAY		RT	17		6.8E-2	
		_				
	Formation of HIV elongation complex in the absence of HIV Tat	RT	11		7.0E-2	
REACTOME_PATHWAY	Mitotic Prometaphase	RT	36	1.8	7.0E-2	2.8E-1
REACTOME_PATHWAY	Complex I biogenesis	RT	13	0.6	7.1E-2	2.8E-1
REACTOME_PATHWAY	<u>Nucleotide salvage</u>	RT	7	0.3	7.6E-2	3.0E-1
REACTOME PATHWAY	Abortive elongation of HIV-1 transcript in the absence of Tat	RT	7	0.3	7.6E-2	3.0E-1
	Telomere Extension By Telomerase	RT	7		7.6E-2	
		=				
	Regulation of NFE2L2 gene expression	RT	4		7.9E-2	
REACTOME_PATHWAY	Signaling by TGF-beta Receptor Complex in Cancer	RT	4	0.2	7.9E-2	3.1E-1
REACTOME_PATHWAY	Nef and signal transduction	RT	4	0.2	7.9E-2	3.1E-1
REACTOME_PATHWAY	Regulation of TP53 Activity	RT	29	1.4	8.0E-2	3.1E-1
	Processing of Capped Intronless Pre-mRNA	RT	8		8.3E-2	
	Signaling by NTRK1 (TRKA)	RT	22		8.3E-2	
			5			
	IRF3-mediated induction of type I IFN	RT			8.4E-2	
	WNT5A-dependent internalization of FZD2, FZD5 and ROR2	RT	5		8.4E-2	
REACTOME_PATHWAY	Suppression of phagosomal maturation	RT	5	0.2	8.4E-2	3.2E-1
REACTOME_PATHWAY	Aberrant regulation of mitotic cell cycle due to RB1 defects	RT	9	0.4	8.6E-2	3.3E-1
REACTOME_PATHWAY	RAB GEFs exchange GTP for GDP on RABs	RT	18	0.9	8.6E-2	3.3E-1
	Chaperonin-mediated protein folding	RT	18		8.6E-2	
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	<u>Transcriptional regulation of white adipocyte differentiation</u>	RT	17		8.9E-2	
	<u>Signaling by moderate kinase activity BRAF mutants</u>	RT	11		8.9E-2	
REACTOME_PATHWAY	<u>Signaling downstream of RAS mutants</u>	RT	11	0.5	8.9E-2	3.3E-1
REACTOME_PATHWAY	Signaling by RAS mutants	RT	11	0.5	8.9E-2	3.3E-1
	Paradoxical activation of RAF signaling by kinase inactive BRAF	RT	11	0.5	8.9E-2	
	Diseases of nucleotide metabolism	RT	3		8.9E-2	
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_	TGFBR1 LBD Mutants in Cancer	RT	3		8.9E-2	
REACTOME_PATHWAY	ATF6B (ATF6-beta) activates chaperones	RT	3	0.1	8.9E-2	3.3E-1
REACTOME_PATHWAY	mTORC1-mediated signalling	RT	7	0.3	9.1E-2	3.4E-1
REACTOME_PATHWAY	RHO GTPases activate PAKs	RT	7	0.3	9.1E-2	3.4E-1
REACTOME PATHWAY	Activation of BH3-only proteins	RT	8	0.4	9.6E-2	
_	Interconversion of nucleotide di- and triphosphates	RT	8	0.4	9.6E-2	
		_				
REACTOME_PATHWAY		RT	8	0.4	9.6E-2	
REACTOME_PATHWAY	SMAD2/SMAD3:SMAD4 heterotrimer regulates transcription	RT	9	0.4	9.9E-2	3.6E-1
REACTOME_PATHWAY	ROS and RNS production in phagocytes	RT	9	0.4	9.9E-2	3.6E-1
REACTOME PATHWAY	Signaling by high-kinase activity BRAF mutants	RT	9	0.4	9.9E-2	3.6E-1
_	Interactions of Rev with host cellular proteins	RT	9		9.9E-2	
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	Regulation of TP53 Degradation	RT	9		9.9E-2	
REACTOME_PATHWAY	<u>Signaling by FLT3 fusion proteins</u>	RT	6	0.3	9.9E-2	3.6E-1
REACTOME_PATHWAY	<u>Processive synthesis on the C-strand of the telomere</u>	RT	6	0.3	9.9E-2	3.6E-1

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