

Clustering Polypeptide motifs using the Hammock hidden Markov model peptide clustering

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This script clusters Polypeptide motifs using the Hammock hidden Markov model peptide clustering.

```
suppressPackageStartupMessages(library(knitr))
```

Loading samples

```
all.samples <- readRDS("data/allSamplesDataTable.RDS")
all.samples[, `:=`(Peptide, as.character(Peptide)), ]

setkey(all.samples, Group)

select.samples <- all.samples[J(c("mRNA_30cpc_SN", "mRNA_30cpc_Th", "mRNA_30cpc_Ctx",
  "mRNA_3cpc_SN", "mRNA_3cpc_Th", "mRNA_3cpc_Ctx", "mRNA_30cpc_SN_4wks", "mRNA_30cpc_Th_4wks",
  "mRNA_30cpc_Ctx_4wks", "mRNA_3cpc_SN_4wks", "mRNA_3cpc_Th_4wks", "mRNA_3cpc_Ctx_4wks",
  "mRNA_30cpc_Organoid_MD114", "mRNA_3000cpc_Organoid_MD101"))]

select.samples[, `:=`(BCcount, as.integer(mclapply(BC, function(x) length(table(strsplit(paste(t(x),
  collapse = ","), ","))), mc.cores = detectCores())))]
select.samples[Animals == "mRNA_3000cpc_Organoid_MD101", `:=`(BCcount, as.integer(BCcount/5)),
  ] # Removes unclear 3000cpc reads
select.samples <- select.samples[BCcount >= 1]
select.samples[, `:=`(Animalcount, as.integer(mclapply(Animals, function(x) length(table(strsplit(paste(t(x),
  collapse = ","), ","))), mc.cores = detectCores())))]
select.samples[, `:=`(Score, BCcount + Animalcount - 1), ]

select.samples.trsp <- unique(select.samples, by = c("Animals", "BC", "LUTnrs"))

fasta.names <- paste(1:nrow(select.samples.trsp), select.samples.trsp$Score,
  select.samples.trsp$Group, sep = "|")
write.fasta(as.list(select.samples.trsp$Peptide), fasta.names, "data/organoidSamplesPeptides.fasta",
  open = "w", nbchar = 60, as.string = TRUE)

# Generate Scoring table for Weblogo Weighting
select.samples.pepMerge <- select.samples.trsp[, sum(Score), by = c("Peptide")]
setnames(select.samples.pepMerge, "V1", "Score")
```

Executing Hammock Clustering

```
Sys.setenv(PATH = paste("/root/HMMER/binaries", Sys.getenv("PATH"), sep = ":"),
  HHLIB = "/home/rstudio/Hammock_v1.2.0/hhsuite-2.0.16/lib/hh/")
unlink("/home/rstudio/data/HammockOrganoidAll", recursive = TRUE, force = FALSE)
sys.out <- system(paste("java -jar /home/rstudio/Hammock_v1.2.0/dist/Hammock.jar full -i /home/rstudio/data/
  detectCores(), sep = ""), intern = TRUE, ignore.stdout = TRUE)
# Alternative parameters --use_clinkage --alignment_threshold 23 --max_shift
# 13 --max_aln_length 37 --count_threshold 50 --max_inner_gaps 0
```

```
# --assign_thresholds 14.1,10.5,7.0
hammock.log <- data.table(readLines("data/HammockOrganoidAll/run.log"))

colnames(hammock.log) <- c("Hammock log file")
knitr::kable(hammock.log, longtable = T)
```

Hammock log file

2020-11-09 21:53:06.327:

Hammock version 1.2.0 Run with `-help` for a brief description of command line parameters.

2020-11-09 21:53:06.460: Program started in mode “full”.

Command-line arguments:

full -i /home/rstudio/data/organoidSamplesPeptides.fasta -d /home/rstudio/data/HammockOrganoidAll -max_shift 7
-c 65 -t 48

Complete list of input/output parameters:

-i, -input /home/rstudio/data/organoidSamplesPeptides.fasta
-d, -output_directory /home/rstudio/data/HammockOrganoidAll
-t, -thread 48
-l, -labels null

Complete list of linkage clustering parameters:

-f, -file_format fasta
-m, -matrix /home/rstudio/Hammock_v_1.2.0/matrices/blosum62.txt
-g, -alignment_threshold (-greedy_threshold)null
-x, -max_shift 7
-p, -gap_penalty 0
-C, -cache_size_limit 1

2020-11-09 21:53:06.461: Loading input sequences...

2020-11-09 21:53:06.537: 5710 unique sequences loaded.

2020-11-09 21:53:06.544: 11169 total sequences loaded.

2020-11-09 21:53:06.545: 5710 unique sequences after non-specified labels filtered out

2020-11-09 21:53:06.554: 11169 total sequences after non-specified labels filtered out

2020-11-09 21:53:06.556: Shortest sequence: 14 AA. Longest sequence: 22 AA.

2020-11-09 21:53:06.556: Up to 10 000 unique sequences. Using linkage clustering. Use `-use_greedy` to force greedy clustering

2020-11-09 21:53:06.570: Generating input statistics...

2020-11-09 21:53:06.595: Linkage clustering threshold not set. Setting automatically to: 26

2020-11-09 21:53:06.597: Linkage clustering...

2020-11-09 21:54:14.913: Ready. Clustering time: 68316

2020-11-09 21:54:14.914: Resulting clusters: 2028

2020-11-09 21:54:14.915: Building MSAs...

2020-11-09 21:54:15.858: Ready. Total time: 69260

2020-11-09 21:54:15.859: Saving results to output files...

2020-11-09 21:54:16.245: Linkage clustering results in: /home/rstudio/data/HammockOrganoidAll/initial_clusters.tsv

2020-11-09 21:54:16.246: and: /home/rstudio/data/HammockOrganoidAll/initial_clusters_sequences.tsv

2020-11-09 21:54:16.246: and:

/home/rstudio/data/HammockOrganoidAll/initial_clusters_sequences_original_order.tsv

2020-11-09 21:54:16.246:

Loading clusters...

2020-11-09 21:54:16.297: Maximal alignment length not set. Setting automatically to: 30

2020-11-09 21:54:16.299: Minimal number of match states not set. Setting automatically to: 5

2020-11-09 21:54:16.390: Assign threshold not set. Setting automatically to:

Hammock log file

2020-11-09 21:54:16.397: 14.44,11.4,8.36
2020-11-09 21:54:16.397: Overlap threshold not set. Setting automatically to:
2020-11-09 21:54:16.400: 10.64,6.08,0.0
2020-11-09 21:54:16.400: Merge threshold not set. Setting automatically on the basis of average sequence length to:
2020-11-09 21:54:16.402: 15.2,13.68,12.16
2020-11-09 21:54:16.402: Initial extension threshold not set. Setting automatically on the basis of merge threshold
sequence to: 16.72

Complete list of HMM-based clustering parameters:

-a, -part_threshold null
-s, -size_threshold null
-c, -count_threshold 65
-n, -assign_thresholds 14.44,11.4,8.36,
-v, -overlap_thresholds 10.64,6.08,0.0,
-r, -merge_thresholds 15.2,13.68,12.16,
-e, -relative_thresholds false
-b, -absolute_thresholds true
-h, -min_conserved_positions 5
-y, -max_gap_proportion 0.2
-k, -min_ic 1.2
-j, -max_aln_length 30
-u, -max_inner_gaps 0
-q, -extension_increase_length false

2020-11-09 21:54:16.491: Initial cluster extension...

2020-11-09 21:54:42.279:

Clustering in 3 rounds...

2020-11-09 21:54:42.279:

2020-11-09 21:54:42.280: Round 1:

2020-11-09 21:54:42.280: 65 clusters remaining

2020-11-09 21:54:42.280: Building hmms and searching database...

2020-11-09 21:54:42.572: Extending clusters...

2020-11-09 21:54:42.579: 106 sequences to be inserted into clusters

2020-11-09 21:54:42.579: 36 clusters to be extended

2020-11-09 21:54:42.622: 58 sequences rejected

2020-11-09 21:54:42.623: 1 cluster pairs to check and merge.

2020-11-09 21:54:42.623: Merging clusters from 1 groups...

2020-11-09 21:54:42.632: Building hhs...

2020-11-09 21:54:42.633: HH clustering...

2020-11-09 21:54:42.876:

2020-11-09 21:54:42.876: Round 2:

2020-11-09 21:54:42.877: 65 clusters remaining

2020-11-09 21:54:42.877: Building hmms and searching database...

2020-11-09 21:54:43.040: Extending clusters...

2020-11-09 21:54:43.045: 97 sequences to be inserted into clusters

2020-11-09 21:54:43.046: 34 clusters to be extended

2020-11-09 21:54:43.078: 85 sequences rejected

2020-11-09 21:54:43.080: 90 cluster pairs to check and merge.

2020-11-09 21:54:43.080: Merging clusters from 2 groups...

2020-11-09 21:54:43.088: Building hhs...

2020-11-09 21:54:43.107: HH clustering...

2020-11-09 21:54:44.096:

2020-11-09 21:54:44.096: Round 3:

Hammock log file

2020-11-09 21:54:44.096: 64 clusters remaining
2020-11-09 21:54:44.096: Building hmms and searching database...
2020-11-09 21:54:44.295: Extending clusters...
2020-11-09 21:54:44.299: 211 sequences to be inserted into clusters
2020-11-09 21:54:44.300: 49 clusters to be extended
2020-11-09 21:54:44.367: 137 sequences rejected
2020-11-09 21:54:44.368: Overlap threshold is 0. Running full cluster merging.
2020-11-09 21:54:44.377: Buiding hhs...
2020-11-09 21:54:44.403: HH clustering...
2020-11-09 21:54:50.233:
Ready. Clustering time : 7954
2020-11-09 21:54:50.233: Resulting clusers: 52
2020-11-09 21:54:50.234: Containing 590 unique sequences and 1703 total sequences.
2020-11-09 21:54:50.238: Unique sequences not assigned: 4166, total sequences not assigned: 7036
2020-11-09 21:54:50.238: Saving results to outupt files...
2020-11-09 21:54:50.305: Results in: /home/rstudio/data/HammockOrganoidAll/final_clusters_sequences.tsv
2020-11-09 21:54:50.305: and: /home/rstudio/data/HammockOrganoidAll/final_clusters.tsv
2020-11-09 21:54:50.305: and:
/home/rstudio/data/HammockOrganoidAll/final_clusters_sequences_original_order.tsv
2020-11-09 21:54:50.306:
Calculating KLD...
2020-11-09 21:54:50.486: Final system KLD over match state MSA positions: 20.060316040757627
2020-11-09 21:54:50.486: Final system KLD over all MSA positions: 23.35563687642089
2020-11-09 21:54:50.487: Program successfully ended.

Generation of Weblogo visualization

```
ham.clusters <- data.table(read.table("/home/rstudio/data/HammockOrganoidAll/final_clusters.tsv",
  header = TRUE, skip = 0, sep = "\t", stringsAsFactors = FALSE, fill = TRUE))
id.order <- as.list(ham.clusters$cluster_id)
ham.clusters.all <- data.table(read.table("/home/rstudio/data/HammockOrganoidAll/final_clusters_sequences.tsv",
  header = TRUE, skip = 0, sep = "\t", stringsAsFactors = FALSE, fill = TRUE))
ham.clusters.all[, `:=`(alignment, gsub("\\-", "\\_", alignment))]
setkey(select.samples, Peptide)
setkey(select.samples.trsp, Peptide)

unlink("/home/rstudio/data/WEBlogos", recursive = TRUE, force = FALSE)
dir.create(file.path("/home/rstudio/data/", "WEBlogos"), showWarnings = FALSE)
dir.create(file.path("/home/rstudio/data/HammockOrganoidAll/", "alignments_final_Scored"),
  showWarnings = FALSE)

setkey(ham.clusters.all, cluster_id)
setkey(ham.clusters, cluster_id)
setkey(select.samples.pepMerge, Peptide)

opts_chunk$set(out.width = "100%", fig.align = "center")
generateWeblogo <- function(in.name) {
  # in.name <- ham.clusters$cluster_id[2] in.name <- 6777
  this.fa <- read.fasta(file = paste("/home/rstudio/data/HammockOrganoidAll/alignments_final/",
    in.name, ".aln", sep = ""))
  allSeqs <- unlist(getSequence(this.fa, as.string = TRUE))
  allSeqs <- data.table(unlist(lapply(allSeqs, function(x) gsub("([-])", "",
    toupper(x)))))
```

```

allSeqs.out <- select.samples.pepMerge[J(allSeqs)]
allSeqs.out$Annot <- data.table(getName(this.fa))
allSeqs.out[, `:=`(Annot, paste(Annot, "_", Score, sep = ""))]
allSeqs.out$Alignment <- data.table(toupper(unlist(getSequence(this.fa,
  as.string = TRUE))))

allSeqs.out <- allSeqs.out[rep(1:.N, Score)][, `:=`(Indx, 1:.N), by = Peptide]
allSeqs.out[, `:=`(Annot, paste(Annot, "_", Indx, sep = ""))]

write.fasta(as.list(allSeqs.out$Alignment), allSeqs.out$Annot, nbchar = 60,
  paste("/home/rstudio/data/HamcockOrganoidAll/alignments_final_Scored/",
    in.name, ".aln", sep = ""), open = "w")

this.main <- ham.clusters[J(in.name)]
main.gene <- select.samples.trsp[J(this.main$main_sequence)]$GeneName[1]
this.title <- paste("## Peptide", this.main$main_sequence, "from", main.gene,
  "with cluster number", in.name, sep = " ")

tmp <- system(paste("weblogo --format PDF --sequence-type protein --size large --errorbars NO --resolution",
  this.title, "' < /home/rstudio/data/HamcockOrganoidAll/alignments_final_Scored/",
  in.name, ".aln > /home/rstudio/data/WEBlogos/", in.name, ".pdf", sep = ""),
  intern = TRUE, ignore.stdout = FALSE)

cat("\n")
cat(this.title, "\n")
cat("\n")
cat("\n")
cat(paste0("[Peptide: ", this.main$main_sequence, " from ", main.gene,
  " with cluster number ", in.name, "](/home/rstudio/data/WEBlogos/",
  in.name, ".pdf)"))
cat("\n")
out.table <- knitr::kable(this.main[, c(1:8, 10)], format = "latex")
print(column_spec(out.table, 1:9, monospace = TRUE) %>% kable_styling(latex_options = c("striped",
  "scale_down", "repeat_header"))))
cat("\n")
this.cluster <- ham.clusters.all[J(in.name)]
out.table <- knitr::kable(this.cluster[, c(1:7)], format = "latex")
print(column_spec(out.table, 1:7, monospace = TRUE) %>% kable_styling(latex_options = c("striped",
  "scale_down", "repeat_header"))))

this.found <- select.samples[J(this.cluster$sequence)]
setnames(this.cluster, "sequence", "Peptide")
this.found <- merge(this.found, this.cluster[, 2:3], by = "Peptide", all = FALSE)
cat("\n")
cat("\n")
output.order <- c("alignment", "LUTnrs", "GeneName", "start", "structure",
  "Group", "Score")
if (nrow(this.found) >= 48) {
  this.found.p1 <- this.found[1:47, ]
  out.table <- knitr::kable(this.found.p1[, ..output.order], format = "latex")
  print(column_spec(out.table, 1, monospace = TRUE) %>% kable_styling(latex_options = c("striped",
    "scale_down", "repeat_header"))))
  cat("\n")
  cat("\n\n\\pagebreak\n")
  cat("\n\n\\clearpage\n")
  this.found <- this.found[48:nrow(this.found), ]
  if (nrow(this.found) >= 48) {

```

```

    this.found.p2 <- this.found[1:47, ]
    out.table <- knitr::kable(this.found.p2[, ..output.order], format = "latex")
    print(column_spec(out.table, 1, monospace = TRUE) %>% kable_styling(latex_options = c("striped",
      "scale_down", "repeat_header")))
    cat("\n")
    cat("\n\n\\pagebreak\n")
    cat("\n\n\\clearpage\n")
    this.found <- this.found[48:nrow(this.found), ]
  }
  if (nrow(this.found) >= 48) {
    this.found.p2 <- this.found[1:47, ]
    out.table <- knitr::kable(this.found.p2[, ..output.order], format = "latex")
    print(column_spec(out.table, 1, monospace = TRUE) %>% kable_styling(latex_options = c("striped",
      "scale_down", "repeat_header")))
    cat("\n")
    cat("\n\n\\pagebreak\n")
    cat("\n\n\\clearpage\n")
    this.found <- this.found[48:nrow(this.found), ]
  }
  out.table <- knitr::kable(this.found[, ..output.order], format = "latex")
  print(column_spec(out.table, 1, monospace = TRUE) %>% kable_styling(latex_options = c("striped",
    "scale_down", "repeat_header")))
  cat("\n")
  cat("\n\n\\clearpage\n")
  cat("\n")
} else {
  out.table <- knitr::kable(this.found[, ..output.order], format = "latex")
  print(column_spec(out.table, 1, monospace = TRUE) %>% kable_styling(latex_options = c("striped",
    "scale_down", "repeat_header")))
  cat("\n")
  cat("\n\n\\pagebreak\n")
  cat("\n\n\\clearpage\n")
}
}
invisible(lapply(id.order, generateWeblogo))

```

Peptide RTPGDEPAPAVAAQ from BV-G with cluster number 9079

Peptide RTPGDEPAPAVAAQ from BV-G with cluster number 9079



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
9079	RTPGDEPAPAVAAQ	164	40	31	31	30	3	3

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
9079	STLLPPELSDTTNA	___STLLPPELSDTTNA_____	13	4	4	4
9079	RTPGDEPAPAVAAQ	____RTPGDEPAPAVAAQ_____	13	1	1	1
9079	SEAPTSGPSAAS	____SEAPTSGPSAAS_____	10	2	2	2
9079	ISALRSPYPASGL	__ISALRSPYPASGL_____	9	3	2	3
9079	RGTSRTPGDEPAPA	____RGTSRTPGDEPAPA_____	8	1	1	0
9079	PPELSDTTNATQPE	____PPELSDTTNATQPE_____	7	2	2	2
9079	ATVAANGGPASRPP	__ATVAANGGPASRPP_____	7	2	2	2
9079	NGGPASRPPVPSP	____NGGPASRPPVPSP_____	6	2	1	2
9079	LARVGNPTDENAPA	____LARVGNPTDENAPA_____	5	2	2	0
9079	TDENAPAVLPGPPA	____TDENAPAVLPGPPA_____	4	0	0	1
9079	PYPASGLLELCVI	____PYPASGLLELCVI_____	4	1	1	1
9079	LRSPYPASGLLELCVIFFFER	____LRSPYPASGLLELCVIFFFER_____	4	0	2	1
9079	GPASDTTNATARLP	____GPASDTTNATARLP_____	4	1	1	1
9079	ANGGPASRPPVPS	____ANGGPASRPPVPS_____	4	1	1	1
9079	TLLPPELSDTTNAT	____TLLPPELSDTTNAT_____	3	1	2	0
9079	SGSPGSAASPEVTP	____SGSPGSAASPEVTP_____	3	0	1	0
9079	RVGDPADENPPGAL	____RVGDPADENPPGAL_____	3	0	0	0
9079	GGPASRPPVPSPA	____GGPASRPPVPSPA_____	3	1	1	1
9079	APSSPGTGVAAAT	____APSSPGTGVAAAT_____	3	0	1	0
9079	VAATTATPGTRGTA	____VAATTATPGTRGTA_____	2	1	0	1
9079	SRTPGDEPAPAVAA	____SRTPGDEPAPAVAA_____	2	0	0	0
9079	SAAPSSPGTGVAA	____SAAPSSPGTGVAA_____	2	1	0	1
9079	RGTSRTPGDEPAPAVAAQLPPN	____RGTSRTPGDEPAPAVAAQLPPN_____	2	1	1	0
9079	PEERGTSRTPGDEP	____PEERGTSRTPGDEP_____	2	1	0	1
9079	NASEAPTSGPSA	____NASEAPTSGPSA_____	2	0	0	0
9079	LVHGSPGTGKSVAT	____LVHGSPGTGKSVAT_____	2	1	0	1
9079	LLPPELSETPNATQ	____LLPPELSETPNATQ_____	2	1	0	1
9079	LLPPELSDTTNATQ	____LLPPELSDTTNATQ_____	2	1	0	0
9079	LARVGNPTDENAPAVLPGPPAG	____LARVGNPTDENAPAVLPGPPAG_____	2	1	0	0
9079	DENAPAVLPGPPAG	____DENAPAVLPGPPAG_____	2	0	0	1
9079	VAANGGPASRPPV	____VAANGGPASRPPV_____	1	0	0	1
9079	TSTLLPPELSETPN	____TSTLLPPELSETPN_____	1	0	0	0
9079	TSTLLPPELSDTTNATQPELVP	____TSTLLPPELSDTTNATQPELVP_____	1	0	0	0
9079	TSRTPGDEPAPAVA	____TSRTPGDEPAPAVA_____	1	1	0	0
9079	TLPQSPGPAVPLAG	____TLPQSPGPAVPLAG_____	1	0	0	0
9079	TGPASDTTNATARL	____TGPASDTTNATARL_____	1	1	0	0
9079	SRTPGDEPAPAVAAQLPPNWHV	____SRTPGDEPAPAVAAQLPPNWHV_____	1	0	0	0
9079	SGYSSPGSPGTPGS	____SGYSSPGSPGTPGS_____	1	1	0	0
9079	SGSPGRRHSQASYP	____SGSPGRRHSQASYP_____	1	1	0	0
9079	PTSGSPGSAASPEV	____PTSGSPGSAASPEV_____	1	0	0	0
9079	PTGPASDTTNATAR	____PTGPASDTTNATAR_____	1	1	0	0
9079	PTDENAPAVLPGPP	____PTDENAPAVLPGPP_____	1	1	0	0
9079	PPYTSTLLPPELSDTTNATQPE	PPYTSTLLPPELSDTTNATQPE_____	1	0	1	0
9079	PPTGPATDPASASG	____PPTGPATDPASASG_____	1	0	0	1
9079	PGPATPGPVGASAA	____PGPATPGPVGASAA_____	1	0	0	0
9079	PGDTGTGPASGEI	____PGDTGTGPASGEI_____	1	0	0	0
9079	PGASPYDDGGLSP	____PGASPYDDGGLSP_____	1	0	0	0
9079	LSETPNATQPELAP	____LSETPNATQPELAP_____	1	0	0	0
9079	LPQSPGPAVPLAGD	____LPQSPGPAVPLAGD_____	1	0	0	0
9079	LDRVGDADENPPG	____LDRVGDADENPPG_____	1	0	0	1
9079	LAGTPASGTPRLPP	____LAGTPASGTPRLPP_____	1	0	0	0
9079	GYSSPGSPGTPGSR	____GYSSPGSPGTPGSR_____	1	0	1	0
9079	GNPTDENAPAVLPG	____GNPTDENAPAVLPG_____	1	0	0	0
9079	GGPVSRPTTRQPV	____GGPVSRPTTRQPV_____	1	0	0	0
9079	DKTLARVGNPTDENAPAVLPGP	____DKTLARVGNPTDENAPAVLPGP_____	1	1	0	0
9079	APTSGSPGSAASPE	____APTSGSPGSAASPE_____	1	0	0	0
9079	APTGPASDTTNATA	____APTGPASDTTNATA_____	1	1	0	0
9079	AATVAANGGPASRP	____AATVAANGGPASRP_____	1	0	1	0
9079	AAPTGPASDTTNAT	____AAPTGPASDTTNAT_____	1	0	0	0

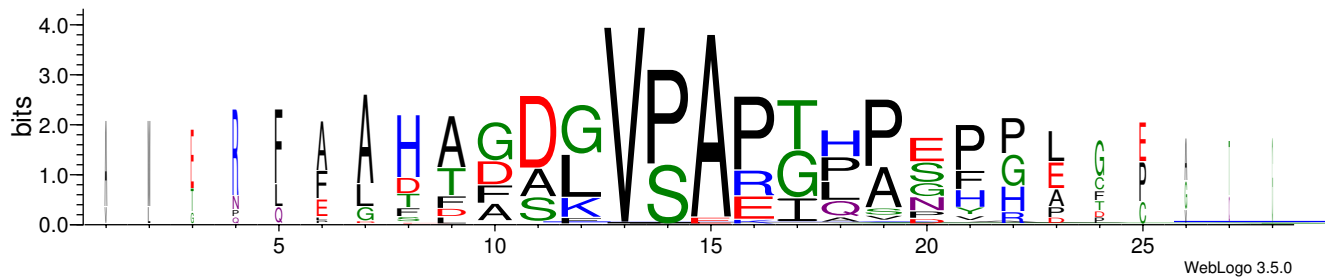
alignment	LUThrs	GeneName	start	structure	Group	Score
____AAPTGPASDTTNTAT_____	X43533	HSV-2-pUS5	22	14aa	mRNA_3000cpc_Organoid_MD101	1
__AATVAANGGPASRP_____	X43426	HSV-2-pUL27	37	14aa	mRNA_30cpc_Th	1
____ANGGPASRPPPVPS_____	X39931	HSV-2-pUL27	42	14aa	mRNA_30cpc_SN	1
____ANGGPASRPPPVPS_____	X39931	HSV-2-pUL27	42	14aa	mRNA_30cpc_Th	1
____ANGGPASRPPPVPS_____	X39931	HSV-2-pUL27	42	14aa	mRNA_30cpc_Ctx	1
____ANGGPASRPPPVPS_____	X39931	HSV-2-pUL27	42	14aa	mRNA_3cpc_Th	1
____APSSPGTPGVAAAT_____	X56047	HSV-1-pUL27	31	14aaA5	mRNA_30cpc_Th	1
____APSSPGTPGVAAAT_____	X41585	HSV-1-pUL27	31	14aa	mRNA_3000cpc_Organoid_MD101	2
____APTGPASDTTNTATA_____	X41572	HSV-2-pUS5	23	14aa	mRNA_30cpc_Ctx	1
____APTSGSPGSAASPE_____	X56039	HSV-1-pUL44	46	14aaA5	mRNA_3cpc_Th	1
__ATVAANGGPASRPP_____	X40487	HSV-2-pUL27	38	14aa	mRNA_30cpc_SN	2
__ATVAANGGPASRPP_____	X40487	HSV-2-pUL27	38	14aa	mRNA_30cpc_Th	2
__ATVAANGGPASRPP_____	X40487	HSV-2-pUL27	38	14aa	mRNA_30cpc_Ctx	2
__ATVAANGGPASRPP_____	X40487	HSV-2-pUL27	38	14aa	mRNA_3cpc_Th	1
____DENAPAVLPGPPAG_____	X35636	HSV-2-pUL22	303	14aa	mRNA_30cpc_SN	1
____DENAPAVLPGPPAG_____	X35636	HSV-2-pUL22	303	14aa	mRNA_3cpc_Th	1
__DKTLARVGNPTDENAPVLPGP_____	X33869	HSV-2-pUL22	292	22aa	mRNA_30cpc_Ctx	1
____GGPASRPPPVPSPA_____	X64500	HSV-2-pUL27	44	14aa	mRNA_30cpc_SN	1
____GGPASRPPPVPSPA_____	X64500	HSV-2-pUL27	44	14aa	mRNA_30cpc_Th	1
____GGPASRPPPVPSPA_____	X64500	HSV-2-pUL27	44	14aa	mRNA_30cpc_Ctx	1
____GGPVSRRPTTRQPV_____	X64509	HSV-1-pUL36	2847	14aa	mRNA_30cpc_SN_4wks	1
____GNPTDENAPAVLPG_____	X61125	HSV-2-pUL22	299	14aa	mRNA_3000cpc_Organoid_MD101	1
____GPASDTTNATARLP_____	X62700	HSV-2-pUS5	26	14aa	mRNA_30cpc_SN	1
____GPASDTTNATARLP_____	X62700	HSV-2-pUS5	26	14aa	mRNA_30cpc_Th	1
____GPASDTTNATARLP_____	X62700	HSV-2-pUS5	26	14aa	mRNA_30cpc_Ctx	1
____GPASDTTNATARLP_____	X62700	HSV-2-pUS5	26	14aa	mRNA_3000cpc_Organoid_MD101	1
____GYSSPGSPGTPGSR_____	X65114	Tau	441	14aa	mRNA_30cpc_Th	1
__ISALRSPYPASPGL_____	X14871	HSV-1-pUL36	535	14aa	mRNA_30cpc_SN	3
__ISALRSPYPASPGL_____	X14871	HSV-1-pUL36	535	14aa	mRNA_30cpc_Th	2
__ISALRSPYPASPGL_____	X14871	HSV-1-pUL36	535	14aa	mRNA_30cpc_Ctx	3
__ISALRSPYPASPGL_____	X14871	HSV-1-pUL36	535	14aa	mRNA_3cpc_Th	1
____LAGTPASGTPRLPP_____	X32150	HSV-1-pUS8	189	14aa	mRNA_3cpc_Th	1
____LARVGNPTDENAPA_____	X31973	HSV-2-pUL22	295	14aa	mRNA_30cpc_Th	2
____LARVGNPTDENAPA_____	X31973	HSV-2-pUL22	295	14aa	mRNA_30cpc_Ctx	2
____LARVGNPTDENAPA_____	X31973	HSV-2-pUL22	295	14aa	mRNA_3cpc_Th	1
____LARVGNPTDENAPAVLPGPPAG_____	X31974	HSV-2-pUL22	295	22aa	mRNA_30cpc_Ctx	1
____LARVGNPTDENAPAVLPGPPAG_____	X31974	HSV-2-pUL22	295	22aa	mRNA_3000cpc_Organoid_MD101	1
____LDRVGDPADENPPG_____	X53386	HSV-1-pUL22	295	14aaA5	mRNA_30cpc_SN	1
____LLPPELSDTTNATQ_____	X84578	HSV-1-pUS6	277	14aaG4S	mRNA_30cpc_Ctx	1
____LLPPELSDTTNATQ_____	X84578	HSV-2-pUS6	277	14aaG4S	mRNA_30cpc_Ctx	1
____LLPPELSDTTNATQ_____	X30911	HSV-1-pUS6	277	14aa	mRNA_3cpc_Th	1
____LLPPELSDTTNATQ_____	X30911	HSV-2-pUS6	277	14aa	mRNA_3cpc_Th	1
____LLPPELSETPNATQ_____	X30913	HSV-1-pUS6	277	14aa	mRNA_30cpc_SN	1
____LLPPELSETPNATQ_____	X30913	HSV-2-pUS6	277	14aa	mRNA_30cpc_SN	1
____LLPPELSETPNATQ_____	X30913	HSV-1-pUS6	277	14aa	mRNA_30cpc_Ctx	1
____LLPPELSETPNATQ_____	X30913	HSV-2-pUS6	277	14aa	mRNA_30cpc_Ctx	1
____LPQSPGPAVPLAGD_____	X30196	HSV-1-pUS4	104	14aa	mRNA_30cpc_Organoid_MD114	1

alignment	LUThrs	GeneName	start	structure	Group	Score
____LRSPYPASPGLLELCVIFFFER____	X30490	HSV-1-pUL36	538	22aa	mRNA_30cpc_SN	1
____LRSPYPASPGLLELCVIFFFER____	X30490	HSV-1-pUL36	538	22aa	mRNA_30cpc_Th	2
____LRSPYPASPGLLELCVIFFFER____	X30490	HSV-1-pUL36	538	22aa	mRNA_3cpc_Th	1
____LSETPNATQPELAP____	X29351	HSV-1-pUS6	282	14aa	mRNA_3000cpc_Organoid_MD101	1
____LSETPNATQPELAP____	X29351	HSV-2-pUS6	282	14aa	mRNA_3000cpc_Organoid_MD101	1
____LVHGSPGTGKSVAT____	X32843	PV1-VP1	674	14aa	mRNA_30cpc_SN	1
____LVHGSPGTGKSVAT____	X32843	PV1-VP1	674	14aa	mRNA_30cpc_Ctx	1
____NASEAPTSGPSGSA____	X2101	HSV-1-pUL44	42	14aa	mRNA_3cpc_Ctx	1
____NASEAPTSGPSGSA____	X2101	HSV-1-pUL44	42	14aa	mRNA_3000cpc_Organoid_MD101	1
____NGGPASRPPPVPSPP____	X2437	HSV-2-pUL27	43	14aa	mRNA_30cpc_SN	2
____NGGPASRPPPVPSPP____	X2437	HSV-2-pUL27	43	14aa	mRNA_30cpc_Th	1
____NGGPASRPPPVPSPP____	X2437	HSV-2-pUL27	43	14aa	mRNA_30cpc_Ctx	2
____NGGPASRPPPVPSPP____	X2437	HSV-2-pUL27	43	14aa	mRNA_3cpc_Th	1
____PEERGTSRTPGDEP____	X23187	BV-G	295	14aa	mRNA_30cpc_SN	1
____PEERGTSRTPGDEP____	X23187	BV-G	295	14aa	mRNA_30cpc_Ctx	1
____PGASPYDDGGLSP____	X51429	HSV-1-pUL36	949	14aaA5	mRNA_3000cpc_Organoid_MD101	1
____PGDTGTPAPASGEI____	X82709	HSV-2-pUS7	226	14aaG4S	mRNA_30cpc_Th_4wks	1
____PGPATPGPVGASAA____	X23862	HSV-2-pUS4	477	14aa	mRNA_3000cpc_Organoid_MD101	1
____PPELSDTTNATQPE____	X22117	HSV-2-pUS6	279	14aa	mRNA_30cpc_SN	2
____PPELSDTTNATQPE____	X22117	HSV-2-pUS6	279	14aa	mRNA_30cpc_Th	2
____PPELSDTTNATQPE____	X22117	HSV-2-pUS6	279	14aa	mRNA_30cpc_Ctx	2
____PPELSDTTNATQPE____	X22117	HSV-2-pUS6	279	14aa	mRNA_3cpc_Th	1
____PPTGPATDPASASG____	X21885	HSV-1-pUL14	197	14aa	mRNA_30cpc_SN	1
____PPYTSTLLPPELSDTTNATQPE____	X22271	HSV-1-pUS6	271	22aa	mRNA_30cpc_Th	1
____PPYTSTLLPPELSDTTNATQPE____	X22271	HSV-2-pUS6	271	22aa	mRNA_30cpc_Th	1
____PTDENAPAVLPGPP____	X50697	HSV-2-pUL22	301	14aaA5	mRNA_30cpc_Ctx	1
____PTGPASDTTNATAR____	X21042	HSV-2-pUS5	24	14aa	mRNA_30cpc_Ctx	1
____PTSGSPGSAASPEV____	X20852	HSV-1-pUL44	47	14aa	mRNA_3000cpc_Organoid_MD101	1
____PYPASPGLLELCVI____	X82824	HSV-1-pUL36	541	14aaG4S	mRNA_30cpc_SN	1
____PYPASPGLLELCVI____	X82824	HSV-1-pUL36	541	14aaG4S	mRNA_30cpc_Th	1
____PYPASPGLLELCVI____	X82824	HSV-1-pUL36	541	14aaG4S	mRNA_30cpc_Ctx	1
____PYPASPGLLELCVI____	X82824	HSV-1-pUL36	541	14aaG4S	mRNA_3cpc_Th	1
____RGTSRTPGDEPAPA____	X83630	BV-G	298	14aaG4S	mRNA_30cpc_Th	1
____RGTSRTPGDEPAPA____	X83630	BV-G	298	14aaG4S	mRNA_30cpc_Ctx	1
____RGTSRTPGDEPAPA____	X27393	BV-G	298	14aa	mRNA_3cpc_Th	1
____RGTSRTPGDEPAPA____	X83630	BV-G	298	14aaG4S	mRNA_3cpc_Th	4
____RGTSRTPGDEPAPA____	X83630	BV-G	298	14aaG4S	mRNA_3cpc_Ctx	1
____RGTSRTPGDEPAPAVAAQLPPN____	X27394	BV-G	298	22aa	mRNA_30cpc_Th	1
____RGTSRTPGDEPAPAVAAQLPPN____	X27394	BV-G	298	22aa	mRNA_30cpc_Ctx	1
____RTPGDEPAPAVAAQ____	X25013	BV-G	302	14aa	mRNA_30cpc_SN	1
____RTPGDEPAPAVAAQ____	X25013	BV-G	302	14aa	mRNA_30cpc_Th	1
____RTPGDEPAPAVAAQ____	X25013	BV-G	302	14aa	mRNA_30cpc_Ctx	1
____RTPGDEPAPAVAAQ____	X25013	BV-G	302	14aa	mRNA_3cpc_SN	2
____RTPGDEPAPAVAAQ____	X25013	BV-G	302	14aa	mRNA_3cpc_Th	6
____RTPGDEPAPAVAAQ____	X25013	BV-G	302	14aa	mRNA_3cpc_Ctx	1
____RTPGDEPAPAVAAQ____	X25013	BV-G	302	14aa	mRNA_3cpc_Th_4wks	1
____RVGDPADENPPGAL____	X27837	HSV-1-pUL22	297	14aa	mRNA_30cpc_Th_4wks	2

alignment	LUThrs	GeneName	start	structure	Group	Score
_____RVGDPADENPPGAL_____	X27837	HSV-1-pUL22	297	14aa	mRNA_30cpc_Ctx_4wks	1
_____SAAPSSPGTPGVAA_____	X13015	HSV-1-pUL27	29	14aa	mRNA_30cpc_SN	1
_____SAAPSSPGTPGVAA_____	X13015	HSV-1-pUL27	29	14aa	mRNA_30cpc_Ctx	1
_____SEAPTSGPSGSAAS_____	X12719	HSV-1-pUL44	44	14aa	mRNA_30cpc_SN	2
_____SEAPTSGPSGSAAS_____	X12719	HSV-1-pUL44	44	14aa	mRNA_30cpc_Th	2
_____SEAPTSGPSGSAAS_____	X12719	HSV-1-pUL44	44	14aa	mRNA_30cpc_Ctx	2
_____SEAPTSGPSGSAAS_____	X12719	HSV-1-pUL44	44	14aa	mRNA_3cpc_Th	3
_____SEAPTSGPSGSAAS_____	X12719	HSV-1-pUL44	44	14aa	mRNA_3000cpc_Organoid_MD101	1
_____SGSPGRRHSQASYP_____	X13150	HSV-2-pUS8	528	14aa	mRNA_30cpc_Ctx	1
_____SGSPGSAASPEVTP_____	X13149	HSV-1-pUL44	49	14aa	mRNA_30cpc_Th	1
_____SGSPGSAASPEVTP_____	X13149	HSV-1-pUL44	49	14aa	mRNA_3cpc_Th	1
_____SGSPGSAASPEVTP_____	X13149	HSV-1-pUL44	49	14aa	mRNA_30cpc_Th_4wks	1
_____SGYSSPGSPGTPGS_____	X13369	Tau	440	14aa	mRNA_30cpc_Ctx	1
_____SRTPGDEPAPAVAA_____	X79635	BV-G	301	14aaG4S	mRNA_3cpc_Th_4wks	1
_____SRTPGDEPAPAVAA_____	X11807	BV-G	301	14aa	mRNA_3000cpc_Organoid_MD101	1
_____SRTPGDEPAPAVAAQLPPNWHV_____	X11806	BV-G	301	22aa	mRNA_3000cpc_Organoid_MD101	1
_____STLLPPELSDTTNA_____	X10394	HSV-1-pUS6	275	14aa	mRNA_30cpc_SN	4
_____STLLPPELSDTTNA_____	X10394	HSV-2-pUS6	275	14aa	mRNA_30cpc_SN	4
_____STLLPPELSDTTNA_____	X10394	HSV-1-pUS6	275	14aa	mRNA_30cpc_Th	4
_____STLLPPELSDTTNA_____	X10394	HSV-2-pUS6	275	14aa	mRNA_30cpc_Th	4
_____STLLPPELSDTTNA_____	X10394	HSV-1-pUS6	275	14aa	mRNA_30cpc_Ctx	4
_____STLLPPELSDTTNA_____	X10394	HSV-2-pUS6	275	14aa	mRNA_30cpc_Ctx	4
_____STLLPPELSDTTNA_____	X10394	HSV-1-pUS6	275	14aa	mRNA_3cpc_Th	1
_____STLLPPELSDTTNA_____	X10394	HSV-2-pUS6	275	14aa	mRNA_3cpc_Th	1
_____TDENAPAVLPGPPA_____	X8143	HSV-2-pUL22	302	14aa	mRNA_30cpc_SN	1
_____TDENAPAVLPGPPA_____	X8143	HSV-2-pUL22	302	14aa	mRNA_3cpc_SN	1
_____TDENAPAVLPGPPA_____	X8143	HSV-2-pUL22	302	14aa	mRNA_3cpc_Th	2
_____TGPASDTTNATARL_____	X8821	HSV-2-pUS5	25	14aa	mRNA_30cpc_Ctx	1
_____TLLPPELSDTTNAT_____	X7845	HSV-1-pUS6	276	14aa	mRNA_30cpc_Th	2
_____TLLPPELSDTTNAT_____	X7845	HSV-2-pUS6	276	14aa	mRNA_30cpc_Th	2
_____TLLPPELSDTTNAT_____	X7845	HSV-1-pUS6	276	14aa	mRNA_30cpc_Ctx	1
_____TLLPPELSDTTNAT_____	X7845	HSV-2-pUS6	276	14aa	mRNA_30cpc_Ctx	1
_____TLPQSPGPAVPLAG_____	X7811	HSV-1-pUS4	103	14aa	mRNA_3000cpc_Organoid_MD101	1
_____TSRTPGDEPAPAVA_____	X6345	BV-G	300	14aa	mRNA_30cpc_Ctx	1
_____TSTLLPPELSDTTNATQPELVP_____	X6255	HSV-1-pUS6	274	22aa	mRNA_30cpc_Organoid_MD114	1
_____TSTLLPPELSDTTNATQPELVP_____	X6255	HSV-2-pUS6	274	22aa	mRNA_30cpc_Organoid_MD114	1
_____TSTLLPPELSETPN_____	X46854	HSV-1-pUS6	274	14aaA5	mRNA_30cpc_Organoid_MD114	1
_____TSTLLPPELSETPN_____	X46854	HSV-2-pUS6	274	14aaA5	mRNA_30cpc_Organoid_MD114	1
_____VAANGGPASRPPPV_____	X68743	HSV-2-pUL27	40	14aa	mRNA_30cpc_SN	1
_____VAATTATPGTRGTA_____	X68744	HSV-2-pUS4	515	14aa	mRNA_30cpc_SN	1
_____VAATTATPGTRGTA_____	X68744	HSV-2-pUS4	515	14aa	mRNA_30cpc_Ctx	1

Peptide HAGDLVPAPGHPEP from HSV-1-pUL19 with cluster number 9246

Peptide HAGDLVPAPGHPEP from HSV-1-pUL19 with cluster number 9246



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
9246	HAGDLVPAPGHPEP	111	23	23	18	16	9	5

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
9246	HAGDLVPAPGHPEP	_____HAGDLVPAPGHPEP_____	13	2	3	3
9246	TDDGVSAPILPNFH	_____TDDGVSAPILPNFH_____	12	3	4	2
9246	FSKVSASETQASPPE	_____FSKVSASETQASPPE_____	8	0	2	1
9246	AAGVPARTPAGHGL	_____AAGVPARTPAGHGL_____	7	2	2	2
9246	GVPARTPAGHGLGE	_____GVPARTPAGHGLGE_____	6	2	1	2
9246	FLTTDDGVSAPILP	_____FLTTDDGVSAPILP_____	6	1	0	0
9246	ADFFSKVSASETQAS	_____ADFFSKVSASETQAS_____	6	2	1	1
9246	RFAAHAGDLVPAPG	___RFAAHAGDLVPAPG_____	5	1	0	0
9246	AHAGDLVPAPGHPE	_____AHAGDLVPAPGHPE_____	4	1	1	0
9246	AHAGDLVPAPGHDP	_____AHAGDLVPAPGHDP_____	4	1	0	1
9246	VPAKTPPEPGACCA	_____VPAKTPPEPGACCA_____	3	1	1	1
9246	LEGFLAAGVPARTP	_____LEGFLAAGVPARTP_____	3	1	1	1
9246	TNQFLTDDGVSAPILPNFHPT	__TNQFLTDDGVSAPILPNFHPT_____	2	1	1	0
9246	SDAAFVPAPGASPY	_____SDAAFVPAPGASPY_____	2	0	1	0
9246	RFAAHAGDLVPAPGHPEPRAFP	___RFAAHAGDLVPAPGHPEPRAFP___	2	1	0	1
9246	DDAGVSERTPVSV	_____DDAGVSERTPVSV_____	2	1	0	1
9246	AMERFAAHAGDLVPAPGHPEPR	AMERFAAHAGDLVPAPGHPEPR_____	2	1	1	0
9246	AMERFAAHAGDLVP	AMERFAAHAGDLVP_____	2	0	1	1
9246	AGVSERTPVSVPPP	_____AGVSERTPVSVPPP_____	2	0	0	0
9246	AFVPAPGASPYDD	_____AFVPAPGASPYDD_____	2	0	0	0
9246	ADFFSKVSASETQASPPEGPGTG	_____ADFFSKVSASETQASPPEGPGTG	2	0	1	0
9246	VMERFAAHAGDLVPAPGHDPDR	VMERFAAHAGDLVPAPGHDPDR_____	1	0	0	0
9246	SKVSASETQASPPEG	_____SKVSASETQASPPEG_____	1	0	0	0
9246	PLPADFFSKVSASETQASPPEGP	___PLPADFFSKVSASETQASPPEGP___	1	0	0	0
9246	LVPAPGHPEPRAFP	_____LVPAPGHPEPRAFP_____	1	0	0	0
9246	LVPAKTPPEPGACC	_____LVPAKTPPEPGACC_____	1	0	0	0
9246	GVSAPILPNFHPTP	_____GVSAPILPNFHPTP_____	1	0	1	0
9246	GDLVPAPGHDPRA	_____GDLVPAPGHDPRA_____	1	0	0	0
9246	FAAHAGDLVPAPGH	___FAAHAGDLVPAPGH_____	1	0	0	1
9246	EGFLAAGVPARTPAGHGLGEVQ	_____EGFLAAGVPARTPAGHGLGEVQ_	1	0	0	0
9246	EGFLAAGVPARTPA	_____EGFLAAGVPARTPA_____	1	0	0	0
9246	EARPGVPAESTRPA	_____EARPGVPAESTRPA_____	1	0	0	0
9246	DVSLLPAPGPTGRG	_____DVSLLPAPGPTGRG_____	1	0	0	0
9246	ARPGVPAESTRPAP	_____ARPGVPAESTRPAP_____	1	1	0	0
9246	ALGQQLDSDAAFVPAPGASYP	ALGQQLDSDAAFVPAPGASYP_____	1	1	0	0
9246	AAHAGDLVPAPGHP	_____AAHAGDLVPAPGHP_____	1	0	1	0
9246	AAFVPAPGASYPD	_____AAFVPAPGASYPD_____	1	0	0	0

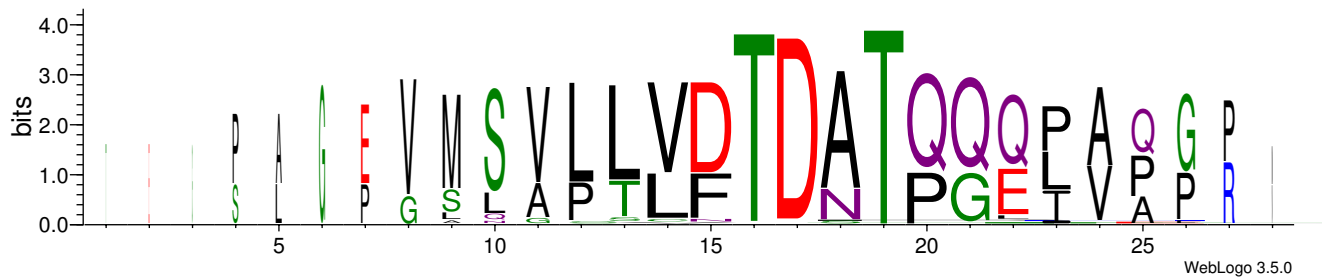
alignment	LUThrs	GeneName	start	structure	Group	Score
-----AAFPAPGASPYPD-----	X56629	HSV-1-pUL36	943	14aaA5	mRNA_3000cpc_Organoid_MD101	1
-----AAGVPARTPAGHGL-----	X43828	HSV-1-pUL37	437	14aa	mRNA_30cpc_SN	2
-----AAGVPARTPAGHGL-----	X43828	HSV-1-pUL37	437	14aa	mRNA_30cpc_Th	2
-----AAGVPARTPAGHGL-----	X43828	HSV-1-pUL37	437	14aa	mRNA_30cpc_Ctx	2
-----AAGVPARTPAGHGL-----	X43828	HSV-1-pUL37	437	14aa	mRNA_3cpc_Th	1
-----AAHAGDLVPAGHP-----	X43511	HSV-1-pUL19	417	14aa	mRNA_30cpc_Th	1
-----AAHAGDLVPAGHP-----	X43511	HSV-2-pUL19	417	14aa	mRNA_30cpc_Th	1
-----ADFFSKVSAETQAS-----	X43096	Tau	265	14aa	mRNA_30cpc_SN	1
-----ADFFSKVSAETQAS-----	X43096	Tau	265	14aa	mRNA_30cpc_Th	1
-----ADFFSKVSAETQAS-----	X43096	Tau	265	14aa	mRNA_30cpc_Ctx	2
-----ADFFSKVSAETQAS-----	X43096	Tau	265	14aa	mRNA_3cpc_Th	1
-----ADFFSKVSAETQAS-----	X43096	Tau	265	14aa	mRNA_3000cpc_Organoid_MD101	1
-----ADFFSKVSAETQASPPEGPGTG-----	X43095	Tau	265	22aa	mRNA_30cpc_Th	1
-----ADFFSKVSAETQASPPEGPGTG-----	X43095	Tau	265	22aa	mRNA_30cpc_Th_4wks	1
-----AFVPAPGASPYPDD-----	X45229	HSV-1-pUL36	944	14aa	mRNA_3cpc_SN	1
-----AFVPAPGASPYPDD-----	X45229	HSV-1-pUL36	944	14aa	mRNA_3cpc_Th	1
-----AGVSERTPVSVPPP-----	X44254	HSV-2-pUS8	178	14aa	mRNA_30cpc_Organoid_MD114	1
-----AGVSERTPVSVPPP-----	X44254	HSV-2-pUS8	178	14aa	mRNA_3000cpc_Organoid_MD101	1
-----AHAGDLVPAGHPD-----	X41345	HSV-1-pUL19	418	14aa	mRNA_30cpc_SN	1
-----AHAGDLVPAGHPD-----	X41345	HSV-2-pUL19	418	14aa	mRNA_30cpc_SN	1
-----AHAGDLVPAGHPD-----	X41345	HSV-1-pUL19	418	14aa	mRNA_30cpc_Ctx	1
-----AHAGDLVPAGHPD-----	X41345	HSV-2-pUL19	418	14aa	mRNA_30cpc_Ctx	1
-----AHAGDLVPAGHPD-----	X41345	HSV-1-pUL19	418	14aa	mRNA_30cpc_Th_4wks	1
-----AHAGDLVPAGHPD-----	X41345	HSV-2-pUL19	418	14aa	mRNA_30cpc_Th_4wks	1
-----AHAGDLVPAGHPD-----	X41345	HSV-1-pUL19	418	14aa	mRNA_3000cpc_Organoid_MD101	1
-----AHAGDLVPAGHPD-----	X41345	HSV-2-pUL19	418	14aa	mRNA_3000cpc_Organoid_MD101	1
-----AHAGDLVPAGHPE-----	X87279	HSV-1-pUL19	418	14aaG4S	mRNA_30cpc_Th	1
-----AHAGDLVPAGHPE-----	X87279	HSV-2-pUL19	418	14aaG4S	mRNA_30cpc_Th	1
-----AHAGDLVPAGHPE-----	X87279	HSV-1-pUL19	418	14aaG4S	mRNA_30cpc_Ctx	1
-----AHAGDLVPAGHPE-----	X87279	HSV-2-pUL19	418	14aaG4S	mRNA_30cpc_Ctx	1
-----AHAGDLVPAGHPE-----	X87279	HSV-1-pUL19	418	14aaG4S	mRNA_3cpc_Ctx	1
-----AHAGDLVPAGHPE-----	X87279	HSV-2-pUL19	418	14aaG4S	mRNA_3cpc_Ctx	1
-----AHAGDLVPAGHPE-----	X55989	HSV-1-pUL19	418	14aaA5	mRNA_30cpc_Organoid_MD114	1
-----AHAGDLVPAGHPE-----	X55989	HSV-2-pUL19	418	14aaA5	mRNA_30cpc_Organoid_MD114	1
ALGQQLDSDAAFPAPGASPYP-----	X42684	HSV-1-pUL36	934	22aa	mRNA_30cpc_Ctx	1
AMERFAAHAGDLVP-----	X87231	HSV-1-pUL19	412	14aaG4S	mRNA_30cpc_SN	1
AMERFAAHAGDLVP-----	X87231	HSV-2-pUL19	412	14aaG4S	mRNA_30cpc_SN	1
AMERFAAHAGDLVP-----	X87231	HSV-1-pUL19	412	14aaG4S	mRNA_30cpc_Th	1
AMERFAAHAGDLVP-----	X87231	HSV-2-pUL19	412	14aaG4S	mRNA_30cpc_Th	1
AMERFAAHAGDLVPAGHPEPR-----	X41196	HSV-1-pUL19	412	22aa	mRNA_30cpc_Th	1
AMERFAAHAGDLVPAGHPEPR-----	X41196	HSV-2-pUL19	412	22aa	mRNA_30cpc_Th	1
AMERFAAHAGDLVPAGHPEPR-----	X41196	HSV-1-pUL19	412	22aa	mRNA_30cpc_Ctx	1
AMERFAAHAGDLVPAGHPEPR-----	X41196	HSV-2-pUL19	412	22aa	mRNA_30cpc_Ctx	1
-----ARPGVPAESTRPAP-----	X42090	HSV-1-pUL36	2596	14aa	mRNA_30cpc_Ctx	1
-----DDAGVSERTPVSV-----	X35593	HSV-2-pUS8	176	14aa	mRNA_30cpc_SN	1
-----DDAGVSERTPVSV-----	X35593	HSV-2-pUS8	176	14aa	mRNA_30cpc_Ctx	1
-----DVSLLPAPGPTGRG-----	X36245	HSV-1-pUS8	35	14aa	mRNA_3000cpc_Organoid_MD101	1

alignment	LUThrs	GeneName	start	structure	Group	Score
_____EARPGVPAESTRPA_____	X38838	HSV-1-pUL36	2595	14aa	mRNA_30cpc_SN_4wks	1
_____EGFLAAGVPARTPA_____	X39197	HSV-1-pUL37	433	14aa	mRNA_3cpc_Th	1
_____EGFLAAGVPARTPAGHGLGEVQ_____	X39198	HSV-1-pUL37	433	22aa	mRNA_3000cpc_Organoid_MD101	1
_____FAAHAGDLVPAPGH_____	X75829	HSV-1-pUL19	416	14aa	mRNA_30cpc_SN	1
_____FAAHAGDLVPAPGH_____	X75829	HSV-2-pUL19	416	14aa	mRNA_30cpc_SN	1
_____FLTDDGVSAPILP_____	X75357	EV71-VP3	13	14aa	mRNA_30cpc_Ctx	1
_____FLTDDGVSAPILP_____	X75357	EV71-VP3	13	14aa	mRNA_3cpc_Th	3
_____FLTDDGVSAPILP_____	X75357	EV71-VP3	13	14aa	mRNA_3cpc_SN_4wks	1
_____FLTDDGVSAPILP_____	X75357	EV71-VP3	13	14aa	mRNA_3000cpc_Organoid_MD101	1
_____FSKVSAETQASPPE_____	X74747	Tau	268	14aa	mRNA_30cpc_SN	1
_____FSKVSAETQASPPE_____	X74747	Tau	268	14aa	mRNA_30cpc_Th	2
_____FSKVSAETQASPPE_____	X74747	Tau	268	14aa	mRNA_3cpc_SN	1
_____FSKVSAETQASPPE_____	X74747	Tau	268	14aa	mRNA_3cpc_Th	3
_____FSKVSAETQASPPE_____	X74747	Tau	268	14aa	mRNA_3cpc_Ctx	1
_____GDLVPAPGHDPRA_____	X63627	HSV-1-pUL19	421	14aa	mRNA_3000cpc_Organoid_MD101	1
_____GDLVPAPGHDPRA_____	X63627	HSV-2-pUL19	421	14aa	mRNA_3000cpc_Organoid_MD101	1
_____GVPARTPAGHGLGE_____	X57957	HSV-1-pUL37	439	14aaA5	mRNA_30cpc_SN	2
_____GVPARTPAGHGLGE_____	X57957	HSV-1-pUL37	439	14aaA5	mRNA_30cpc_Th	1
_____GVPARTPAGHGLGE_____	X57957	HSV-1-pUL37	439	14aaA5	mRNA_30cpc_Ctx	2
_____GVPARTPAGHGLGE_____	X57957	HSV-1-pUL37	439	14aaA5	mRNA_3cpc_Th	1
_____GVSAPILPNFHPTP_____	X64798	EV71-VP3	19	14aa	mRNA_30cpc_Th	1
_____HAGDLVPAPGHPEP_____	X18063	HSV-1-pUL19	419	14aa	mRNA_30cpc_SN	3
_____HAGDLVPAPGHPEP_____	X18063	HSV-2-pUL19	419	14aa	mRNA_30cpc_SN	3
_____HAGDLVPAPGHPEP_____	X18063	HSV-1-pUL19	419	14aa	mRNA_30cpc_Th	3
_____HAGDLVPAPGHPEP_____	X18063	HSV-2-pUL19	419	14aa	mRNA_30cpc_Th	3
_____HAGDLVPAPGHPEP_____	X18063	HSV-1-pUL19	419	14aa	mRNA_30cpc_Ctx	2
_____HAGDLVPAPGHPEP_____	X18063	HSV-2-pUL19	419	14aa	mRNA_30cpc_Ctx	2
_____HAGDLVPAPGHPEP_____	X18063	HSV-1-pUL19	419	14aa	mRNA_3cpc_Th	2
_____HAGDLVPAPGHPEP_____	X18063	HSV-2-pUL19	419	14aa	mRNA_3cpc_Th	2
_____HAGDLVPAPGHPEP_____	X18063	HSV-1-pUL19	419	14aa	mRNA_3cpc_Ctx	2
_____HAGDLVPAPGHPEP_____	X18063	HSV-2-pUL19	419	14aa	mRNA_3cpc_Ctx	2
_____HAGDLVPAPGHPEP_____	X18063	HSV-1-pUL19	419	14aa	mRNA_3000cpc_Organoid_MD101	1
_____HAGDLVPAPGHPEP_____	X18063	HSV-2-pUL19	419	14aa	mRNA_3000cpc_Organoid_MD101	1
_____LEGFLAAGVPARTP_____	X31732	HSV-1-pUL37	432	14aa	mRNA_30cpc_SN	1
_____LEGFLAAGVPARTP_____	X31732	HSV-1-pUL37	432	14aa	mRNA_30cpc_Th	1
_____LEGFLAAGVPARTP_____	X31732	HSV-1-pUL37	432	14aa	mRNA_30cpc_Ctx	1
_____LVPAKTPPEPGACC_____	X32871	HSV-1-pUL16	180	14aa	mRNA_30cpc_Organoid_MD114	1
_____LVPAPGHPEPRAFP_____	X32873	HSV-1-pUL19	423	14aa	mRNA_30cpc_Organoid_MD114	1
_____LVPAPGHPEPRAFP_____	X32873	HSV-2-pUL19	423	14aa	mRNA_30cpc_Organoid_MD114	1
_____PLPADFFSKVSAETQASPPEGP_____	X22668	Tau	262	22aa	mRNA_30cpc_Organoid_MD114	1
_____RFAAHAGDLVPAPG_____	X28278	HSV-1-pUL19	415	14aa	mRNA_30cpc_Ctx	1
_____RFAAHAGDLVPAPG_____	X28278	HSV-2-pUL19	415	14aa	mRNA_30cpc_Ctx	1
_____RFAAHAGDLVPAPG_____	X28278	HSV-1-pUL19	415	14aa	mRNA_3cpc_Th	2
_____RFAAHAGDLVPAPG_____	X28278	HSV-2-pUL19	415	14aa	mRNA_3cpc_Th	2
_____RFAAHAGDLVPAPG_____	X28278	HSV-1-pUL19	415	14aa	mRNA_3cpc_Ctx	1
_____RFAAHAGDLVPAPG_____	X28278	HSV-2-pUL19	415	14aa	mRNA_3cpc_Ctx	1
_____RFAAHAGDLVPAPG_____	X28278	HSV-1-pUL19	415	14aa	mRNA_30cpc_Organoid_MD114	1

alignment	LUThrs	GeneName	start	structure	Group	Score
___RFAAHAGDLVPAPG_____	X28278	HSV-2-pUL19	415	14aa	mRNA_30cpc_Organoid_MD114	1
___RFAAHAGDLVPAPGHPEPRAFP___	X28277	HSV-1-pUL19	415	22aa	mRNA_30cpc_SN	1
___RFAAHAGDLVPAPGHPEPRAFP___	X28277	HSV-2-pUL19	415	22aa	mRNA_30cpc_SN	1
___RFAAHAGDLVPAPGHPEPRAFP___	X28277	HSV-1-pUL19	415	22aa	mRNA_30cpc_Ctx	1
___RFAAHAGDLVPAPGHPEPRAFP___	X28277	HSV-2-pUL19	415	22aa	mRNA_30cpc_Ctx	1
_____SDAAFPVAPGASPY_____	X12547	HSV-1-pUL36	941	14aa	mRNA_30cpc_Th	1
_____SDAAFPVAPGASPY_____	X12547	HSV-1-pUL36	941	14aa	mRNA_3000cpc_Organoid_MD101	1
_____SKVSAETQASPPEG_____	X10176	Tau	269	14aa	mRNA_3000cpc_Organoid_MD101	1
_____TDDGVSAPILPNFH_____	X47355	EV71-VP3	16	14aaA5	mRNA_30cpc_SN	2
_____TDDGVSAPILPNFH_____	X8142	EV71-VP3	16	14aa	mRNA_30cpc_Th	1
_____TDDGVSAPILPNFH_____	X47355	EV71-VP3	16	14aaA5	mRNA_30cpc_Th	3
_____TDDGVSAPILPNFH_____	X47355	EV71-VP3	16	14aaA5	mRNA_30cpc_Ctx	3
_____TDDGVSAPILPNFH_____	X47355	EV71-VP3	16	14aaA5	mRNA_3cpc_Th	1
_____TDDGVSAPILPNFH_____	X47355	EV71-VP3	16	14aaA5	mRNA_30cpc_Organoid_MD114	2
__TNQFLTDDGVSAPILPNFHPT___	X5571	EV71-VP3	10	22aa	mRNA_30cpc_Th	1
__TNQFLTDDGVSAPILPNFHPT___	X5571	EV71-VP3	10	22aa	mRNA_30cpc_Ctx	1
VMERFAAHAGDLVPAPGHDPDR_____	X66824	HSV-1-pUL19	412	22aa	mRNA_30cpc_Organoid_MD114	1
VMERFAAHAGDLVPAPGHDPDR_____	X66824	HSV-2-pUL19	412	22aa	mRNA_30cpc_Organoid_MD114	1
_____VPAKTPPEPGACCA___	X58603	HSV-1-pUL16	181	14aaA5	mRNA_30cpc_SN	1
_____VPAKTPPEPGACCA___	X58603	HSV-1-pUL16	181	14aaA5	mRNA_30cpc_Th	1
_____VPAKTPPEPGACCA___	X58603	HSV-1-pUL16	181	14aaA5	mRNA_30cpc_Ctx	1

Peptide VMSVLLVDTDATQQ from HSV-1-pUL22 with cluster number 9369

Peptide VMSVLLVDTDATQQ from HSV-1-pUL22 with cluster number 9369



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
9369	VMSVLLVDTDATQQ	75	22	19	17	8	2	0

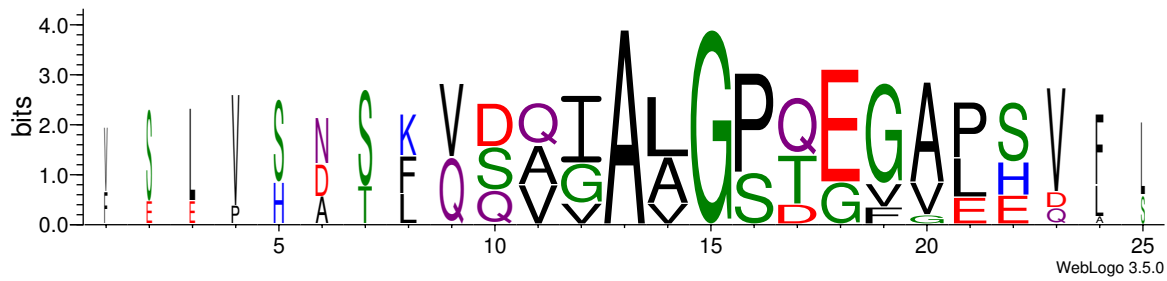
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
9369	VMSVLLVDTDATQQ	-----VMSVLLVDTDATQQ-----	14	4	4	4
9369	LFTDATPGEPVPPR	-----LFTDATPGEPVPPR-----	9	2	3	3
9369	LVDTDATQQQLAQQ	-----LVDTDATQQQLAQQ-----	8	2	2	2
9369	VDTDATQQQLAQQP	-----VDTDATQQQLAQQP-----	7	2	2	2
9369	PAGEVMSVLLVDTDNTQQQIAA	___PAGEVMSVLLVDTDNTQQQIAA___	6	2	2	1
9369	SVLLVDTDNTQQQI	-----SVLLVDTDNTQQQI-----	5	2	2	1
9369	APTLFTDATPGEPV	-----APTLFTDATPGEPV-----	5	3	1	0
9369	VDTDNTQQQIAAGP	-----VDTDNTQQQIAAGP-----	2	1	0	1
9369	TLFTDATPGEPVPP	-----TLFTDATPGEPVPP-----	2	0	0	0
9369	SLGPGSLAPTLFTD	___SLGPGSLAPTLFTD___	2	0	0	1
9369	LVDTDNTQQQIAAG	-----LVDTDNTQQQIAAG-----	2	0	1	0
9369	LQGLSCNTDSTPGL	-----LQGLSCNTDSTPGL-----	2	1	0	1
9369	EVMSVLLVDTDATQ	-----EVMSVLLVDTDATQ-----	2	0	1	0
9369	TLFAPATPTHPEPL	-----TLFAPATPTHPEPL-----	1	0	0	0
9369	TEGSLGPGSLAPTLFTDATPGE	TEGSLGPGSLAPTLFTDATPGE-----	1	0	0	0
9369	SLGPGSLAPTLFTDATPGEPVP	___SLGPGSLAPTLFTDATPGEPVP___	1	1	0	0
9369	PTLFTDATPGEPVP	-----PTLFTDATPGEPVP-----	1	0	0	1
9369	PGSLAPTLFTDATPGEPVPPRM	-----PGSLAPTLFTDATPGEPVPPRM-----	1	1	0	0
9369	PAGEVMSVLLVDTDATQQQLAQ	___PAGEVMSVLLVDTDATQQQLAQ___	1	1	0	0
9369	GSLAPTLFTDATPG	-----GSLAPTLFTDATPG-----	1	0	1	0
9369	EVMSVLLVDTDATQQQLAQQGPV	-----EVMSVLLVDTDATQQQLAQQGPV-----	1	0	0	0
9369	ANVSVAATTATPGT	-----ANVSVAATTATPGT-----	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
-----ANVSVAATTATPGT-----	X55608	HSV-2-pUL54	511	14aaA5	mRNA_3000cpc_Organoid_MD101	1
-----APTLFTDATPGEPV-----	X41564	HSV-1-pUL36	2525	14aa	mRNA_30cpc_Th	1
-----APTLFTDATPGEPV-----	X41564	HSV-1-pUL36	2525	14aa	mRNA_30cpc_Ctx	3
-----APTLFTDATPGEPV-----	X41564	HSV-1-pUL36	2525	14aa	mRNA_30cpc_Organoid_MD114	1
-----EVMSVLLVDTDATQ-----	X86719	HSV-1-pUL22	742	14aaG4S	mRNA_30cpc_Th	1
-----EVMSVLLVDTDATQ-----	X86719	HSV-2-pUL22	742	14aaG4S	mRNA_30cpc_Th	1
-----EVMSVLLVDTDATQ-----	X86719	HSV-1-pUL22	742	14aaG4S	mRNA_30cpc_SN_4wks	1
-----EVMSVLLVDTDATQ-----	X86719	HSV-2-pUL22	742	14aaG4S	mRNA_30cpc_SN_4wks	1
-----EVMSVLLVDTDATQQQLAQGPV-----	X39265	HSV-2-pUL22	742	22aa	mRNA_30cpc_Th_4wks	1
-----GSLAPTLFTDATPG-----	X61883	HSV-1-pUL36	2522	14aa	mRNA_30cpc_Th	1
-----LFTDATPGEPVPPR-----	X33526	HSV-1-pUL36	2528	14aa	mRNA_30cpc_SN	3
-----LFTDATPGEPVPPR-----	X33526	HSV-1-pUL36	2528	14aa	mRNA_30cpc_Th	3
-----LFTDATPGEPVPPR-----	X33526	HSV-1-pUL36	2528	14aa	mRNA_30cpc_Ctx	2
-----LFTDATPGEPVPPR-----	X33526	HSV-1-pUL36	2528	14aa	mRNA_3cpc_Th	1
-----LQGLSCNTDSTPGL-----	X53063	BDV-CRNP5	25	14aaA5	mRNA_30cpc_SN	1
-----LQGLSCNTDSTPGL-----	X53063	BDV-G	25	14aaA5	mRNA_30cpc_SN	1
-----LQGLSCNTDSTPGL-----	X53063	BDV-No-98	25	14aaA5	mRNA_30cpc_SN	1
-----LQGLSCNTDSTPGL-----	X53063	BDV-CRNP5	25	14aaA5	mRNA_30cpc_Ctx	1
-----LQGLSCNTDSTPGL-----	X53063	BDV-G	25	14aaA5	mRNA_30cpc_Ctx	1
-----LQGLSCNTDSTPGL-----	X53063	BDV-No-98	25	14aaA5	mRNA_30cpc_Ctx	1
-----LVDTDATQQQLAQG-----	X53822	HSV-2-pUL22	748	14aaA5	mRNA_30cpc_SN	2
-----LVDTDATQQQLAQG-----	X53822	HSV-2-pUL22	748	14aaA5	mRNA_30cpc_Th	2
-----LVDTDATQQQLAQG-----	X53822	HSV-2-pUL22	748	14aaA5	mRNA_30cpc_Ctx	2
-----LVDTDATQQQLAQG-----	X53822	HSV-2-pUL22	748	14aaA5	mRNA_3cpc_Th	1
-----LVDTDATQQQLAQG-----	X53822	HSV-2-pUL22	748	14aaA5	mRNA_30cpc_SN_4wks	1
-----LVDTDNTQQQIAAG-----	X32960	HSV-1-pUL22	748	14aa	mRNA_30cpc_Th	1
-----LVDTDNTQQQIAAG-----	X32960	HSV-1-pUL22	748	14aa	mRNA_3cpc_Th	1
___PAGEVMSVLLVDTDATQQQLAQ___	X23669	HSV-2-pUL22	739	22aa	mRNA_30cpc_Ctx	1
___PAGEVMSVLLVDTDNTQQQIAA___	X23667	HSV-1-pUL22	739	22aa	mRNA_30cpc_SN	1
___PAGEVMSVLLVDTDNTQQQIAA___	X23667	HSV-2-pUL22	739	22aa	mRNA_30cpc_SN	1
___PAGEVMSVLLVDTDNTQQQIAA___	X23667	HSV-1-pUL22	739	22aa	mRNA_30cpc_Th	2
___PAGEVMSVLLVDTDNTQQQIAA___	X23667	HSV-2-pUL22	739	22aa	mRNA_30cpc_Th	2
___PAGEVMSVLLVDTDNTQQQIAA___	X23667	HSV-1-pUL22	739	22aa	mRNA_30cpc_Ctx	2
___PAGEVMSVLLVDTDNTQQQIAA___	X23667	HSV-2-pUL22	739	22aa	mRNA_30cpc_Ctx	2
___PAGEVMSVLLVDTDNTQQQIAA___	X23667	HSV-1-pUL22	739	22aa	mRNA_3cpc_Th	1
___PAGEVMSVLLVDTDNTQQQIAA___	X23667	HSV-2-pUL22	739	22aa	mRNA_3cpc_Th	1
-----PGSLAPTLFTDATPGEPVPPRM-----	X23791	HSV-1-pUL36	2521	22aa	mRNA_30cpc_Ctx	1
-----PTLFTDATPGEPVP-----	X20965	HSV-1-pUL36	2526	14aa	mRNA_30cpc_SN	1
___SLGPGSLAPTLFTD-----	X12309	HSV-1-pUL36	2518	14aa	mRNA_30cpc_SN	1
___SLGPGSLAPTLFTD-----	X12309	HSV-1-pUL36	2518	14aa	mRNA_30cpc_Th_4wks	1
___SLGPGSLAPTLFTDATPGEPVP-----	X12310	HSV-1-pUL36	2518	22aa	mRNA_30cpc_Ctx	1
-----SVLLVDTDNTQQQI-----	X13577	HSV-1-pUL22	745	14aa	mRNA_30cpc_SN	1
-----SVLLVDTDNTQQQI-----	X13577	HSV-2-pUL22	745	14aa	mRNA_30cpc_SN	1
-----SVLLVDTDNTQQQI-----	X13577	HSV-1-pUL22	745	14aa	mRNA_30cpc_Th	2
-----SVLLVDTDNTQQQI-----	X13577	HSV-2-pUL22	745	14aa	mRNA_30cpc_Th	2
-----SVLLVDTDNTQQQI-----	X13577	HSV-1-pUL22	745	14aa	mRNA_30cpc_Ctx	2
-----SVLLVDTDNTQQQI-----	X13577	HSV-2-pUL22	745	14aa	mRNA_30cpc_Ctx	2

alignment	LUThrs	GeneName	start	structure	Group	Score
TEGSLGPGSLAPTLFTDATPGE_____	X8346	HSV-1-pUL36	2515	22aa	mRNA_30cpc_Organoid_MD114	1
_____TLFAPATPTHPEPL__	X7989	HSV-1-pUL36	688	14aa	mRNA_3cpc_Th	1
_____TLFTDATPGEPVPP__	X47313	HSV-1-pUL36	2527	14aaA5	mRNA_30cpc_SN_4wks	1
_____TLFTDATPGEPVPP__	X47313	HSV-1-pUL36	2527	14aaA5	mRNA_3000cpc_Organoid_MD101	1
_____VDTDATQQQLAQGP_	X68061	HSV-2-pUL22	749	14aa	mRNA_30cpc_SN	2
_____VDTDATQQQLAQGP_	X68061	HSV-2-pUL22	749	14aa	mRNA_30cpc_Th	2
_____VDTDATQQQLAQGP_	X68061	HSV-2-pUL22	749	14aa	mRNA_30cpc_Ctx	2
_____VDTDATQQQLAQGP_	X68061	HSV-2-pUL22	749	14aa	mRNA_3cpc_Th	1
_____VDTDNTQQQIAAGP_	X68060	HSV-1-pUL22	749	14aa	mRNA_30cpc_SN	1
_____VDTDNTQQQIAAGP_	X68060	HSV-1-pUL22	749	14aa	mRNA_30cpc_Ctx	1
_____VMSVLLVDTDATQQ_____	X66790	HSV-1-pUL22	743	14aa	mRNA_30cpc_SN	4
_____VMSVLLVDTDATQQ_____	X66790	HSV-2-pUL22	743	14aa	mRNA_30cpc_SN	4
_____VMSVLLVDTDATQQ_____	X66790	HSV-1-pUL22	743	14aa	mRNA_30cpc_Th	4
_____VMSVLLVDTDATQQ_____	X66790	HSV-2-pUL22	743	14aa	mRNA_30cpc_Th	4
_____VMSVLLVDTDATQQ_____	X66790	HSV-1-pUL22	743	14aa	mRNA_30cpc_Ctx	4
_____VMSVLLVDTDATQQ_____	X66790	HSV-2-pUL22	743	14aa	mRNA_30cpc_Ctx	4
_____VMSVLLVDTDATQQ_____	X66790	HSV-1-pUL22	743	14aa	mRNA_3cpc_Th	2
_____VMSVLLVDTDATQQ_____	X66790	HSV-2-pUL22	743	14aa	mRNA_3cpc_Th	2

Peptide QQIAAGPTEGAPSV from HSV-1-pUL22 with cluster number 7891

Peptide QQIAAGPTEGAPSV from HSV-1-pUL22 with cluster number 7891



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
7891	QQIAAGPTEGAPSV	74	17	17	10	12	6	4

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7891	QQIAAGPTEGAPSV	_____QQIAAGPTEGAPSV__	17	3	3	2
7891	QSVIALGSQEGALH	_____QSVIALGSQEGALH__	9	1	2	0
7891	QIAAGPTEGAPSVF	_____QIAAGPTEGAPSVF_	7	3	1	2
7891	VSNSFVDAGALGPDGVVEEDLL	___VNSFVDAGALGPDGVVEEDLL	4	1	2	1
7891	VDAGAVGPQGFVEE	_____VDAGAVGPQGFVEE__	4	1	1	1
7891	SLVSDSLVDAGAVG	_SLVSDSLVDAGAVG_____	4	1	3	0
7891	NSFVDAGALGPDGV	____NSFVDAGALGPDGV_____	4	1	2	1
7891	KQSVVALGSQEGGL	____KQSVVALGSQEGGL_____	4	1	1	1
7891	HATKQSVVALGSQE	____HATKQSVVALGSQE_____	4	1	2	0
7891	VSLVSNFVDAGALGPDGVVEE	VSLVSNFVDAGALGPDGVVEE__	2	0	0	0
7891	VSLVSDSLVDAGAVGPQGFVEE	VSLVSDSLVDAGAVGPQGFVEE__	2	1	0	1
7891	SVVALGSQEGALHQ	____SVVALGSQEGALHQ_____	2	1	0	1
7891	IAAGPTEGAPSVFS	____IAAGPTEGAPSVFS_____	2	0	0	0
7891	FEPPHATKQSVVALGSQEGALH	FEPPHATKQSVVALGSQEGALH__	2	1	0	0
7891	VDAGALGPDGVVEE	_____VDAGALGPDGVVEE__	1	0	0	0
7891	TKQSVIALGSQEGA	____TKQSVIALGSQEGA_____	1	0	0	0
7891	SVIALGSQEGALHQ	____SVIALGSQEGALHQ_____	1	0	0	0
7891	SLVDAGAVGPQGFV	____SLVDAGAVGPQGFV_____	1	1	0	0
7891	QQIAAGPTEGAPS	____QQIAAGPTEGAPS_____	1	0	0	0
7891	IALGSQEGALHQAL	____IALGSQEGALHQAL_____	1	0	0	0
7891	DSLVDAGAVGPQGF	____DSLVDAGAVGPQGF_____	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_____DSLVDAGAVGPQGF_____	X34335	HSV-2-pUS7	33	14aa	mRNA_30cpc_SN_4wks	1
FEEPHATKQSVVALGSQEGALH_	X75711	JEV-E-BN19	242	22aa	mRNA_30cpc_Ctx	1
FEEPHATKQSVVALGSQEGALH_	X75711	JEV-E-KE-093	242	22aa	mRNA_30cpc_Ctx	1
FEEPHATKQSVVALGSQEGALH_	X75711	JEV-E-SA14-5-3	242	22aa	mRNA_30cpc_Ctx	1
FEEPHATKQSVVALGSQEGALH_	X75711	JEV-E-ThCMAr4492	242	22aa	mRNA_30cpc_Ctx	1
FEEPHATKQSVVALGSQEGALH_	X75711	WNV-E-AZ10-918	242	22aa	mRNA_30cpc_Ctx	1
FEEPHATKQSVVALGSQEGALH_	X75711	WNV-E-ArD76104	238	22aa	mRNA_30cpc_Ctx	1
FEEPHATKQSVVALGSQEGALH_	X75711	WNV-E-H-442	242	22aa	mRNA_30cpc_Ctx	1
FEEPHATKQSVVALGSQEGALH_	X75711	JEV-E-BN19	242	22aa	mRNA_30cpc_Organoid_MD114	1
FEEPHATKQSVVALGSQEGALH_	X75711	JEV-E-KE-093	242	22aa	mRNA_30cpc_Organoid_MD114	1
FEEPHATKQSVVALGSQEGALH_	X75711	JEV-E-SA14-5-3	242	22aa	mRNA_30cpc_Organoid_MD114	1
FEEPHATKQSVVALGSQEGALH_	X75711	JEV-E-ThCMAr4492	242	22aa	mRNA_30cpc_Organoid_MD114	1
FEEPHATKQSVVALGSQEGALH_	X75711	WNV-E-AZ10-918	242	22aa	mRNA_30cpc_Organoid_MD114	1
FEEPHATKQSVVALGSQEGALH_	X75711	WNV-E-ArD76104	238	22aa	mRNA_30cpc_Organoid_MD114	1
FEEPHATKQSVVALGSQEGALH_	X75711	WNV-E-H-442	242	22aa	mRNA_30cpc_Organoid_MD114	1
____HATKQSVVALGSQE_____	X17968	JEV-E-BN19	246	14aa	mRNA_30cpc_Th	2
____HATKQSVVALGSQE_____	X17968	JEV-E-KE-093	246	14aa	mRNA_30cpc_Th	2
____HATKQSVVALGSQE_____	X17968	JEV-E-SA14-5-3	246	14aa	mRNA_30cpc_Th	2
____HATKQSVVALGSQE_____	X17968	JEV-E-ThCMAr4492	246	14aa	mRNA_30cpc_Th	2
____HATKQSVVALGSQE_____	X17968	WNV-E-AZ10-918	246	14aa	mRNA_30cpc_Th	2
____HATKQSVVALGSQE_____	X17968	WNV-E-ArD76104	242	14aa	mRNA_30cpc_Th	2
____HATKQSVVALGSQE_____	X17968	WNV-E-H-442	246	14aa	mRNA_30cpc_Th	2
____HATKQSVVALGSQE_____	X17968	JEV-E-BN19	246	14aa	mRNA_30cpc_Ctx	1
____HATKQSVVALGSQE_____	X17968	JEV-E-KE-093	246	14aa	mRNA_30cpc_Ctx	1
____HATKQSVVALGSQE_____	X17968	JEV-E-SA14-5-3	246	14aa	mRNA_30cpc_Ctx	1
____HATKQSVVALGSQE_____	X17968	JEV-E-ThCMAr4492	246	14aa	mRNA_30cpc_Ctx	1
____HATKQSVVALGSQE_____	X17968	WNV-E-AZ10-918	246	14aa	mRNA_30cpc_Ctx	1
____HATKQSVVALGSQE_____	X17968	WNV-E-ArD76104	242	14aa	mRNA_30cpc_Ctx	1
____HATKQSVVALGSQE_____	X17968	WNV-E-H-442	246	14aa	mRNA_30cpc_Ctx	1
____HATKQSVVALGSQE_____	X17968	JEV-E-BN19	246	14aa	mRNA_3cpc_Th	1
____HATKQSVVALGSQE_____	X17968	JEV-E-KE-093	246	14aa	mRNA_3cpc_Th	1
____HATKQSVVALGSQE_____	X17968	JEV-E-SA14-5-3	246	14aa	mRNA_3cpc_Th	1
____HATKQSVVALGSQE_____	X17968	JEV-E-ThCMAr4492	246	14aa	mRNA_3cpc_Th	1
____HATKQSVVALGSQE_____	X17968	WNV-E-AZ10-918	246	14aa	mRNA_3cpc_Th	1
____HATKQSVVALGSQE_____	X17968	WNV-E-ArD76104	242	14aa	mRNA_3cpc_Th	1
____HATKQSVVALGSQE_____	X17968	WNV-E-H-442	246	14aa	mRNA_3cpc_Th	1
____IAAGPTEGAPSVFS_____	X16325	HSV-1-pUL22	758	14aa	mRNA_30cpc_Organoid_MD114	1
____IAAGPTEGAPSVFS_____	X16325	HSV-1-pUL22	758	14aa	mRNA_3000cpc_Organoid_MD101	1
____IALGSQEGALHQAL_____	X16286	JEV-E-BN19	253	14aa	mRNA_3cpc_Th	1
____IALGSQEGALHQAL_____	X16286	JEV-E-KE-093	253	14aa	mRNA_3cpc_Th	1
____IALGSQEGALHQAL_____	X16286	JEV-E-SA14-5-3	253	14aa	mRNA_3cpc_Th	1
____IALGSQEGALHQAL_____	X16286	JEV-E-ThCMAr4492	253	14aa	mRNA_3cpc_Th	1
____IALGSQEGALHQAL_____	X16286	WNV-E-AZ10-918	253	14aa	mRNA_3cpc_Th	1
____IALGSQEGALHQAL_____	X16286	WNV-E-ArD76104	249	14aa	mRNA_3cpc_Th	1
____IALGSQEGALHQAL_____	X16286	WNV-E-H-442	253	14aa	mRNA_3cpc_Th	1
____KQSVVALGSQEGGL_____	X3844	JEV-E-BN19	249	14aa	mRNA_30cpc_SN	1
____KQSVVALGSQEGGL_____	X3844	JEV-E-KE-093	249	14aa	mRNA_30cpc_SN	1

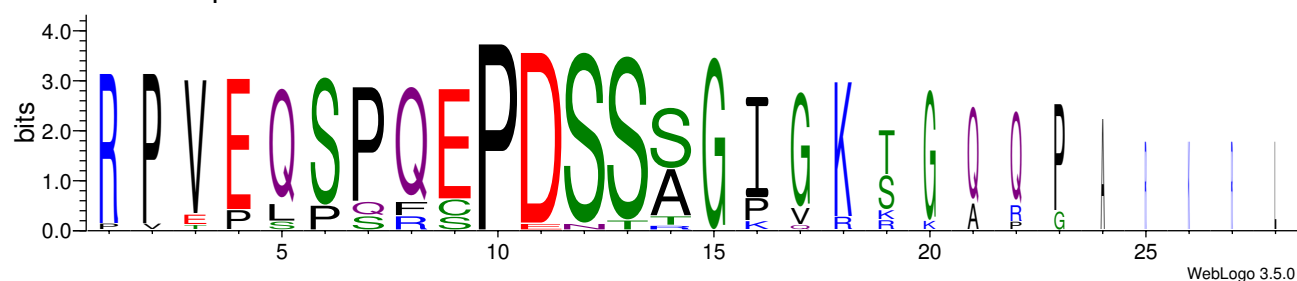
alignment	LUThrs	GeneName	start	structure	Group	Score
-----KQSVVALGSQEGGL-----	X3844	JEV-E-SA14-5-3	249	14aa	mRNA_30cpc_SN	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-ThCMAR4492	249	14aa	mRNA_30cpc_SN	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-AZ10-918	249	14aa	mRNA_30cpc_SN	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-ArD76104	245	14aa	mRNA_30cpc_SN	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-H-442	249	14aa	mRNA_30cpc_SN	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-BN19	249	14aa	mRNA_30cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-KE-093	249	14aa	mRNA_30cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-SA14-5-3	249	14aa	mRNA_30cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-ThCMAR4492	249	14aa	mRNA_30cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-AZ10-918	249	14aa	mRNA_30cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-ArD76104	245	14aa	mRNA_30cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-H-442	249	14aa	mRNA_30cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-BN19	249	14aa	mRNA_30cpc_Ctx	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-KE-093	249	14aa	mRNA_30cpc_Ctx	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-SA14-5-3	249	14aa	mRNA_30cpc_Ctx	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-ThCMAR4492	249	14aa	mRNA_30cpc_Ctx	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-AZ10-918	249	14aa	mRNA_30cpc_Ctx	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-ArD76104	245	14aa	mRNA_30cpc_Ctx	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-H-442	249	14aa	mRNA_30cpc_Ctx	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-BN19	249	14aa	mRNA_3cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-KE-093	249	14aa	mRNA_3cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-SA14-5-3	249	14aa	mRNA_3cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	JEV-E-ThCMAR4492	249	14aa	mRNA_3cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-AZ10-918	249	14aa	mRNA_3cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-ArD76104	245	14aa	mRNA_3cpc_Th	1
-----KQSVVALGSQEGGL-----	X3844	WNV-E-H-442	249	14aa	mRNA_3cpc_Th	1
-----NSFVDAGALGPDGV-----	X777	HSV-1-pUS7	33	14aa	mRNA_30cpc_SN	1
-----NSFVDAGALGPDGV-----	X777	HSV-1-pUS7	33	14aa	mRNA_30cpc_Th	2
-----NSFVDAGALGPDGV-----	X777	HSV-1-pUS7	33	14aa	mRNA_30cpc_Ctx	1
-----QIAAGPTEGAPSVF-----	X18980	HSV-1-pUL22	757	14aa	mRNA_30cpc_SN	1
-----QIAAGPTEGAPSVF-----	X81477	HSV-1-pUL22	757	14aaG4S	mRNA_30cpc_SN	1
-----QIAAGPTEGAPSVF-----	X81477	HSV-1-pUL22	757	14aaG4S	mRNA_30cpc_Th	1
-----QIAAGPTEGAPSVF-----	X18980	HSV-1-pUL22	757	14aa	mRNA_30cpc_Ctx	1
-----QIAAGPTEGAPSVF-----	X81477	HSV-1-pUL22	757	14aaG4S	mRNA_30cpc_Ctx	2
-----QIAAGPTEGAPSVF-----	X50187	HSV-1-pUL22	757	14aaA5	mRNA_30cpc_Organoid_MD114	1
-----QQIAAGPTEGAPSV-----	X19117	HSV-1-pUL22	756	14aa	mRNA_30cpc_SN	2
-----QQIAAGPTEGAPSV-----	X19117	HSV-1-pUL22	756	14aa	mRNA_30cpc_Th	3
-----QQIAAGPTEGAPSV-----	X19117	HSV-1-pUL22	756	14aa	mRNA_30cpc_Ctx	3
-----QQIAAGPTEGAPSV-----	X19117	HSV-1-pUL22	756	14aa	mRNA_3cpc_SN	1
-----QQIAAGPTEGAPSV-----	X19117	HSV-1-pUL22	756	14aa	mRNA_3cpc_Th	4
-----QQIAAGPTEGAPSV-----	X19117	HSV-1-pUL22	756	14aa	mRNA_3cpc_Ctx	2
-----QQIAAGPTEGAPSV-----	X19117	HSV-1-pUL22	756	14aa	mRNA_3cpc_Th_4wks	1
-----QQIAAGPTEGAPSV-----	X19117	HSV-1-pUL22	756	14aa	mRNA_30cpc_Organoid_MD114	1
-----QQIAAGPTEGAPSV-----	X19124	HSV-1-pUL22	755	14aa	mRNA_3cpc_Th	1
-----QSVIALGSQEGALH-----	X18848	JEV-E-BN19	250	14aa	mRNA_30cpc_Th	1
-----QSVIALGSQEGALH-----	X50146	JEV-E-BN19	250	14aaA5	mRNA_30cpc_Th	1
-----QSVIALGSQEGALH-----	X18848	JEV-E-KE-093	250	14aa	mRNA_30cpc_Th	1

alignment	LUThrs	GeneName	start	structure	Group	Score
_____QSVIALGSQEGALH____	X50146	JEV-E-KE-093	250	14aaA5	mRNA_30cpc_Th	1
_____QSVIALGSQEGALH____	X18848	JEV-E-SA14-5-3	250	14aa	mRNA_30cpc_Th	1
_____QSVIALGSQEGALH____	X50146	JEV-E-SA14-5-3	250	14aaA5	mRNA_30cpc_Th	1
_____QSVIALGSQEGALH____	X18848	JEV-E-ThCMAr4492	250	14aa	mRNA_30cpc_Th	1
_____QSVIALGSQEGALH____	X50146	JEV-E-ThCMAr4492	250	14aaA5	mRNA_30cpc_Th	1
_____QSVIALGSQEGALH____	X18848	WNV-E-AZ10-918	250	14aa	mRNA_30cpc_Th	1
_____QSVIALGSQEGALH____	X50146	WNV-E-AZ10-918	250	14aaA5	mRNA_30cpc_Th	1
_____QSVIALGSQEGALH____	X18848	WNV-E-ArD76104	246	14aa	mRNA_30cpc_Th	1
_____QSVIALGSQEGALH____	X50146	WNV-E-ArD76104	246	14aaA5	mRNA_30cpc_Th	1
_____QSVIALGSQEGALH____	X18848	WNV-E-H-442	250	14aa	mRNA_30cpc_Th	1
_____QSVIALGSQEGALH____	X50146	WNV-E-H-442	250	14aaA5	mRNA_30cpc_Th	1
_____QSVIALGSQEGALH____	X50146	JEV-E-BN19	250	14aaA5	mRNA_30cpc_Ctx	1
_____QSVIALGSQEGALH____	X50146	JEV-E-KE-093	250	14aaA5	mRNA_30cpc_Ctx	1
_____QSVIALGSQEGALH____	X50146	JEV-E-SA14-5-3	250	14aaA5	mRNA_30cpc_Ctx	1
_____QSVIALGSQEGALH____	X50146	JEV-E-ThCMAr4492	250	14aaA5	mRNA_30cpc_Ctx	1
_____QSVIALGSQEGALH____	X50146	WNV-E-AZ10-918	250	14aaA5	mRNA_30cpc_Ctx	1
_____QSVIALGSQEGALH____	X50146	WNV-E-ArD76104	246	14aaA5	mRNA_30cpc_Ctx	1
_____QSVIALGSQEGALH____	X50146	WNV-E-H-442	250	14aaA5	mRNA_30cpc_Ctx	1
_____QSVIALGSQEGALH____	X18848	JEV-E-BN19	250	14aa	mRNA_3cpc_SN	1
_____QSVIALGSQEGALH____	X18848	JEV-E-KE-093	250	14aa	mRNA_3cpc_SN	1
_____QSVIALGSQEGALH____	X18848	JEV-E-SA14-5-3	250	14aa	mRNA_3cpc_SN	1
_____QSVIALGSQEGALH____	X18848	JEV-E-ThCMAr4492	250	14aa	mRNA_3cpc_SN	1
_____QSVIALGSQEGALH____	X18848	WNV-E-AZ10-918	250	14aa	mRNA_3cpc_SN	1
_____QSVIALGSQEGALH____	X18848	WNV-E-ArD76104	246	14aa	mRNA_3cpc_SN	1
_____QSVIALGSQEGALH____	X18848	WNV-E-H-442	250	14aa	mRNA_3cpc_SN	1
_____QSVIALGSQEGALH____	X18848	JEV-E-BN19	250	14aa	mRNA_3cpc_Th	3
_____QSVIALGSQEGALH____	X18848	JEV-E-KE-093	250	14aa	mRNA_3cpc_Th	3
_____QSVIALGSQEGALH____	X18848	JEV-E-SA14-5-3	250	14aa	mRNA_3cpc_Th	3
_____QSVIALGSQEGALH____	X18848	JEV-E-ThCMAr4492	250	14aa	mRNA_3cpc_Th	3
_____QSVIALGSQEGALH____	X18848	WNV-E-AZ10-918	250	14aa	mRNA_3cpc_Th	3
_____QSVIALGSQEGALH____	X18848	WNV-E-ArD76104	246	14aa	mRNA_3cpc_Th	3
_____QSVIALGSQEGALH____	X18848	WNV-E-H-442	250	14aa	mRNA_3cpc_Th	3
_____QSVIALGSQEGALH____	X18848	JEV-E-BN19	250	14aa	mRNA_3cpc_Ctx	2
_____QSVIALGSQEGALH____	X18848	JEV-E-KE-093	250	14aa	mRNA_3cpc_Ctx	2
_____QSVIALGSQEGALH____	X18848	JEV-E-SA14-5-3	250	14aa	mRNA_3cpc_Ctx	2
_____QSVIALGSQEGALH____	X18848	JEV-E-ThCMAr4492	250	14aa	mRNA_3cpc_Ctx	2
_____QSVIALGSQEGALH____	X18848	WNV-E-AZ10-918	250	14aa	mRNA_3cpc_Ctx	2
_____QSVIALGSQEGALH____	X18848	WNV-E-ArD76104	246	14aa	mRNA_3cpc_Ctx	2
_____QSVIALGSQEGALH____	X18848	WNV-E-H-442	250	14aa	mRNA_3cpc_Ctx	2
_____SLVDAGAVGPQGFV_____	X12345	HSV-2-pUS7	34	14aa	mRNA_30cpc_Ctx	1
_SLVSDSLVDAGAVG_____	X12330	HSV-2-pUS7	29	14aa	mRNA_30cpc_Th	3
_SLVSDSLVDAGAVG_____	X12330	HSV-2-pUS7	29	14aa	mRNA_30cpc_Ctx	1
_____SVIALGSQEGALHQ____	X13495	WNV-E-AZ10-918	251	14aa	mRNA_3000cpc_Organoid_MD101	1
_____SVIALGSQEGALHQ____	X13495	WNV-E-ArD76104	247	14aa	mRNA_3000cpc_Organoid_MD101	1
_____SVIALGSQEGALHQ____	X13495	WNV-E-H-442	251	14aa	mRNA_3000cpc_Organoid_MD101	1
_____SVVALGSQEGALHQ____	X13673	JEV-E-BN19	251	14aa	mRNA_30cpc_SN	1
_____SVVALGSQEGALHQ____	X13673	JEV-E-KE-093	251	14aa	mRNA_30cpc_SN	1

alignment	LUThrs	GeneName	start	structure	Group	Score
-----SVVALGSQEGALHQ__	X13673	JEV-E-SA14-5-3	251	14aa	mRNA_30cpc_SN	1
-----SVVALGSQEGALHQ__	X13673	JEV-E-ThCMAr4492	251	14aa	mRNA_30cpc_SN	1
-----SVVALGSQEGALHQ__	X13673	WNV-E-AZ10-918	251	14aa	mRNA_30cpc_SN	1
-----SVVALGSQEGALHQ__	X13673	WNV-E-ArD76104	247	14aa	mRNA_30cpc_SN	1
-----SVVALGSQEGALHQ__	X13673	WNV-E-H-442	251	14aa	mRNA_30cpc_SN	1
-----SVVALGSQEGALHQ__	X13673	JEV-E-BN19	251	14aa	mRNA_30cpc_Ctx	1
-----SVVALGSQEGALHQ__	X13673	JEV-E-KE-093	251	14aa	mRNA_30cpc_Ctx	1
-----SVVALGSQEGALHQ__	X13673	JEV-E-SA14-5-3	251	14aa	mRNA_30cpc_Ctx	1
-----SVVALGSQEGALHQ__	X13673	JEV-E-ThCMAr4492	251	14aa	mRNA_30cpc_Ctx	1
-----SVVALGSQEGALHQ__	X13673	WNV-E-AZ10-918	251	14aa	mRNA_30cpc_Ctx	1
-----SVVALGSQEGALHQ__	X13673	WNV-E-ArD76104	247	14aa	mRNA_30cpc_Ctx	1
-----SVVALGSQEGALHQ__	X13673	WNV-E-H-442	251	14aa	mRNA_30cpc_Ctx	1
-----TKQSVIALGSQEGA__	X5751	JEV-E-BN19	248	14aa	mRNA_3000cpc_Organoid_MD101	1
-----TKQSVIALGSQEGA__	X5751	JEV-E-KE-093	248	14aa	mRNA_3000cpc_Organoid_MD101	1
-----TKQSVIALGSQEGA__	X5751	JEV-E-SA14-5-3	248	14aa	mRNA_3000cpc_Organoid_MD101	1
-----TKQSVIALGSQEGA__	X5751	JEV-E-ThCMAr4492	248	14aa	mRNA_3000cpc_Organoid_MD101	1
-----TKQSVIALGSQEGA__	X5751	WNV-E-AZ10-918	248	14aa	mRNA_3000cpc_Organoid_MD101	1
-----TKQSVIALGSQEGA__	X5751	WNV-E-ArD76104	244	14aa	mRNA_3000cpc_Organoid_MD101	1
-----TKQSVIALGSQEGA__	X5751	WNV-E-H-442	248	14aa	mRNA_3000cpc_Organoid_MD101	1
-----VDAGALGPDGVVEE__	X68184	HSV-1-pUS7	36	14aa	mRNA_30cpc_Organoid_MD114	1
-----VDAGAVGPQGFVEE__	X68185	HSV-2-pUS7	36	14aa	mRNA_30cpc_SN	1
-----VDAGAVGPQGFVEE__	X68185	HSV-2-pUS7	36	14aa	mRNA_30cpc_Th	1
-----VDAGAVGPQGFVEE__	X68185	HSV-2-pUS7	36	14aa	mRNA_30cpc_Ctx	1
-----VDAGAVGPQGFVEE__	X68185	HSV-2-pUS7	36	14aa	mRNA_3cpc_Th	1
VSLVSDSLVDAGAVGPQGFVEE__	X66431	HSV-2-pUS7	28	22aa	mRNA_30cpc_SN	1
VSLVSDSLVDAGAVGPQGFVEE__	X66431	HSV-2-pUS7	28	22aa	mRNA_30cpc_Ctx	1
VSLVSNSFVDAGALGPDGVVEE__	X66429	HSV-1-pUS7	28	22aa	mRNA_30cpc_Organoid_MD114	1
VSLVSNSFVDAGALGPDGVVEE__	X66429	HSV-1-pUS7	28	22aa	mRNA_3000cpc_Organoid_MD101	1
___VSNSFVDAGALGPDGVVEEDLL	X66263	HSV-1-pUS7	31	22aa	mRNA_30cpc_SN	1
___VSNSFVDAGALGPDGVVEEDLL	X66263	HSV-1-pUS7	31	22aa	mRNA_30cpc_Th	2
___VSNSFVDAGALGPDGVVEEDLL	X66263	HSV-1-pUS7	31	22aa	mRNA_30cpc_Ctx	1

Peptide RPVEQSPQEPDSSS from AAV1-VP1 with cluster number 7263

Peptide RPVEQSPQEPDSSS from AAV1-VP1 with cluster number 7263



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
7263	RPVEQSPQEPDSSS	52	16	10	6	11	1	2

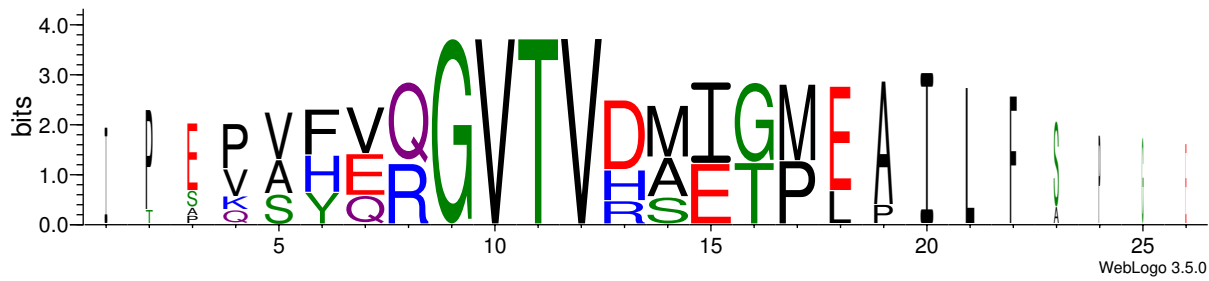
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7263	RPVEQSPQEPDSSS	RPVEQSPQEPDSSS_____	12	3	3	1
7263	RPVEQSPQEPDSSA	RPVEQSPQEPDSSA_____	10	2	2	2
7263	SPQEPDSSAGIGKS	____SPQEPDSSAGIGKS_____	5	1	1	1
7263	PDSSSGIGKTGQQP	____PDSSSGIGKTGQQP_____	4	3	0	0
7263	VEQSPQEPDSSAGI	__VEQSPQEPDSSAGI_____	3	1	1	0
7263	DSSSGIGKTGQQPA	____DSSSGIGKTGQQPA_____	3	0	0	0
7263	QRSPDSSTGIGKKGQQPARKRL	____QRSPDSSTGIGKKGQQPARKRL	2	1	1	0
7263	PENSRGKGRRGQRG	____PENSRGKGRRGQRG_____	2	1	0	1
7263	PDSSAGIGKSGAQP	____PDSSAGIGKSGAQP_____	2	0	1	1
7263	LPSFCPDSTSGPVK	____LPSFCPDSTSGPVK_____	2	1	1	0
7263	TPLPSFCPDSSSGP	__TPLPSFCPDSSSGP_____	1	0	0	0
7263	PVEPSPQRSPTSST	PVEPSPQRSPTSST_____	1	1	0	0
7263	PQEPDSSSGIGKTG	____PQEPDSSSGIGKTG_____	1	1	0	0
7263	PLPSFCPDSSSGPQ	__PLPSFCPDSSSGPQ_____	1	1	0	0
7263	EQSPQEPDSSSGIG	____EQSPQEPDSSSGIG_____	1	0	0	0
7263	EPSPQRSPTSSTGI	__EPSPQRSPTSSTGI_____	1	0	0	0
7263	CPDSTSGPVKTKAP	____CPDSTSGPVKTKAP_____	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_____CPDSTSGPVKTKAP_____	X72701	TMEV-VP1-M20301.1	77	14aa	mRNA_30cpc_Th_4wks	1
_____DSSSGIGKTGQQPA_____	X34248	AAV1-VP1	154	14aa	mRNA_3cpc_Th	3
_____DSSSGIGKTGQQPA_____	X34248	AAV6-VP1	154	14aa	mRNA_3cpc_Th	3
___EPSPQRSPDSSSTGI_____	X37774	AAV8-VP1	147	14aa	mRNA_3000cpc_Organoid_MD101	1
___EQSPQEPDSSSGIG_____	X37673	AAV1-VP1	147	14aa	mRNA_3000cpc_Organoid_MD101	1
___EQSPQEPDSSSGIG_____	X37673	AAV6-VP1	147	14aa	mRNA_3000cpc_Organoid_MD101	1
___EQSPQEPDSSSGIG_____	X37673	AAV9-VP1	147	14aa	mRNA_3000cpc_Organoid_MD101	1
___LPSFCPDSTSGPVK_____	X53091	TMEV-VP-DQ401688.1	73	14aaA5	mRNA_30cpc_Th	1
___LPSFCPDSTSGPVK_____	X53091	TMEV-VP1-M20301.1	73	14aaA5	mRNA_30cpc_Th	1
___LPSFCPDSTSGPVK_____	X53091	TMEV-VP1-U33047.1	73	14aaA5	mRNA_30cpc_Th	1
___LPSFCPDSTSGPVK_____	X53091	TMEV-VP-DQ401688.1	73	14aaA5	mRNA_30cpc_Ctx	1
___LPSFCPDSTSGPVK_____	X53091	TMEV-VP1-M20301.1	73	14aaA5	mRNA_30cpc_Ctx	1
___LPSFCPDSTSGPVK_____	X53091	TMEV-VP1-U33047.1	73	14aaA5	mRNA_30cpc_Ctx	1
___PDSSAGIGKSGAQP_____	X22908	AAV9-VP1	153	14aa	mRNA_30cpc_SN	1
___PDSSAGIGKSGAQP_____	X22908	AAV9-VP1	153	14aa	mRNA_30cpc_Th	1
___PDSSSGIGKTGQQP_____	X22905	AAV1-VP1	153	14aa	mRNA_30cpc_Ctx	3
___PDSSSGIGKTGQQP_____	X22905	AAV6-VP1	153	14aa	mRNA_30cpc_Ctx	3
___PDSSSGIGKTGQQP_____	X22905	AAV1-VP1	153	14aa	mRNA_3cpc_Th	1
___PDSSSGIGKTGQQP_____	X22905	AAV6-VP1	153	14aa	mRNA_3cpc_Th	1
___PENSRGKGRRGQRG_____	X23066	GDNF	81	14aa	mRNA_30cpc_SN	1
___PENSRGKGRRGQRG_____	X23066	GDNF	81	14aa	mRNA_30cpc_Ctx	1
___PLPSFCPDSSSGPQ_____	X22651	TMEV-VP-DQ401688.1	72	14aa	mRNA_30cpc_Ctx	1
___PLPSFCPDSSSGPQ_____	X22651	TMEV-VP1-M20301.1	72	14aa	mRNA_30cpc_Ctx	1
___PLPSFCPDSSSGPQ_____	X22651	TMEV-VP1-U33047.1	72	14aa	mRNA_30cpc_Ctx	1
___PQEPDSSSGIGKTG_____	X21774	AAV1-VP1	150	14aa	mRNA_30cpc_Ctx	1
___PQEPDSSSGIGKTG_____	X21774	AAV6-VP1	150	14aa	mRNA_30cpc_Ctx	1
___PQEPDSSSGIGKTG_____	X21774	AAV9-VP1	150	14aa	mRNA_30cpc_Ctx	1
PVEPSPQRSPDSSST_____	X24253	AAV8-VP1	145	14aa	mRNA_30cpc_Ctx	1
___QRSPDSSSGIGKKGQQPARKRL_____	X19347	AAV8-VP1	151	22aa	mRNA_30cpc_Th	1
___QRSPDSSSGIGKKGQQPARKRL_____	X19347	AAV8-VP1	151	22aa	mRNA_30cpc_Ctx	1
RPVEQSPQEPDSSA_____	X25959	AAV1-VP1	144	14aa	mRNA_30cpc_SN	2
RPVEQSPQEPDSSA_____	X25959	AAV6-VP1	144	14aa	mRNA_30cpc_SN	2
RPVEQSPQEPDSSA_____	X25959	AAV9-VP1	144	14aa	mRNA_30cpc_SN	2
RPVEQSPQEPDSSA_____	X25959	AAV1-VP1	144	14aa	mRNA_30cpc_Th	2
RPVEQSPQEPDSSA_____	X25959	AAV6-VP1	144	14aa	mRNA_30cpc_Th	2
RPVEQSPQEPDSSA_____	X25959	AAV9-VP1	144	14aa	mRNA_30cpc_Th	2
RPVEQSPQEPDSSA_____	X25959	AAV1-VP1	144	14aa	mRNA_30cpc_Ctx	2
RPVEQSPQEPDSSA_____	X25959	AAV6-VP1	144	14aa	mRNA_30cpc_Ctx	2
RPVEQSPQEPDSSA_____	X25959	AAV9-VP1	144	14aa	mRNA_30cpc_Ctx	2
RPVEQSPQEPDSSA_____	X25959	AAV1-VP1	144	14aa	mRNA_3cpc_Th	3
RPVEQSPQEPDSSA_____	X25959	AAV6-VP1	144	14aa	mRNA_3cpc_Th	3
RPVEQSPQEPDSSA_____	X25959	AAV9-VP1	144	14aa	mRNA_3cpc_Th	3
RPVEQSPQEPDSSA_____	X25959	AAV1-VP1	144	14aa	mRNA_3000cpc_Organoid_MD101	1
RPVEQSPQEPDSSA_____	X25959	AAV6-VP1	144	14aa	mRNA_3000cpc_Organoid_MD101	1
RPVEQSPQEPDSSA_____	X25959	AAV9-VP1	144	14aa	mRNA_3000cpc_Organoid_MD101	1
RPVEQSPQEPDSSS_____	X25958	AAV1-VP1	144	14aa	mRNA_30cpc_SN	1
RPVEQSPQEPDSSS_____	X25958	AAV6-VP1	144	14aa	mRNA_30cpc_SN	1

alignment	LUThrs	GeneName	start	structure	Group	Score
RPVEQSPQEPDSSS_____	X25958	AAV9-VP1	144	14aa	mRNA_30cpc_SN	1
RPVEQSPQEPDSSS_____	X25958	AAV1-VP1	144	14aa	mRNA_30cpc_Th	3
RPVEQSPQEPDSSS_____	X25958	AAV6-VP1	144	14aa	mRNA_30cpc_Th	3
RPVEQSPQEPDSSS_____	X25958	AAV9-VP1	144	14aa	mRNA_30cpc_Th	3
RPVEQSPQEPDSSS_____	X25958	AAV1-VP1	144	14aa	mRNA_30cpc_Ctx	3
RPVEQSPQEPDSSS_____	X25958	AAV6-VP1	144	14aa	mRNA_30cpc_Ctx	3
RPVEQSPQEPDSSS_____	X25958	AAV9-VP1	144	14aa	mRNA_30cpc_Ctx	3
RPVEQSPQEPDSSS_____	X25958	AAV1-VP1	144	14aa	mRNA_3cpc_SN	1
RPVEQSPQEPDSSS_____	X25958	AAV6-VP1	144	14aa	mRNA_3cpc_SN	1
RPVEQSPQEPDSSS_____	X25958	AAV9-VP1	144	14aa	mRNA_3cpc_SN	1
RPVEQSPQEPDSSS_____	X25958	AAV1-VP1	144	14aa	mRNA_3cpc_Th	3
RPVEQSPQEPDSSS_____	X25958	AAV6-VP1	144	14aa	mRNA_3cpc_Th	3
RPVEQSPQEPDSSS_____	X25958	AAV9-VP1	144	14aa	mRNA_3cpc_Th	3
RPVEQSPQEPDSSS_____	X25958	AAV1-VP1	144	14aa	mRNA_3cpc_Ctx	1
RPVEQSPQEPDSSS_____	X25958	AAV6-VP1	144	14aa	mRNA_3cpc_Ctx	1
RPVEQSPQEPDSSS_____	X25958	AAV9-VP1	144	14aa	mRNA_3cpc_Ctx	1
____SPQEPDSSAGIGKS_____	X11573	AAV1-VP1	149	14aa	mRNA_30cpc_SN	1
____SPQEPDSSAGIGKS_____	X11573	AAV6-VP1	149	14aa	mRNA_30cpc_SN	1
____SPQEPDSSAGIGKS_____	X11573	AAV9-VP1	149	14aa	mRNA_30cpc_SN	1
____SPQEPDSSAGIGKS_____	X11573	AAV1-VP1	149	14aa	mRNA_30cpc_Th	1
____SPQEPDSSAGIGKS_____	X11573	AAV6-VP1	149	14aa	mRNA_30cpc_Th	1
____SPQEPDSSAGIGKS_____	X11573	AAV9-VP1	149	14aa	mRNA_30cpc_Th	1
____SPQEPDSSAGIGKS_____	X11573	AAV1-VP1	149	14aa	mRNA_30cpc_Ctx	1
____SPQEPDSSAGIGKS_____	X11573	AAV6-VP1	149	14aa	mRNA_30cpc_Ctx	1
____SPQEPDSSAGIGKS_____	X11573	AAV9-VP1	149	14aa	mRNA_30cpc_Ctx	1
____SPQEPDSSAGIGKS_____	X11573	AAV1-VP1	149	14aa	mRNA_3cpc_Th	1
____SPQEPDSSAGIGKS_____	X11573	AAV6-VP1	149	14aa	mRNA_3cpc_Th	1
____SPQEPDSSAGIGKS_____	X11573	AAV9-VP1	149	14aa	mRNA_3cpc_Th	1
____SPQEPDSSAGIGKS_____	X11573	AAV1-VP1	149	14aa	mRNA_3000cpc_Organoid_MD101	1
____SPQEPDSSAGIGKS_____	X11573	AAV6-VP1	149	14aa	mRNA_3000cpc_Organoid_MD101	1
____SPQEPDSSAGIGKS_____	X11573	AAV9-VP1	149	14aa	mRNA_3000cpc_Organoid_MD101	1
__TLPSPFCPDSSSGP_____	X7315	TMEV-VP-DQ401688.1	71	14aa	mRNA_30cpc_Organoid_MD114	1
__TLPSPFCPDSSSGP_____	X7315	TMEV-VP1-M20301.1	71	14aa	mRNA_30cpc_Organoid_MD114	1
__TLPSPFCPDSSSGP_____	X7315	TMEV-VP1-U33047.1	71	14aa	mRNA_30cpc_Organoid_MD114	1
__VEQSPQEPDSSAGI_____	X68293	AAV1-VP1	146	14aa	mRNA_30cpc_Th	1
__VEQSPQEPDSSAGI_____	X68293	AAV6-VP1	146	14aa	mRNA_30cpc_Th	1
__VEQSPQEPDSSAGI_____	X68293	AAV9-VP1	146	14aa	mRNA_30cpc_Th	1
__VEQSPQEPDSSAGI_____	X68293	AAV1-VP1	146	14aa	mRNA_30cpc_Ctx	1
__VEQSPQEPDSSAGI_____	X68293	AAV6-VP1	146	14aa	mRNA_30cpc_Ctx	1
__VEQSPQEPDSSAGI_____	X68293	AAV9-VP1	146	14aa	mRNA_30cpc_Ctx	1
__VEQSPQEPDSSAGI_____	X68293	AAV1-VP1	146	14aa	mRNA_3cpc_Ctx	1
__VEQSPQEPDSSAGI_____	X68293	AAV6-VP1	146	14aa	mRNA_3cpc_Ctx	1
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Peptide PVFEQGVTVDAIGM from BV-G with cluster number 7698

Peptide PVFEQGVTVDAIGM from BV-G with cluster number 7698



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
7698	PVFEQGVTVDAIGM	48	12	13	6	7	1	1

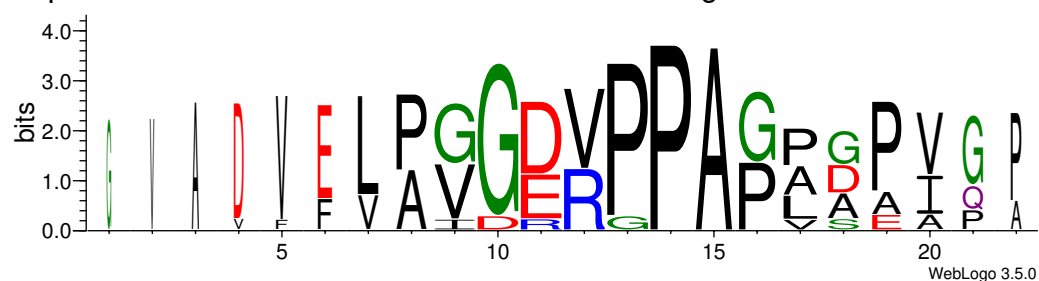
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7698	PVFEQGVTVDAIGM	___PVFEQGVTVDAIGM_____	12	2	1	0
7698	PEVSHVRGVTVRMETPEAILFS	_PEVSHVRGVTVRMETPEAILFS__	4	1	2	1
7698	HVRGVTVMETPEA	____HVRGVTVMETPEA_____	4	1	2	1
7698	VRGVTVMETPEAI	____VRGVTVMETPEAI_____	3	1	2	0
7698	QAYQQGVTVDSIGM	___QAYQQGVTVDSIGM_____	3	1	1	1
7698	VRGVTVRMETPEAI	____VRGVTVRMETPEAI_____	2	1	1	0
7698	KAYQQGVTVDSIGM	___KAYQQGVTVDSIGM_____	2	1	0	1
7698	IPEVSHVRGVTVMETPEAILF	IPEVSHVRGVTVMETPEAILF_____	2	1	1	0
7698	FEQGVTVDAIGMLP	___FEQGVTVDAIGMLP_____	2	1	1	0
7698	AYQQGVTVDSIGML	___AYQQGVTVDSIGML_____	2	1	1	0
7698	YQQGVTVDSIGMLP	____YQQGVTVDSIGMLP_____	1	0	0	1
7698	VHMETPEAILFAPG	____VHMETPEAILFAPG_____	1	1	0	0
7698	VFEQGVTVDAIGML	___VFEQGVTVDAIGML_____	1	0	0	0
7698	TSKAYQQGVTVDSI	_TSKAYQQGVTVDSI_____	1	0	0	0
7698	SKAYQQGVTVDSIG	__SKAYQQGVTVDSIG_____	1	0	0	0
7698	SHVRGVTVRMETPEAILFSPGE	___SHVRGVTVRMETPEAILFSPGE	1	0	1	0
7698	RGVTVRMETPEAIL	____RGVTVRMETPEAIL_____	1	0	0	1
7698	RGVTVMETPEAIL	____RGVTVMETPEAIL_____	1	0	0	0
7698	PQAYQQGVTVDSIG	___PQAYQQGVTVDSIG_____	1	0	0	0
7698	IPEVSHVRGVTVMH	IPEVSHVRGVTVMH_____	1	0	0	0
7698	EVSHVRGVTVRMET	__EVSHVRGVTVRMET_____	1	0	0	0
7698	APVFEQGVTVDAIG	___APVFEQGVTVDAIG_____	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
__APVFEQGVTVDAIG_____	X41980	BV-G	230	14aa	mRNA_30cpc_Th_4wks	1
___AYQQGVTVDSIGML_____	X88153	HSV-1-pUS6	232	14aaG4S	mRNA_30cpc_Th	1
___AYQQGVTVDSIGML_____	X88153	HSV-2-pUS6	232	14aaG4S	mRNA_30cpc_Th	1
___AYQQGVTVDSIGML_____	X88153	HSV-1-pUS6	232	14aaG4S	mRNA_30cpc_Ctx	1
___AYQQGVTVDSIGML_____	X88153	HSV-2-pUS6	232	14aaG4S	mRNA_30cpc_Ctx	1
__EVSHVRGVTVRMET_____	X39245	HSV-1-pUS8	215	14aa	mRNA_3cpc_Th	1
__EVSHVRGVTVRMET_____	X39245	HSV-2-pUS8	210	14aa	mRNA_3cpc_Th	1
___FEQGVTVDAIGMLP_____	X75690	BV-G	233	14aa	mRNA_30cpc_Th	1
___FEQGVTVDAIGMLP_____	X75690	HSV-1-pUS6	233	14aa	mRNA_30cpc_Th	1
___FEQGVTVDAIGMLP_____	X75690	HSV-2-pUS6	233	14aa	mRNA_30cpc_Th	1
___FEQGVTVDAIGMLP_____	X75690	BV-G	233	14aa	mRNA_30cpc_Ctx	1
___FEQGVTVDAIGMLP_____	X75690	HSV-1-pUS6	233	14aa	mRNA_30cpc_Ctx	1
___FEQGVTVDAIGMLP_____	X75690	HSV-2-pUS6	233	14aa	mRNA_30cpc_Ctx	1
___HVRGVTVHMETPEA_____	X18219	HSV-1-pUS8	218	14aa	mRNA_30cpc_SN	1
___HVRGVTVHMETPEA_____	X18219	HSV-2-pUS8	213	14aa	mRNA_30cpc_SN	1
___HVRGVTVHMETPEA_____	X18219	HSV-1-pUS8	218	14aa	mRNA_30cpc_Th	2
___HVRGVTVHMETPEA_____	X18219	HSV-2-pUS8	213	14aa	mRNA_30cpc_Th	2
___HVRGVTVHMETPEA_____	X18219	HSV-1-pUS8	218	14aa	mRNA_30cpc_Ctx	1
___HVRGVTVHMETPEA_____	X18219	HSV-2-pUS8	213	14aa	mRNA_30cpc_Ctx	1
IPEVSHVRGVTVHM_____	X80585	HSV-1-pUS8	213	14aaG4S	mRNA_30cpc_SN_4wks	1
IPEVSHVRGVTVHM_____	X80585	HSV-2-pUS8	208	14aaG4S	mRNA_30cpc_SN_4wks	1
IPEVSHVRGVTVHMETPEAILF___	X15458	HSV-1-pUS8	213	22aa	mRNA_30cpc_Th	1
IPEVSHVRGVTVHMETPEAILF___	X15458	HSV-2-pUS8	208	22aa	mRNA_30cpc_Th	1
IPEVSHVRGVTVHMETPEAILF___	X15458	HSV-1-pUS8	213	22aa	mRNA_30cpc_Ctx	1
IPEVSHVRGVTVHMETPEAILF___	X15458	HSV-2-pUS8	208	22aa	mRNA_30cpc_Ctx	1
__KAYQQGVTVDSIG_____	X4836	HSV-1-pUS6	231	14aa	mRNA_30cpc_SN	1
__KAYQQGVTVDSIG_____	X4836	HSV-2-pUS6	231	14aa	mRNA_30cpc_SN	1
__KAYQQGVTVDSIG_____	X4836	HSV-1-pUS6	231	14aa	mRNA_30cpc_Ctx	1
__KAYQQGVTVDSIG_____	X4836	HSV-2-pUS6	231	14aa	mRNA_30cpc_Ctx	1
_PEVSHVRGVTVRMETPEAILFS___	X23254	HSV-1-pUS8	214	22aa	mRNA_30cpc_SN	1
_PEVSHVRGVTVRMETPEAILFS___	X23254	HSV-2-pUS8	209	22aa	mRNA_30cpc_SN	1
_PEVSHVRGVTVRMETPEAILFS___	X23254	HSV-1-pUS8	214	22aa	mRNA_30cpc_Th	2
_PEVSHVRGVTVRMETPEAILFS___	X23254	HSV-2-pUS8	209	22aa	mRNA_30cpc_Th	2
_PEVSHVRGVTVRMETPEAILFS___	X23254	HSV-1-pUS8	214	22aa	mRNA_30cpc_Ctx	1
_PEVSHVRGVTVRMETPEAILFS___	X23254	HSV-2-pUS8	209	22aa	mRNA_30cpc_Ctx	1
__PQAYQQGVTVDSIG_____	X21785	HSV-1-pUS6	230	14aa	mRNA_3000cpc_Organoid_MD101	1
__PQAYQQGVTVDSIG_____	X21785	HSV-2-pUS6	230	14aa	mRNA_3000cpc_Organoid_MD101	1
___PVFEQGVTVDAIGM_____	X24363	BV-G	231	14aa	mRNA_30cpc_Th	1
___PVFEQGVTVDAIGM_____	X24363	BV-G	231	14aa	mRNA_30cpc_Ctx	2
___PVFEQGVTVDAIGM_____	X24363	BV-G	231	14aa	mRNA_3cpc_Th	5
___PVFEQGVTVDAIGM_____	X24363	BV-G	231	14aa	mRNA_3cpc_Ctx	1
___PVFEQGVTVDAIGM_____	X24363	BV-G	231	14aa	mRNA_30cpc_SN_4wks	2
___PVFEQGVTVDAIGM_____	X24363	BV-G	231	14aa	mRNA_3cpc_Th_4wks	1
___QAYQQGVTVDSIG_____	X19977	HSV-1-pUS6	231	14aa	mRNA_30cpc_SN	1
___QAYQQGVTVDSIG_____	X19977	HSV-2-pUS6	231	14aa	mRNA_30cpc_SN	1
___QAYQQGVTVDSIG_____	X19977	HSV-1-pUS6	231	14aa	mRNA_30cpc_Th	1
___QAYQQGVTVDSIG_____	X19977	HSV-2-pUS6	231	14aa	mRNA_30cpc_Th	1

alignment	LUThrs	GeneName	start	structure	Group	Score
___QAYQQGVTVD SIGM_____	X19977	HSV-1-pUS6	231	14aa	mRNA_30cpc_Ctx	1
___QAYQQGVTVD SIGM_____	X19977	HSV-2-pUS6	231	14aa	mRNA_30cpc_Ctx	1
_____RGVTVHMETPEAIL_____	X27585	HSV-1-pUS8	220	14aa	mRNA_3000cpc_Organoid_MD101	1
_____RGVTVHMETPEAIL_____	X27585	HSV-2-pUS8	215	14aa	mRNA_3000cpc_Organoid_MD101	1
_____RGVTVRMETPEAIL_____	X27586	HSV-1-pUS8	220	14aa	mRNA_30cpc_SN	1
_____RGVTVRMETPEAIL_____	X27586	HSV-2-pUS8	215	14aa	mRNA_30cpc_SN	1
___SHVRGVTVRMETPEAILFSPGE	X11316	HSV-1-pUS8	217	22aa	mRNA_30cpc_Th	1
___SHVRGVTVRMETPEAILFSPGE	X11316	HSV-2-pUS8	212	22aa	mRNA_30cpc_Th	1
___SKAYQQGVTVD SIG_____	X10145	HSV-1-pUS6	230	14aa	mRNA_30cpc_Organoid_MD114	1
___SKAYQQGVTVD SIG_____	X10145	HSV-2-pUS6	230	14aa	mRNA_30cpc_Organoid_MD114	1
___TSKAYQQGVTVD SI_____	X78137	HSV-1-pUS6	230	14aaG4S	mRNA_3cpc_Th	1
___TSKAYQQGVTVD SI_____	X78137	HSV-2-pUS6	229	14aaG4S	mRNA_3cpc_Th	1
_____VFEQGVTVD AIGML_____	X90620	BV-G	232	14aaG4S	mRNA_30cpc_SN_4wks	1
_____VHMETPEAILFAPG_____	X66874	HSV-1-pUS8	224	14aa	mRNA_30cpc_Ctx	1
_____VHMETPEAILFAPG_____	X66874	HSV-2-pUS8	219	14aa	mRNA_30cpc_Ctx	1
_____VRGTVHMETPEAI_____	X67595	HSV-2-pUS8	214	14aa	mRNA_30cpc_Th	1
_____VRGTVHMETPEAI_____	X89976	HSV-2-pUS8	214	14aaG4S	mRNA_30cpc_Th	1
_____VRGTVHMETPEAI_____	X89976	HSV-2-pUS8	214	14aaG4S	mRNA_30cpc_Ctx	1
_____VRGTVRMETPEAI_____	X67596	HSV-1-pUS8	219	14aa	mRNA_30cpc_Th	1
_____VRGTVRMETPEAI_____	X67596	HSV-1-pUS8	219	14aa	mRNA_30cpc_Ctx	1
_____YQQGVTVD SIGMLP_____	X70812	BV-G	233	14aa	mRNA_30cpc_SN	1
_____YQQGVTVD SIGMLP_____	X70812	HSV-1-pUS6	233	14aa	mRNA_30cpc_SN	1
_____YQQGVTVD SIGMLP_____	X70812	HSV-2-pUS6	233	14aa	mRNA_30cpc_SN	1

Peptide AVGDRPPAPLAPVG from PRV-Becker-gE with cluster number 7996

Peptide AVGDRPPAPLAPVG from PRV-Becker-gE with cluster number 79



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
7996	AVGDRPPAPLAPVG	46	8	6	11	8	1	3

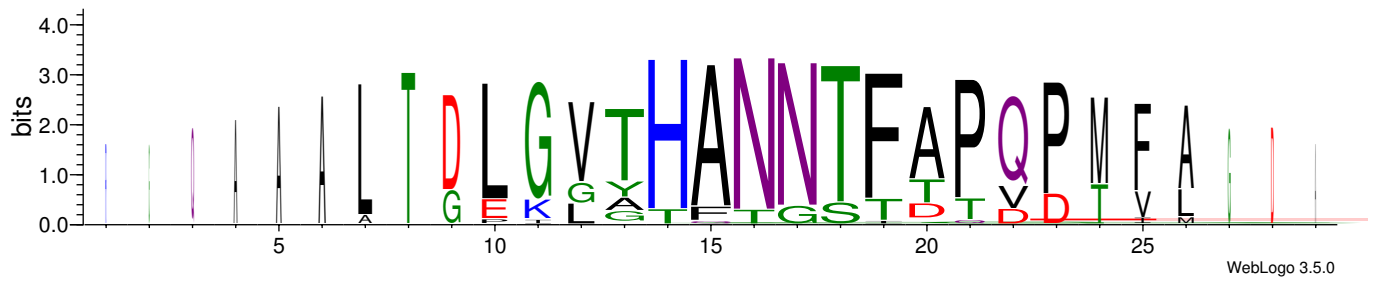
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7996	AVGDRPPAPLAPVG	-----AVGDRPPAPLAPVG_	6	0	1	1
7996	VGDRPPAPADPVGP	-----VGDRPPAPADPVGP	5	2	1	1
7996	LPGGEVPPAGPGAI	-----LPGGEVPPAGPGAI__	5	1	0	3
7996	GVADVELPGGEVPP	GVADVELPGGEVPP-----	5	1	1	2
7996	IDRVGPAGVSPAPP	-----IDRVGPAGVSPAPP	4	0	0	0
7996	AVGDRPPAPADPVG	-----AVGDRPPAPADPVG_	3	0	0	0
7996	ADVELPGGEVPPAG	--ADVELPGGEVPPAG-----	3	1	1	1
7996	VELPGGEVPPAGPG	___VELPGGEVPPAGPG_____	2	1	1	0
7996	PGGDVPPAGPGEIQ	-----PGGDVPPAGPGEIQ_	2	0	0	1
7996	GGDVPPAGPGEIQA	-----GGDVPPAGPGEIQA	2	1	1	0
7996	FVAVGDRPPAPLAP	-----FVAVGDRPPAPLAP___	2	0	0	0
7996	DVELPGGDVPPAGP	___DVELPGGDVPPAGP_____	2	1	0	1
7996	VFFVAVGDRPPAPA	___VFFVAVGDRPPAPA_____	1	0	0	0
7996	VAVGDRPPAPLAPV	-----VAVGDRPPAPLAPV__	1	0	0	0
7996	VAVGDRPPAPADPV	-----VAVGDRPPAPADPV__	1	0	0	0
7996	GGEVPPAGPGAIQA	-----GGEVPPAGPGAIQA	1	0	0	1
7996	FVAVGDRPPAPADP	-----FVAVGDRPPAPADP___	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
__ADVELPGGEVPPAG____	X43071	HSV-1-pUL19	554	14aa	mRNA_30cpc_SN	1
__ADVELPGGEVPPAG____	X43071	HSV-2-pUL19	554	14aa	mRNA_30cpc_SN	1
__ADVELPGGEVPPAG____	X43071	HSV-1-pUL19	554	14aa	mRNA_30cpc_Th	1
__ADVELPGGEVPPAG____	X43071	HSV-2-pUL19	554	14aa	mRNA_30cpc_Th	1
__ADVELPGGEVPPAG____	X43071	HSV-1-pUL19	554	14aa	mRNA_30cpc_Ctx	1
__ADVELPGGEVPPAG____	X43071	HSV-2-pUL19	554	14aa	mRNA_30cpc_Ctx	1
____AVGDRPPAPADPVG_	X44647	PRV-Becker-gE	205	14aa	mRNA_3cpc_SN	1
____AVGDRPPAPADPVG_	X44647	PRV-TJ-gE	206	14aa	mRNA_3cpc_SN	1
____AVGDRPPAPADPVG_	X44647	PRV-Becker-gE	205	14aa	mRNA_3cpc_Th	1
____AVGDRPPAPADPVG_	X44647	PRV-TJ-gE	206	14aa	mRNA_3cpc_Th	1
____AVGDRPPAPADPVG_	X44647	PRV-Becker-gE	205	14aa	mRNA_3cpc_Ctx	1
____AVGDRPPAPADPVG_	X44647	PRV-TJ-gE	206	14aa	mRNA_3cpc_Ctx	1
____AVGDRPPAPLAPVG_	X88110	PRV-Becker-gE	205	14aaG4S	mRNA_30cpc_SN	1
____AVGDRPPAPLAPVG_	X88110	PRV-TJ-gE	206	14aaG4S	mRNA_30cpc_SN	1
____AVGDRPPAPLAPVG_	X44646	PRV-Becker-gE	205	14aa	mRNA_30cpc_Th	1
____AVGDRPPAPLAPVG_	X44646	PRV-TJ-gE	206	14aa	mRNA_30cpc_Th	1
____AVGDRPPAPLAPVG_	X44646	PRV-Becker-gE	205	14aa	mRNA_3cpc_Th	1
____AVGDRPPAPLAPVG_	X44646	PRV-TJ-gE	206	14aa	mRNA_3cpc_Th	1
____AVGDRPPAPLAPVG_	X44646	PRV-Becker-gE	205	14aa	mRNA_3cpc_Ctx	1
____AVGDRPPAPLAPVG_	X44646	PRV-TJ-gE	206	14aa	mRNA_3cpc_Ctx	1
____AVGDRPPAPLAPVG_	X44646	PRV-Becker-gE	205	14aa	mRNA_30cpc_Organoid_MD114	1
____AVGDRPPAPLAPVG_	X44646	PRV-TJ-gE	206	14aa	mRNA_30cpc_Organoid_MD114	1
____AVGDRPPAPLAPVG_	X44646	PRV-Becker-gE	205	14aa	mRNA_3000cpc_Organoid_MD101	1
____AVGDRPPAPLAPVG_	X44646	PRV-TJ-gE	206	14aa	mRNA_3000cpc_Organoid_MD101	1
____DVELPGGDVPPAGP____	X36344	HSV-1-pUL19	555	14aa	mRNA_30cpc_SN	1
____DVELPGGDVPPAGP____	X36344	HSV-2-pUL19	555	14aa	mRNA_30cpc_SN	1
____DVELPGGDVPPAGP____	X36344	HSV-1-pUL19	555	14aa	mRNA_30cpc_Ctx	1
____DVELPGGDVPPAGP____	X36344	HSV-2-pUL19	555	14aa	mRNA_30cpc_Ctx	1
____FVAVGDRPPAPADP____	X76192	PRV-Becker-gE	203	14aa	mRNA_3000cpc_Organoid_MD101	1
____FVAVGDRPPAPADP____	X76192	PRV-TJ-gE	204	14aa	mRNA_3000cpc_Organoid_MD101	1
____FVAVGDRPPAPLAP____	X76191	PRV-Becker-gE	203	14aa	mRNA_3cpc_Th	1
____FVAVGDRPPAPLAP____	X76191	PRV-TJ-gE	204	14aa	mRNA_3cpc_Th	1
____FVAVGDRPPAPLAP____	X76191	PRV-Becker-gE	203	14aa	mRNA_3000cpc_Organoid_MD101	1
____FVAVGDRPPAPLAP____	X76191	PRV-TJ-gE	204	14aa	mRNA_3000cpc_Organoid_MD101	1
____GGDVPPAGPGEIQA____	X64573	HSV-1-pUL19	560	14aa	mRNA_30cpc_Th	1
____GGDVPPAGPGEIQA____	X64573	HSV-1-pUL19	560	14aa	mRNA_30cpc_Ctx	1
____GGEVPPAGPGAIQA____	X64590	HSV-2-pUL19	560	14aa	mRNA_30cpc_SN	1
GVADVELPGGEVPP____	X64949	HSV-1-pUL19	552	14aa	mRNA_30cpc_SN	2
GVADVELPGGEVPP____	X64949	HSV-2-pUL19	552	14aa	mRNA_30cpc_SN	2
GVADVELPGGEVPP____	X64949	HSV-1-pUL19	552	14aa	mRNA_30cpc_Th	1
GVADVELPGGEVPP____	X64949	HSV-2-pUL19	552	14aa	mRNA_30cpc_Th	1
GVADVELPGGEVPP____	X64949	HSV-1-pUL19	552	14aa	mRNA_30cpc_Ctx	1
GVADVELPGGEVPP____	X64949	HSV-2-pUL19	552	14aa	mRNA_30cpc_Ctx	1
GVADVELPGGEVPP____	X64949	HSV-1-pUL19	552	14aa	mRNA_3cpc_Th	1
GVADVELPGGEVPP____	X64949	HSV-2-pUL19	552	14aa	mRNA_3cpc_Th	1
____IDRVGPAGVSPAPP____	X15977	HSV-1-pUL21	248	14aa	mRNA_3cpc_SN	1
____IDRVGPAGVSPAPP____	X15977	HSV-1-pUL21	248	14aa	mRNA_3cpc_Th	2

alignment	LUThrs	GeneName	start	structure	Group	Score
_____IDRVGPAGVSPAPP	X15977	HSV-1-pUL21	248	14aa	mRNA_3cpc_Ctx	1
_____LPGGEVPPAGPGAI__	X30373	HSV-1-pUL19	558	14aa	mRNA_30cpc_SN	3
_____LPGGEVPPAGPGAI__	X30373	HSV-2-pUL19	558	14aa	mRNA_30cpc_SN	3
_____LPGGEVPPAGPGAI__	X30373	HSV-1-pUL19	558	14aa	mRNA_30cpc_Ctx	1
_____LPGGEVPPAGPGAI__	X30373	HSV-2-pUL19	558	14aa	mRNA_30cpc_Ctx	1
_____LPGGEVPPAGPGAI__	X30373	HSV-1-pUL19	558	14aa	mRNA_3000cpc_Organoid_MD101	1
_____LPGGEVPPAGPGAI__	X30373	HSV-2-pUL19	558	14aa	mRNA_3000cpc_Organoid_MD101	1
_____PGGDVPPAGPGIEIQ_	X24018	HSV-1-pUL19	559	14aa	mRNA_30cpc_SN	1
_____PGGDVPPAGPGIEIQ_	X24018	HSV-2-pUL19	559	14aa	mRNA_30cpc_SN	1
_____PGGDVPPAGPGIEIQ_	X24018	HSV-1-pUL19	559	14aa	mRNA_3cpc_Th	1
_____PGGDVPPAGPGIEIQ_	X24018	HSV-2-pUL19	559	14aa	mRNA_3cpc_Th	1
_____VAVGDRPPAPADPV__	X68850	PRV-Becker-gE	204	14aa	mRNA_30cpc_Th_4wks	1
_____VAVGDRPPAPADPV__	X68850	PRV-TJ-gE	205	14aa	mRNA_30cpc_Th_4wks	1
_____VAVGDRPPAPLAPV__	X68849	PRV-Becker-gE	204	14aa	mRNA_3000cpc_Organoid_MD101	1
_____VAVGDRPPAPLAPV__	X68849	PRV-TJ-gE	205	14aa	mRNA_3000cpc_Organoid_MD101	1
_____VELPGGEVPPAGPG____	X58881	HSV-1-pUL19	556	14aaA5	mRNA_30cpc_Th	1
_____VELPGGEVPPAGPG____	X58881	HSV-2-pUL19	556	14aaA5	mRNA_30cpc_Th	1
_____VELPGGEVPPAGPG____	X58881	HSV-1-pUL19	556	14aaA5	mRNA_30cpc_Ctx	1
_____VELPGGEVPPAGPG____	X58881	HSV-2-pUL19	556	14aaA5	mRNA_30cpc_Ctx	1
_____VFFVAVGDRPPAPAP____	X59346	PRV-Becker-gE	201	14aaA5	mRNA_3000cpc_Organoid_MD101	1
_____VFFVAVGDRPPAPAP____	X59346	PRV-TJ-gE	202	14aaA5	mRNA_3000cpc_Organoid_MD101	1
_____VGDRPPAPADPVGP	X69102	PRV-Becker-gE	206	14aa	mRNA_30cpc_SN	1
_____VGDRPPAPADPVGP	X69102	PRV-TJ-gE	207	14aa	mRNA_30cpc_SN	1
_____VGDRPPAPADPVGP	X69102	PRV-Becker-gE	206	14aa	mRNA_30cpc_Th	1
_____VGDRPPAPADPVGP	X69102	PRV-TJ-gE	207	14aa	mRNA_30cpc_Th	1
_____VGDRPPAPADPVGP	X69102	PRV-Becker-gE	206	14aa	mRNA_30cpc_Ctx	2
_____VGDRPPAPADPVGP	X69102	PRV-TJ-gE	207	14aa	mRNA_30cpc_Ctx	2
_____VGDRPPAPADPVGP	X69102	PRV-Becker-gE	206	14aa	mRNA_3cpc_Th	1
_____VGDRPPAPADPVGP	X69102	PRV-TJ-gE	207	14aa	mRNA_3cpc_Th	1

Peptide LGVTHANNTFAPQP from HSV-2-pUL34 with cluster number 7946

Peptide LGVTHANNTFAPQP from HSV-2-pUL34 with cluster number 7946



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
7946	LGVTHANNTFAPQP	45	11	8	3	6	5	0

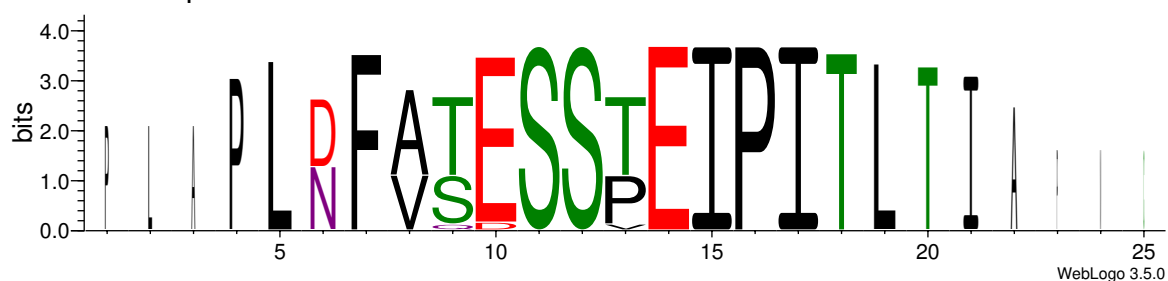
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7946	THANNTFAPQPMFA	-----THANNTFAPQPMFA---	8	3	2	1
7946	LGVTHANNTFAPQP	-----LGVTHANNTFAPQP---	8	3	2	1
7946	YHANNSTDVDTVL	-----YHANNSTDVDTVL---	4	1	1	1
7946	LTDLGVTANNTFA	-----LTDLGVTANNTFA-----	4	1	1	0
7946	GEKGGTFTGTFTPD	-----GEKGGTFTGTFTPD-----	4	0	0	0
7946	QAAALTDLGVTAN	--QAAALTDLGVTAN-----	2	1	1	0
7946	ALTDLGVTANNTF	-----ALTDLGVTANNTF-----	2	0	0	0
7946	AALTDLGLAHANNT	-----AALTDLGLAHANNT-----	2	0	0	0
7946	YHANNSTEQVDTIM	-----YHANNSTEQVDTIM-----	1	0	0	0
7946	RGQAAALTDLGVTANNTFAPQ	RGQAAALTDLGVTANNTFAPQ-----	1	0	0	0
7946	NNTFTPQPMFAGDA	-----NNTFTPQPMFAGDA-----	1	0	0	0
7946	LTDLGVTANNTFAPQPMFAGD	-----LTDLGVTANNTFAPQPMFAGD-----	1	0	0	0
7946	LTDLGLAHANNTFT	-----LTDLGLAHANNTFT-----	1	0	0	0
7946	LGLAHANNTFTPQP	-----LGLAHANNTFTPQP-----	1	0	1	0
7946	IGYHANNSTDVDT	-----IGYHANNSTDVDT-----	1	1	0	0
7946	ATGPGLSHQNGTIG	-----ATGPGLSHQNGTIG-----	1	0	0	0
7946	ANNTFAPQPMFAGD	-----ANNTFAPQPMFAGD-----	1	0	0	0
7946	AHANNTFTPQPMFA	-----AHANNTFTPQPMFA-----	1	1	0	0
7946	AAALTDLGVTANNTFAPQPMF	___AAALTDLGVTANNTFAPQPMF___	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
___AAALTDLGVTHANNTFAPQPMF___	X43752	HSV-1-pUL35	58	22aa	mRNA_30cpc_Organoid_MD114	1
___AAALTDLGVTHANNTFAPQPMF___	X43752	HSV-2-pUL34	58	22aa	mRNA_30cpc_Organoid_MD114	1
___AALTDLGLAHANNT_____	X43614	HSV-1-pUL35	59	14aa	mRNA_3cpc_Th	2
___AALTDLGLAHANNT_____	X43614	HSV-2-pUL34	59	14aa	mRNA_3cpc_Th	2
___AHANNTFTPQPMFA___	X87271	HSV-1-pUL35	67	14aaG4S	mRNA_30cpc_Ctx	1
___ALTDLGVTHANNTF_____	X42338	HSV-2-pUL34	60	14aa	mRNA_30cpc_Th_4wks	1
___ALTDLGVTHANNTF_____	X42338	HSV-2-pUL34	60	14aa	mRNA_30cpc_Ctx_4wks	1
___ANNTFAPQPMFAGD_____	X39774	HSV-1-pUL35	69	14aa	mRNA_30cpc_Organoid_MD114	1
___ANNTFAPQPMFAGD_____	X39774	HSV-2-pUL34	69	14aa	mRNA_30cpc_Organoid_MD114	1
___ATGPGLSHQNGTIG_____	X40446	CAV-2-F-SH01	311	14aa	mRNA_30cpc_Organoid_MD114	1
___ATGPGLSHQNGTIG_____	X40446	CAV-2-F-Toronto-A26-61	311	14aa	mRNA_30cpc_Organoid_MD114	1
___GEKGGTFTGTFTPD_____	X57670	PV1-VP2	151	14aaA5	mRNA_3cpc_Th	1
___GEKGGTFTGTFTPD_____	X88960	PV1-VP2	151	14aaG4S	mRNA_30cpc_Ctx_4wks	1
___GEKGGTFTGTFTPD_____	X63750	PV1-VP2	151	14aa	mRNA_3000cpc_Organoid_MD101	1
___GEKGGTFTGTFTPD_____	X57670	PV1-VP2	151	14aaA5	mRNA_3000cpc_Organoid_MD101	1
___IGYHANNSTDVDT_____	X16551	H1N1-HA	22	14aa	mRNA_30cpc_Ctx	1
___IGYHANNSTDVDT_____	X16551	H2N2-HA	20	14aa	mRNA_30cpc_Ctx	1
___IGYHANNSTDVDT_____	X16551	H5N1-HA	21	14aa	mRNA_30cpc_Ctx	1
___LGLAHANNTFTFPQ_____	X53701	HSV-1-pUL35	64	14aaA5	mRNA_30cpc_Th	1
___LGVTHANNTFAPQP_____	X53736	HSV-2-pUL34	64	14aaA5	mRNA_30cpc_SN	1
___LGVTHANNTFAPQP_____	X53736	HSV-2-pUL34	64	14aaA5	mRNA_30cpc_Th	2
___LGVTHANNTFAPQP_____	X53736	HSV-2-pUL34	64	14aaA5	mRNA_30cpc_Ctx	3
___LGVTHANNTFAPQP_____	X53736	HSV-2-pUL34	64	14aaA5	mRNA_3cpc_Th	1
___LGVTHANNTFAPQP_____	X32656	HSV-2-pUL34	64	14aa	mRNA_30cpc_Organoid_MD114	1
___LTDLGLAHANNTFT_____	X28986	HSV-1-pUL35	61	14aa	mRNA_3000cpc_Organoid_MD101	1
___LTDLGVTHANNTFA_____	X28988	HSV-2-pUL34	61	14aa	mRNA_30cpc_Th	1
___LTDLGVTHANNTFA_____	X28988	HSV-2-pUL34	61	14aa	mRNA_30cpc_Ctx	1
___LTDLGVTHANNTFA_____	X52773	HSV-2-pUL34	61	14aaA5	mRNA_3cpc_Th	1
___LTDLGVTHANNTFA_____	X52773	HSV-2-pUL34	61	14aaA5	mRNA_3000cpc_Organoid_MD101	1
___LTDLGVTHANNTFAPQPMFAGD_____	X28987	HSV-1-pUL35	61	22aa	mRNA_3000cpc_Organoid_MD101	1
___LTDLGVTHANNTFAPQPMFAGD_____	X28987	HSV-2-pUL34	61	22aa	mRNA_3000cpc_Organoid_MD101	1
___NNTFTPQPMFAGDA_____	X52	HSV-1-pUL35	70	14aa	mRNA_3000cpc_Organoid_MD101	1
___NNTFTPQPMFAGDA_____	X52	HSV-2-pUL34	70	14aa	mRNA_3000cpc_Organoid_MD101	1
___QAAALTDLGVTHAN_____	X19937	HSV-1-pUL35	57	14aa	mRNA_30cpc_Th	1
___QAAALTDLGVTHAN_____	X19937	HSV-2-pUL34	57	14aa	mRNA_30cpc_Th	1
___QAAALTDLGVTHAN_____	X19937	HSV-1-pUL35	57	14aa	mRNA_30cpc_Ctx	1
___QAAALTDLGVTHAN_____	X19937	HSV-2-pUL34	57	14aa	mRNA_30cpc_Ctx	1
___RGQAAALTDLGVTHANNTFAPQ_____	X27447	HSV-1-pUL35	55	22aa	mRNA_3000cpc_Organoid_MD101	1
___RGQAAALTDLGVTHANNTFAPQ_____	X27447	HSV-2-pUL34	55	22aa	mRNA_3000cpc_Organoid_MD101	1
___THANNTFAPQPMFA_____	X47029	HSV-2-pUL34	67	14aaA5	mRNA_30cpc_SN	1
___THANNTFAPQPMFA_____	X47029	HSV-2-pUL34	67	14aaA5	mRNA_30cpc_Th	2
___THANNTFAPQPMFA_____	X6900	HSV-2-pUL34	67	14aa	mRNA_30cpc_Ctx	1
___THANNTFAPQPMFA_____	X47029	HSV-2-pUL34	67	14aaA5	mRNA_30cpc_Ctx	2
___THANNTFAPQPMFA_____	X47029	HSV-2-pUL34	67	14aaA5	mRNA_3cpc_Th	1
___THANNTFAPQPMFA_____	X6900	HSV-2-pUL34	67	14aa	mRNA_30cpc_SN_4wks	1
___YHANNSTDVDTVL_____	X70760	H1N1-HA	24	14aa	mRNA_30cpc_SN	1
___YHANNSTDVDTVL_____	X70760	H1N1-HA	24	14aa	mRNA_30cpc_Th	1

alignment	LUThrs	GeneName	start	structure	Group	Score
-----YHANNSTDVTVDTVL---	X70760	H1N1-HA	24	14aa	mRNA_30cpc_Ctx	1
-----YHANNSTDVTVDTVL---	X70760	H1N1-HA	24	14aa	mRNA_3000cpc_Organoid_MD101	1
-----YHANNSTEQVDTIM---	X70763	H2N2-HA	22	14aa	mRNA_30cpc_Organoid_MD114	1
-----YHANNSTEQVDTIM---	X70763	H5N1-HA	23	14aa	mRNA_30cpc_Organoid_MD114	1

Peptide ATESSTEIPITLTI from PV1-VP2 with cluster number 8599

Peptide ATESSTEIPITLTI from PV1-VP2 with cluster number 8599



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
8599	ATESSTEIPITLTI	44	15	8	11	3	3	0

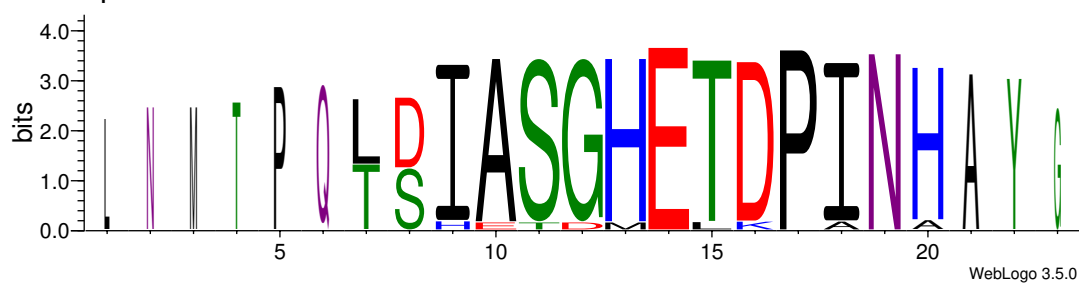
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8599	LNFSSESPPEIPIT	___LNFSSESPPEIPIT_____	8	3	1	2
8599	ATESSTEIPITLTI	_____ATESSTEIPITLTI___	8	2	2	3
8599	PLDFATESSTEIPI	___PLDFATESSTEIPI_____	6	2	2	0
8599	TESSTEIPITLTIA	_____TESSTEIPITLTIA___	3	2	0	1
8599	PLAPLDFATESSTEIPITLTIA	PLAPLDFATESSTEIPITLTIA___	3	1	1	1
8599	FATESSTEIPITLT	_____FATESSTEIPITLT___	3	1	0	0
8599	PLNFSSESPPEIPI	___PLNFSSESPPEIPI_____	2	0	1	1
8599	PLDFAQDSSVEIPI	___PLDFAQDSSVEIPI_____	2	1	0	0
8599	NFSSESPPEIPITL	_____NFSSESPPEIPITL___	2	0	0	1
8599	LDFATESSTEIPIT	___LDFATESSTEIPIT_____	2	0	1	1
8599	FVSESPPEIPITLT	_____FVSESPPEIPITLT___	2	1	0	1
8599	VSESPPEIPITLTI	_____VSESPPEIPITLTI___	1	1	0	0
8599	PLDFATESSTEIPITLTIAPMC	___PLDFATESSTEIPITLTIAPMC	1	0	0	0
8599	PLAPLNFSSESPPE	PLAPLNFSSESPPE_____	1	1	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_____ATESSTEIPITLTI_____	X40367	PV1-VP2	239	14aa	mRNA_30cpc_SN	3
_____ATESSTEIPITLTI_____	X40367	PV2-VP2	239	14aa	mRNA_30cpc_SN	3
_____ATESSTEIPITLTI_____	X40367	PV1-VP2	239	14aa	mRNA_30cpc_Th	2
_____ATESSTEIPITLTI_____	X40367	PV2-VP2	239	14aa	mRNA_30cpc_Th	2
_____ATESSTEIPITLTI_____	X40367	PV1-VP2	239	14aa	mRNA_30cpc_Ctx	2
_____ATESSTEIPITLTI_____	X40367	PV2-VP2	239	14aa	mRNA_30cpc_Ctx	2
_____ATESSTEIPITLTI_____	X40367	PV1-VP2	239	14aa	mRNA_30cpc_SN_4wks	1
_____ATESSTEIPITLTI_____	X40367	PV2-VP2	239	14aa	mRNA_30cpc_SN_4wks	1
_____FATESSTEIPITLT_____	X60836	PV1-VP2	238	14aaA5	mRNA_30cpc_Ctx	1
_____FATESSTEIPITLT_____	X60836	PV2-VP2	238	14aaA5	mRNA_30cpc_Ctx	1
_____FATESSTEIPITLT_____	X60836	PV1-VP2	238	14aaA5	mRNA_3cpc_Th	1
_____FATESSTEIPITLT_____	X60836	PV2-VP2	238	14aaA5	mRNA_3cpc_Th	1
_____FATESSTEIPITLT_____	X75762	PV1-VP2	238	14aa	mRNA_3000cpc_Organoid_MD101	1
_____FATESSTEIPITLT_____	X75762	PV2-VP2	238	14aa	mRNA_3000cpc_Organoid_MD101	1
_____FVSESSPEIPITLT_____	X76089	PV1-VP2	238	14aa	mRNA_30cpc_SN	1
_____FVSESSPEIPITLT_____	X76089	PV2-VP2	238	14aa	mRNA_30cpc_SN	1
_____FVSESSPEIPITLT_____	X76089	PV1-VP2	238	14aa	mRNA_30cpc_Ctx	1
_____FVSESSPEIPITLT_____	X76089	PV2-VP2	238	14aa	mRNA_30cpc_Ctx	1
_____LDFATESSTEIPIT_____	X31468	PV2-VP2	236	14aa	mRNA_30cpc_SN	1
_____LDFATESSTEIPIT_____	X31468	PV2-VP2	236	14aa	mRNA_30cpc_Th	1
_____LNFVSESSPEIPIT_____	X28523	PV1-VP2	236	14aa	mRNA_30cpc_SN	2
_____LNFVSESSPEIPIT_____	X28523	PV1-VP2	236	14aa	mRNA_30cpc_Th	1
_____LNFVSESSPEIPIT_____	X28523	PV1-VP2	236	14aa	mRNA_30cpc_Ctx	3
_____LNFVSESSPEIPIT_____	X28523	PV1-VP2	236	14aa	mRNA_3cpc_Th	1
_____LNFVSESSPEIPIT_____	X28523	PV1-VP2	236	14aa	mRNA_3000cpc_Organoid_MD101	1
_____NFVSESSPEIPITL_____	X2982	PV1-VP2	237	14aa	mRNA_30cpc_SN	1
_____NFVSESSPEIPITL_____	X2982	PV1-VP2	237	14aa	mRNA_3000cpc_Organoid_MD101	1
PLAPLDFATESSTEIPITLTIA___	X22754	PV1-VP2	232	22aa	mRNA_30cpc_SN	1
PLAPLDFATESSTEIPITLTIA___	X22754	PV2-VP2	232	22aa	mRNA_30cpc_SN	1
PLAPLDFATESSTEIPITLTIA___	X22754	PV1-VP2	232	22aa	mRNA_30cpc_Th	1
PLAPLDFATESSTEIPITLTIA___	X22754	PV2-VP2	232	22aa	mRNA_30cpc_Th	1
PLAPLDFATESSTEIPITLTIA___	X22754	PV1-VP2	232	22aa	mRNA_30cpc_Ctx	1
PLAPLDFATESSTEIPITLTIA___	X22754	PV2-VP2	232	22aa	mRNA_30cpc_Ctx	1
PLAPLNFVSESSPE_____	X22753	PV1-VP2	232	14aa	mRNA_30cpc_Ctx	1
___PLDFAQDSSVEIPI_____	X22730	PV3-VP1	304	14aa	mRNA_30cpc_Ctx	1
___PLDFAQDSSVEIPI_____	X82418	PV3-VP1	304	14aaG4S	mRNA_30cpc_Organoid_MD114	1
___PLDFATESSTEIPI_____	X22728	PV2-VP2	235	14aa	mRNA_30cpc_Th	1
___PLDFATESSTEIPI_____	X82417	PV2-VP2	235	14aaG4S	mRNA_30cpc_Th	1
___PLDFATESSTEIPI_____	X22728	PV2-VP2	235	14aa	mRNA_30cpc_Ctx	2
___PLDFATESSTEIPI_____	X22728	PV2-VP2	235	14aa	mRNA_3cpc_Th	1
___PLDFATESSTEIPI_____	X22728	PV2-VP2	235	14aa	mRNA_30cpc_Organoid_MD114	1
___PLDFATESSTEIPITLTIAPMC	X22727	PV1-VP2	235	22aa	mRNA_30cpc_Organoid_MD114	1
___PLDFATESSTEIPITLTIAPMC	X22727	PV2-VP2	235	22aa	mRNA_30cpc_Organoid_MD114	1
___PLNFVSESSPEIPI_____	X22547	PV1-VP2	235	14aa	mRNA_30cpc_SN	1
___PLNFVSESSPEIPI_____	X22547	PV1-VP2	235	14aa	mRNA_30cpc_Th	1
_____TESSTEIPITLTIA_____	X8228	PV1-VP2	240	14aa	mRNA_30cpc_SN	1
_____TESSTEIPITLTIA_____	X8228	PV2-VP2	240	14aa	mRNA_30cpc_SN	1

alignment	LUThrs	GeneName	start	structure	Group	Score
_____TESSTEIPITLTIA____	X8228	PV1-VP2	240	14aa	mRNA_30cpc_Ctx	2
_____TESSTEIPITLTIA____	X8228	PV2-VP2	240	14aa	mRNA_30cpc_Ctx	2
_____VSESSPEIPITLTI____	X66448	PV1-VP2	239	14aa	mRNA_30cpc_Ctx	1
_____VSESSPEIPITLTI____	X66448	PV2-VP2	239	14aa	mRNA_30cpc_Ctx	1

Peptide TSIASGHETDPINH from BDV-CRNP5 with cluster number 9356

Peptide TSIASGHETDPINH from BDV-CRNP5 with cluster number 9356



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
9356	TSIASGHETDPINH	42	6	11	6	12	3	1

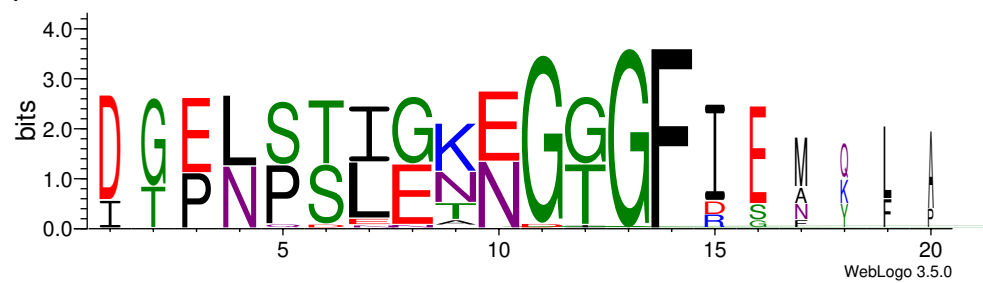
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
9356	TSIASGHETDPINH	_____TSIASGHETDPINH___	9	0	1	1
9356	ASGHETDPINHAYG	_____ASGHETDPINHAYG	7	2	3	1
9356	LDIASGHETDPINH	_____LDIASGHETDPINH___	6	1	2	2
9356	IASGHETDPINHAY	_____IASGHETDPINHAY_	5	1	1	2
9356	PQLDIASGHETDPI	____PQLDIASGHETDPI_____	4	0	2	0
9356	LNMTQPQTSIASGHETDPINHAY	LNMTQPQTSIASGHETDPINHAY_	3	1	0	0
9356	NMTPQLDIASGHET	_NMTPQLDIASGHET_____	2	0	1	0
9356	LNMTPQLDIASGHE	LNMTPQLDIASGHE_____	2	0	0	0
9356	DHETDMELKPANAA	_____DHETDMELKPANAA__	2	1	1	0
9356	TPQTSIASGHETDP	___TPQTSIASGHETDP_____	1	0	0	0
9356	QTSIASGHETDPIN	_____QTSIASGHETDPIN____	1	0	0	0

alignment	LUTnrs	GeneName	start	structure	Group	Score
-----ASGHETDPINHAYG	X87144	BDV-CRNP5	412	14aaG4S	mRNA_30cpc_SN	1
-----ASGHETDPINHAYG	X87144	BDV-G	412	14aaG4S	mRNA_30cpc_SN	1
-----ASGHETDPINHAYG	X87144	BDV-No-98	412	14aaG4S	mRNA_30cpc_SN	1
-----ASGHETDPINHAYG	X40857	BDV-CRNP5	412	14aa	mRNA_30cpc_Th	2
-----ASGHETDPINHAYG	X87144	BDV-CRNP5	412	14aaG4S	mRNA_30cpc_Th	1
-----ASGHETDPINHAYG	X40857	BDV-G	412	14aa	mRNA_30cpc_Th	2
-----ASGHETDPINHAYG	X87144	BDV-G	412	14aaG4S	mRNA_30cpc_Th	1
-----ASGHETDPINHAYG	X40857	BDV-No-98	412	14aa	mRNA_30cpc_Th	2
-----ASGHETDPINHAYG	X87144	BDV-No-98	412	14aaG4S	mRNA_30cpc_Th	1
-----ASGHETDPINHAYG	X40857	BDV-CRNP5	412	14aa	mRNA_30cpc_Ctx	1
-----ASGHETDPINHAYG	X87144	BDV-CRNP5	412	14aaG4S	mRNA_30cpc_Ctx	1
-----ASGHETDPINHAYG	X40857	BDV-G	412	14aa	mRNA_30cpc_Ctx	1
-----ASGHETDPINHAYG	X87144	BDV-G	412	14aaG4S	mRNA_30cpc_Ctx	1
-----ASGHETDPINHAYG	X40857	BDV-No-98	412	14aa	mRNA_30cpc_Ctx	1
-----ASGHETDPINHAYG	X87144	BDV-No-98	412	14aaG4S	mRNA_30cpc_Ctx	1
-----ASGHETDPINHAYG	X40857	BDV-CRNP5	412	14aa	mRNA_3cpc_Th	1
-----ASGHETDPINHAYG	X40857	BDV-G	412	14aa	mRNA_3cpc_Th	1
-----ASGHETDPINHAYG	X40857	BDV-No-98	412	14aa	mRNA_3cpc_Th	1
-----DHETDMELKPANAA__	X34689	HSV-1-pUL27	227	14aa	mRNA_30cpc_Th	1
-----DHETDMELKPANAA__	X34689	HSV-2-pUL27	222	14aa	mRNA_30cpc_Th	1
-----DHETDMELKPANAA__	X34689	HSV-1-pUL27	227	14aa	mRNA_30cpc_Ctx	1
-----DHETDMELKPANAA__	X34689	HSV-2-pUL27	222	14aa	mRNA_30cpc_Ctx	1
-----IASGHETDPINHAY_	X16210	BDV-CRNP5	411	14aa	mRNA_30cpc_SN	2
-----IASGHETDPINHAY_	X16210	BDV-G	411	14aa	mRNA_30cpc_SN	2
-----IASGHETDPINHAY_	X16210	BDV-No-98	411	14aa	mRNA_30cpc_SN	2
-----IASGHETDPINHAY_	X16210	BDV-CRNP5	411	14aa	mRNA_30cpc_Th	1
-----IASGHETDPINHAY_	X16210	BDV-G	411	14aa	mRNA_30cpc_Th	1
-----IASGHETDPINHAY_	X16210	BDV-No-98	411	14aa	mRNA_30cpc_Th	1
-----IASGHETDPINHAY_	X16210	BDV-CRNP5	411	14aa	mRNA_30cpc_Ctx	1
-----IASGHETDPINHAY_	X16210	BDV-G	411	14aa	mRNA_30cpc_Ctx	1
-----IASGHETDPINHAY_	X16210	BDV-No-98	411	14aa	mRNA_30cpc_Ctx	1
-----IASGHETDPINHAY_	X16210	BDV-CRNP5	411	14aa	mRNA_3000cpc_Organoid_MD101	1
-----IASGHETDPINHAY_	X16210	BDV-G	411	14aa	mRNA_3000cpc_Organoid_MD101	1
-----IASGHETDPINHAY_	X16210	BDV-No-98	411	14aa	mRNA_3000cpc_Organoid_MD101	1
-----LDIASGHETDPINH__	X53375	BDV-CRNP5	409	14aaA5	mRNA_30cpc_SN	2
-----LDIASGHETDPINH__	X53375	BDV-G	409	14aaA5	mRNA_30cpc_SN	2
-----LDIASGHETDPINH__	X53375	BDV-No-98	409	14aaA5	mRNA_30cpc_SN	2
-----LDIASGHETDPINH__	X53375	BDV-CRNP5	409	14aaA5	mRNA_30cpc_Th	2
-----LDIASGHETDPINH__	X53375	BDV-G	409	14aaA5	mRNA_30cpc_Th	2
-----LDIASGHETDPINH__	X53375	BDV-No-98	409	14aaA5	mRNA_30cpc_Th	2
-----LDIASGHETDPINH__	X53375	BDV-CRNP5	409	14aaA5	mRNA_30cpc_Ctx	1
-----LDIASGHETDPINH__	X53375	BDV-G	409	14aaA5	mRNA_30cpc_Ctx	1
-----LDIASGHETDPINH__	X53375	BDV-No-98	409	14aaA5	mRNA_30cpc_Ctx	1
-----LDIASGHETDPINH__	X53375	BDV-CRNP5	409	14aaA5	mRNA_3cpc_Th	1
-----LDIASGHETDPINH__	X53375	BDV-G	409	14aaA5	mRNA_3cpc_Th	1
-----LDIASGHETDPINH__	X53375	BDV-No-98	409	14aaA5	mRNA_3cpc_Th	1
LNMTPLDIASGHE_____	X52595	BDV-No-98	403	14aaA5	mRNA_3cpc_Th	1

alignment	LUThrs	GeneName	start	structure	Group	Score
LNMTPLQLDIASGHE_____	X28367	BDV-No-98	403	14aa	mRNA_3000cpc_Organoid_MD101	1
LNMTPQTSIASGHETDPINHAY_	X28364	BDV-CRNP5	403	22aa	mRNA_30cpc_Ctx	1
LNMTPQTSIASGHETDPINHAY_	X28364	BDV-G	403	22aa	mRNA_30cpc_Ctx	1
LNMTPQTSIASGHETDPINHAY_	X28364	BDV-No-98	403	22aa	mRNA_30cpc_Ctx	1
LNMTPQTSIASGHETDPINHAY_	X28364	BDV-CRNP5	403	22aa	mRNA_3cpc_Th	2
LNMTPQTSIASGHETDPINHAY_	X28364	BDV-G	403	22aa	mRNA_3cpc_Th	2
LNMTPQTSIASGHETDPINHAY_	X28364	BDV-No-98	403	22aa	mRNA_3cpc_Th	2
_NMTPQLDIASGHET_____	X957	BDV-No-98	404	14aa	mRNA_30cpc_Th	1
_NMTPQLDIASGHET_____	X957	BDV-No-98	404	14aa	mRNA_3cpc_Th	1
____PQLDIASGHETDPI_____	X21765	BDV-No-98	407	14aa	mRNA_30cpc_Th	2
____PQLDIASGHETDPI_____	X21765	BDV-No-98	407	14aa	mRNA_3cpc_Th	1
____PQLDIASGHETDPI_____	X21765	BDV-No-98	407	14aa	mRNA_30cpc_Organoid_MD114	1
____QTSIASGHETDPIN_____	X18614	BDV-CRNP5	408	14aa	mRNA_30cpc_Organoid_MD114	1
____QTSIASGHETDPIN_____	X18614	BDV-G	408	14aa	mRNA_30cpc_Organoid_MD114	1
___TPQTSIASGHETDP_____	X7223	BDV-CRNP5	406	14aa	mRNA_30cpc_Organoid_MD114	1
___TPQTSIASGHETDP_____	X7223	BDV-G	406	14aa	mRNA_30cpc_Organoid_MD114	1
____TSIASGHETDPINH_____	X46864	BDV-CRNP5	409	14aaA5	mRNA_30cpc_SN	1
____TSIASGHETDPINH_____	X46864	BDV-G	409	14aaA5	mRNA_30cpc_SN	1
____TSIASGHETDPINH_____	X46864	BDV-No-98	408	14aaA5	mRNA_30cpc_SN	1
____TSIASGHETDPINH_____	X46864	BDV-CRNP5	409	14aaA5	mRNA_30cpc_Th	1
____TSIASGHETDPINH_____	X46864	BDV-G	409	14aaA5	mRNA_30cpc_Th	1
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____TSIASGHETDPINH_____	X46864	BDV-CRNP5	409	14aaA5	mRNA_3cpc_SN	1
____TSIASGHETDPINH_____	X46864	BDV-G	409	14aaA5	mRNA_3cpc_SN	1
____TSIASGHETDPINH_____	X46864	BDV-No-98	408	14aaA5	mRNA_3cpc_SN	1
____TSIASGHETDPINH_____	X46864	BDV-CRNP5	409	14aaA5	mRNA_3cpc_Th	5
____TSIASGHETDPINH_____	X46864	BDV-G	409	14aaA5	mRNA_3cpc_Th	5
____TSIASGHETDPINH_____	X46864	BDV-No-98	408	14aaA5	mRNA_3cpc_Th	5
____TSIASGHETDPINH_____	X46864	BDV-CRNP5	409	14aaA5	mRNA_3cpc_Ctx	1
____TSIASGHETDPINH_____	X46864	BDV-G	409	14aaA5	mRNA_3cpc_Ctx	1
____TSIASGHETDPINH_____	X46864	BDV-No-98	408	14aaA5	mRNA_3cpc_Ctx	1

Peptide DGELSSLGKEGTGF from VSV-Indiana-G with cluster number 7539

Peptide DGELSSLGKEGTGF from VSV-Indiana-G with cluster number



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
7539	DGELSSLGKEGTGF	37	6	7	4	11	2	3

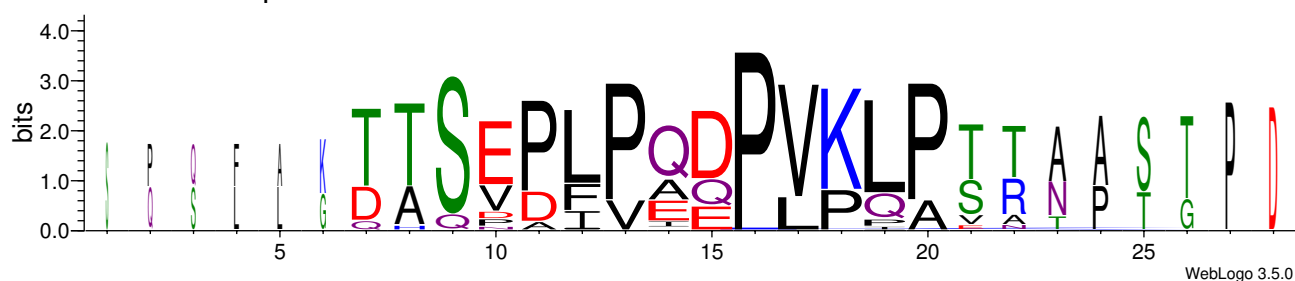
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7539	DGELSSLGKEGTGF	DGELSSLGKEGTGF_-----	15	3	3	2
7539	ITPNPTIENNGGGF	ITPNPTIENNGGGF_-----	4	0	0	0
7539	TPNPTIETNGGGFI	_TPNPTIETNGGGFI_-----	3	0	0	0
7539	PNPTIETNGGGFIE	__PNPTIETNGGGFIE_-----	3	1	1	0
7539	NPTIENNGGGFIEM	___NPTIENNGGGFIEM_-----	3	1	1	1
7539	TIENNGGGFIEMQL	-----TIENNGGGFIEMQL_-----	2	0	0	0
7539	LGKEGTGFRSNYFA	-----LGKEGTGFRSNYFA_-----	2	0	1	1
7539	EGAEGGGFDEAKLA	-----EGAEGGGFDEAKLA_-----	2	1	1	0
7539	PNPTIENNGGGFIE	__PNPTIENNGGGFIE_-----	1	0	0	0
7539	LQDNNGNDIGFIGF	___LQDNNGNDIGFIGF_-----	1	0	0	0
7539	IENNGGGFIEMQLP	-----IENNGGGFIEMQLP_-----	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
DGELSSLGKEGTGF_____	X36144	VSV-Indiana-G	208	14aa	mRNA_30cpc_SN	2
DGELSSLGKEGTGF_____	X36144	VSV-Orsay-G	192	14aa	mRNA_30cpc_SN	2
DGELSSLGKEGTGF_____	X36144	VSV-Indiana-G	208	14aa	mRNA_30cpc_Th	3
DGELSSLGKEGTGF_____	X36144	VSV-Orsay-G	192	14aa	mRNA_30cpc_Th	3
DGELSSLGKEGTGF_____	X36144	VSV-Indiana-G	208	14aa	mRNA_30cpc_Ctx	3
DGELSSLGKEGTGF_____	X36144	VSV-Orsay-G	192	14aa	mRNA_30cpc_Ctx	3
DGELSSLGKEGTGF_____	X36144	VSV-Indiana-G	208	14aa	mRNA_3cpc_Th	3
DGELSSLGKEGTGF_____	X36144	VSV-Orsay-G	192	14aa	mRNA_3cpc_Th	3
DGELSSLGKEGTGF_____	X36144	VSV-Indiana-G	208	14aa	mRNA_3cpc_Ctx	1
DGELSSLGKEGTGF_____	X36144	VSV-Orsay-G	192	14aa	mRNA_3cpc_Ctx	1
DGELSSLGKEGTGF_____	X36144	VSV-Indiana-G	208	14aa	mRNA_3cpc_Th_4wks	1
DGELSSLGKEGTGF_____	X36144	VSV-Orsay-G	192	14aa	mRNA_3cpc_Th_4wks	1
DGELSSLGKEGTGF_____	X54640	VSV-Indiana-G	208	14aaA5	mRNA_30cpc_Organoid_MD114	1
DGELSSLGKEGTGF_____	X54640	VSV-Orsay-G	192	14aaA5	mRNA_30cpc_Organoid_MD114	1
DGELSSLGKEGTGF_____	X36144	VSV-Indiana-G	208	14aa	mRNA_3000cpc_Organoid_MD101	1
DGELSSLGKEGTGF_____	X36144	VSV-Orsay-G	192	14aa	mRNA_3000cpc_Organoid_MD101	1
_____EGAEGGGFDEAKLA	X39125	HSV-1-pUL27	828	14aa	mRNA_30cpc_Th	1
_____EGAEGGGFDEAKLA	X39125	HSV-2-pUL27	828	14aa	mRNA_30cpc_Th	1
_____EGAEGGGFDEAKLA	X39125	HSV-1-pUL27	828	14aa	mRNA_30cpc_Ctx	1
_____EGAEGGGFDEAKLA	X39125	HSV-2-pUL27	828	14aa	mRNA_30cpc_Ctx	1
_____IENNGGGFIEMQLP	X16042	TBEV-E-4387-B7	364	14aa	mRNA_3000cpc_Organoid_MD101	1
_____IENNGGGFIEMQLP	X16042	TBEV-E-80	364	14aa	mRNA_3000cpc_Organoid_MD101	1
_____IENNGGGFIEMQLP	X16042	TBEV-E-Simo-9	320	14aa	mRNA_3000cpc_Organoid_MD101	1
ITPNPTIENNGGGF_____	X49063	TBEV-E-4387-B7	358	14aaA5	mRNA_3cpc_Th	4
ITPNPTIENNGGGF_____	X49063	TBEV-E-80	358	14aaA5	mRNA_3cpc_Th	4
ITPNPTIENNGGGF_____	X49063	TBEV-E-Simo-9	314	14aaA5	mRNA_3cpc_Th	4
_____LGKEGTGFRSNYFA	X53642	VSV-Indiana-G	214	14aaA5	mRNA_30cpc_SN	1
_____LGKEGTGFRSNYFA	X53642	VSV-Orsay-G	198	14aaA5	mRNA_30cpc_SN	1
_____LGKEGTGFRSNYFA	X53642	VSV-Indiana-G	214	14aaA5	mRNA_30cpc_Th	1
_____LGKEGTGFRSNYFA	X53642	VSV-Orsay-G	198	14aaA5	mRNA_30cpc_Th	1
___LQDNNGNDIGFIGF___	X84345	BoNT-A-Hc	406	14aaG4S	mRNA_30cpc_Organoid_MD114	1
___NPTIENNGGGFIEM___	X1230	TBEV-E-4387-B7	361	14aa	mRNA_30cpc_SN	1
___NPTIENNGGGFIEM___	X1230	TBEV-E-80	361	14aa	mRNA_30cpc_SN	1
___NPTIENNGGGFIEM___	X1230	TBEV-E-Simo-9	317	14aa	mRNA_30cpc_SN	1
___NPTIENNGGGFIEM___	X1230	TBEV-E-4387-B7	361	14aa	mRNA_30cpc_Th	1
___NPTIENNGGGFIEM___	X1230	TBEV-E-80	361	14aa	mRNA_30cpc_Th	1
___NPTIENNGGGFIEM___	X1230	TBEV-E-Simo-9	317	14aa	mRNA_30cpc_Th	1
___NPTIENNGGGFIEM___	X1230	TBEV-E-4387-B7	361	14aa	mRNA_30cpc_Ctx	1
___NPTIENNGGGFIEM___	X1230	TBEV-E-80	361	14aa	mRNA_30cpc_Ctx	1
___NPTIENNGGGFIEM___	X1230	TBEV-E-Simo-9	317	14aa	mRNA_30cpc_Ctx	1
___PNPTIENNGGGFIE___	X50583	TBEV-E-4387-B7	360	14aaA5	mRNA_3cpc_Th	1
___PNPTIENNGGGFIE___	X50583	TBEV-E-80	360	14aaA5	mRNA_3cpc_Th	1
___PNPTIENNGGGFIE___	X50583	TBEV-E-Simo-9	316	14aaA5	mRNA_3cpc_Th	1
___PNPTIETNGGGFIE___	X20528	TBEV-E-4387-B7	360	14aa	mRNA_30cpc_Th	1
___PNPTIETNGGGFIE___	X20528	TBEV-E-80	360	14aa	mRNA_30cpc_Th	1
___PNPTIETNGGGFIE___	X20528	TBEV-E-Simo-9	316	14aa	mRNA_30cpc_Th	1
___PNPTIETNGGGFIE___	X20528	TBEV-E-4387-B7	360	14aa	mRNA_30cpc_Ctx	1

alignment	LUThrs	GeneName	start	structure	Group	Score
__PNPTIETNGGGFIE____	X20528	TBEV-E-80	360	14aa	mRNA_30cpc_Ctx	1
__PNPTIETNGGGFIE____	X20528	TBEV-E-Simo-9	316	14aa	mRNA_30cpc_Ctx	1
__PNPTIETNGGGFIE____	X20528	TBEV-E-4387-B7	360	14aa	mRNA_3000cpc_Organoid_MD101	1
__PNPTIETNGGGFIE____	X20528	TBEV-E-80	360	14aa	mRNA_3000cpc_Organoid_MD101	1
__PNPTIETNGGGFIE____	X20528	TBEV-E-Simo-9	316	14aa	mRNA_3000cpc_Organoid_MD101	1
_____TIENNGGGFIEMQL_	X46964	TBEV-E-4387-B7	363	14aaA5	mRNA_3cpc_Th	2
_____TIENNGGGFIEMQL_	X46964	TBEV-E-80	363	14aaA5	mRNA_3cpc_Th	2
_____TIENNGGGFIEMQL_	X46964	TBEV-E-Simo-9	319	14aaA5	mRNA_3cpc_Th	2
_TPNPTIETNGGGFI_____	X7139	TBEV-E-4387-B7	359	14aa	mRNA_3cpc_Th	1
_TPNPTIETNGGGFI_____	X7139	TBEV-E-80	359	14aa	mRNA_3cpc_Th	1
_TPNPTIETNGGGFI_____	X7139	TBEV-E-Simo-9	315	14aa	mRNA_3cpc_Th	1
_TPNPTIETNGGGFI_____	X7139	TBEV-E-4387-B7	359	14aa	mRNA_3cpc_Ctx	2
_TPNPTIETNGGGFI_____	X7139	TBEV-E-80	359	14aa	mRNA_3cpc_Ctx	2
_TPNPTIETNGGGFI_____	X7139	TBEV-E-Simo-9	315	14aa	mRNA_3cpc_Ctx	2

Peptide TTSEPLPQDPVKLP from APP with cluster number 7786

Peptide TTSEPLPQDPVKLP from APP with cluster number 7786



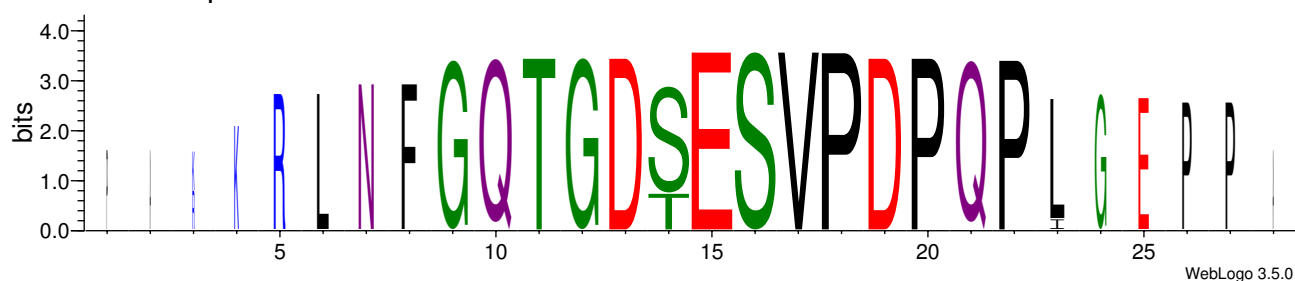
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7786	TTSEPLPQDPVKLP	35	10	5	6	5	2	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7786	TTSEPLPQDPVKLPTTAASTPD	_____TTSEPLPQDPVKLPTTAASTPD	7	2	2	2
7786	TTSEPLPQDPVKLP	_____TTSEPLPQDPVKLP	7	2	2	2
7786	DASVDFVAEPVKLP	_____DASVDFVAEPVKLP	6	3	1	1
7786	PEQPLPQASRNPTG	_____PEQPLPQASRNPTG	3	0	0	0
7786	SQSLLKTTSEPLPQDPVKLPTT	SQSLLKTTSEPLPQDPVKLPTT_____	2	1	0	1
7786	QDPIEQPLPQASR	_____QDPIEQPLPQASR	2	1	0	0
7786	PQFAGQASPALPIDPVPPPVAT	_PQFAGQASPALPIDPVPPPVAT_____	2	0	0	0
7786	TSEPLPQDPVKLPT	_____TSEPLPQDPVKLPT	1	0	0	0
7786	SVDFVAEPVKLPEN	_____SVDFVAEPVKLPEN	1	0	0	0
7786	QDPVKLPTTAASTP	_____QDPVKLPTTAASTP	1	0	0	0
7786	PIEQPLPQASRNP	_____PIEQPLPQASRNP	1	0	0	0
7786	KDHQNPPIPKQLPI	_____KDHQNPPIPKQLPI	1	1	0	0
7786	IPEQPLPQASRNPT	_____IPEQPLPQASRNPT	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP-DQ401688.1	14	14aa	mRNA_30cpc_SN	1
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP1-M20301.1	14	14aa	mRNA_30cpc_SN	1
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP1-U33047.1	14	14aa	mRNA_30cpc_SN	1
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP-DQ401688.1	14	14aa	mRNA_30cpc_Th	1
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP1-M20301.1	14	14aa	mRNA_30cpc_Th	1
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP1-U33047.1	14	14aa	mRNA_30cpc_Th	1
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP-DQ401688.1	14	14aa	mRNA_30cpc_Ctx	3
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP1-M20301.1	14	14aa	mRNA_30cpc_Ctx	3
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP1-U33047.1	14	14aa	mRNA_30cpc_Ctx	3
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP-DQ401688.1	14	14aa	mRNA_3000cpc_Organoid_MD101	1
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP1-M20301.1	14	14aa	mRNA_3000cpc_Organoid_MD101	1
_____DASVDFVAEPVKLP_____	X35811	TMEV-VP1-U33047.1	14	14aa	mRNA_3000cpc_Organoid_MD101	1
_____IPEQLPQASRNPT_____	X15454	HIV-tat-GR17	69	14aa	mRNA_30cpc_Organoid_MD114	1
_____KDHQNPPIKQPLPI_____	X4466	HIV-tat-CM240	63	14aa	mRNA_30cpc_Ctx	1
_____PEQPLPQASRNPTG_____	X23115	HIV-tat-GR17	70	14aa	mRNA_30cpc_Organoid_MD114	1
_____PEQPLPQASRNPTG_____	X23115	HIV-tat-GR17	70	14aa	mRNA_3000cpc_Organoid_MD101	1
_____PEQPLPQASRNPTG_____	X51225	HIV-tat-GR17	70	14aaA5	mRNA_3000cpc_Organoid_MD101	1
_____PIPEQLPQASRNP_____	X21435	HIV-tat-GR17	68	14aa	mRNA_3000cpc_Organoid_MD101	1
_____PQFAGQASPALPIDPVPPPVAT_____	X21811	HSV-1-pUL36	2716	22aa	mRNA_3cpc_Th	2
_____QDPIPEQLPQASR_____	X19677	HIV-tat-GR17	66	14aa	mRNA_30cpc_Ctx	1
_____QDPIPEQLPQASR_____	X19677	HIV-tat-GR17	66	14aa	mRNA_3000cpc_Organoid_MD101	1
_____QDPVKLPPTTAASP_____	X19686	APP	359	14aa	mRNA_3cpc_Th	1
_____SQSLLKTTSEPLPQDPVKLPPT_____	X11343	APP	346	22aa	mRNA_30cpc_SN	1
_____SQSLLKTTSEPLPQDPVKLPPT_____	X11343	APP	346	22aa	mRNA_30cpc_Ctx	1
_____SVDFVAEPVKLPEN_____	X13601	TMEV-VP-DQ401688.1	16	14aa	mRNA_30cpc_Th_4wks	1
_____SVDFVAEPVKLPEN_____	X13601	TMEV-VP1-M20301.1	16	14aa	mRNA_30cpc_Th_4wks	1
_____SVDFVAEPVKLPEN_____	X13601	TMEV-VP1-U33047.1	16	14aa	mRNA_30cpc_Th_4wks	1
_____TSEPLPQDPVKLPT_____	X6405	APP	353	14aa	mRNA_30cpc_Th_4wks	1
_____TTSEPLPQDPVKLP_____	X46781	APP	352	14aaA5	mRNA_30cpc_SN	2
_____TTSEPLPQDPVKLP_____	X5969	APP	352	14aa	mRNA_30cpc_Th	1
_____TTSEPLPQDPVKLP_____	X46781	APP	352	14aaA5	mRNA_30cpc_Th	1
_____TTSEPLPQDPVKLP_____	X46781	APP	352	14aaA5	mRNA_30cpc_Ctx	2
_____TTSEPLPQDPVKLP_____	X46781	APP	352	14aaA5	mRNA_3cpc_Th	1
_____TTSEPLPQDPVKLPPTTAASPTD_____	X5968	APP	352	22aa	mRNA_30cpc_SN	2
_____TTSEPLPQDPVKLPPTTAASPTD_____	X5968	APP	352	22aa	mRNA_30cpc_Th	2
_____TTSEPLPQDPVKLPPTTAASPTD_____	X5968	APP	352	22aa	mRNA_30cpc_Ctx	2
_____TTSEPLPQDPVKLPPTTAASPTD_____	X5968	APP	352	22aa	mRNA_3cpc_Th	1

Peptide GQTGDSESVDPDPQP from AAV1-VP1 with cluster number 5744

Peptide GQTGDSESVDPDPQP from AAV1-VP1 with cluster number 5744



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
5744	GQTGDSESVDPDPQP	35	8	8	6	5	1	3

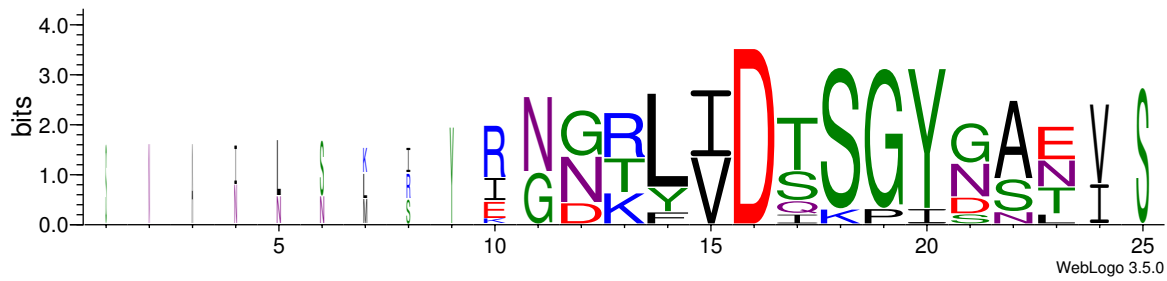
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
5744	GQTGDSESVDPDPQP	-----GQTGDSESVDPDPQP-----	13	2	2	2
5744	SESVDPDPQLGEPP	-----SESVDPDPQLGEPP_	7	2	2	1
5744	RLNFGQTGDTEVP	___RLNFGQTGDTEVP_____	6	2	1	3
5744	QTGDSESVDPQPPL	-----QTGDSESVDPQPPL-----	2	0	1	0
5744	RKRLNFGQTGDSESVDPQPPLG	__RKRLNFGQTGDSESVDPQPPLG___	1	1	0	0
5744	PAKKRLNFGQTGDSESVDPDPQP	PAKKRLNFGQTGDSESVDPDPQP-----	1	0	0	0
5744	NFGQTGDTEVPDPQPIGEPPA	-----NFGQTGDTEVPDPQPIGEPPA	1	0	0	0
5744	NFGQTGDTEVPDP	-----NFGQTGDTEVPDP-----	1	0	0	0
5744	NFGQTGDSESVDP	-----NFGQTGDSESVDP-----	1	0	1	0
5744	KRLNFGQTGDSESVDPQPPLGE	___KRLNFGQTGDSESVDPQPPLGE___	1	0	1	0
5744	KRLNFGQTGDSESV	___KRLNFGQTGDSESV_____	1	1	0	0

alignment	LUTnrs	GeneName	start	structure	Group	Score
-----GQTGDSESVDPDPQP-----	X62390	AAV1-VP1	174	14aa	mRNA_30cpc_SN	2
-----GQTGDSESVDPDPQP-----	X62390	AAV6-VP1	174	14aa	mRNA_30cpc_SN	2
-----GQTGDSESVDPDPQP-----	X62390	AAV8-VP1	175	14aa	mRNA_30cpc_SN	2
-----GQTGDSESVDPDPQP-----	X62390	AAV9-VP1	174	14aa	mRNA_30cpc_SN	2
-----GQTGDSESVDPDPQP-----	X62390	AAV1-VP1	174	14aa	mRNA_30cpc_Th	2
-----GQTGDSESVDPDPQP-----	X62390	AAV6-VP1	174	14aa	mRNA_30cpc_Th	2
-----GQTGDSESVDPDPQP-----	X62390	AAV8-VP1	175	14aa	mRNA_30cpc_Th	2
-----GQTGDSESVDPDPQP-----	X62390	AAV9-VP1	174	14aa	mRNA_30cpc_Th	2
-----GQTGDSESVDPDPQP-----	X62390	AAV1-VP1	174	14aa	mRNA_30cpc_Ctx	2
-----GQTGDSESVDPDPQP-----	X62390	AAV6-VP1	174	14aa	mRNA_30cpc_Ctx	2
-----GQTGDSESVDPDPQP-----	X62390	AAV8-VP1	175	14aa	mRNA_30cpc_Ctx	2
-----GQTGDSESVDPDPQP-----	X62390	AAV9-VP1	174	14aa	mRNA_30cpc_Ctx	2
-----GQTGDSESVDPDPQP-----	X62390	AAV1-VP1	174	14aa	mRNA_3cpc_SN	1
-----GQTGDSESVDPDPQP-----	X62390	AAV6-VP1	174	14aa	mRNA_3cpc_SN	1
-----GQTGDSESVDPDPQP-----	X62390	AAV8-VP1	175	14aa	mRNA_3cpc_SN	1
-----GQTGDSESVDPDPQP-----	X62390	AAV9-VP1	174	14aa	mRNA_3cpc_SN	1
-----GQTGDSESVDPDPQP-----	X62390	AAV1-VP1	174	14aa	mRNA_3cpc_Th	4
-----GQTGDSESVDPDPQP-----	X62390	AAV6-VP1	174	14aa	mRNA_3cpc_Th	4
-----GQTGDSESVDPDPQP-----	X62390	AAV8-VP1	175	14aa	mRNA_3cpc_Th	4
-----GQTGDSESVDPDPQP-----	X62390	AAV9-VP1	174	14aa	mRNA_3cpc_Th	4
-----GQTGDSESVDPDPQP-----	X62390	AAV1-VP1	174	14aa	mRNA_3cpc_Ctx	2
-----GQTGDSESVDPDPQP-----	X62390	AAV6-VP1	174	14aa	mRNA_3cpc_Ctx	2
-----GQTGDSESVDPDPQP-----	X62390	AAV8-VP1	175	14aa	mRNA_3cpc_Ctx	2
-----GQTGDSESVDPDPQP-----	X62390	AAV9-VP1	174	14aa	mRNA_3cpc_Ctx	2
___KRLNFGQTGDSESV_____	X4104	AAV1-VP1	169	14aa	mRNA_30cpc_Ctx	1
___KRLNFGQTGDSESV_____	X4104	AAV6-VP1	169	14aa	mRNA_30cpc_Ctx	1
___KRLNFGQTGDSESV_____	X4104	AAV8-VP1	170	14aa	mRNA_30cpc_Ctx	1
___KRLNFGQTGDSESV_____	X4104	AAV9-VP1	169	14aa	mRNA_30cpc_Ctx	1
___KRLNFGQTGDSESVDPDPQPLGE___	X4103	AAV1-VP1	169	22aa	mRNA_30cpc_Th	1
___KRLNFGQTGDSESVDPDPQPLGE___	X4103	AAV6-VP1	169	22aa	mRNA_30cpc_Th	1
___KRLNFGQTGDSESVDPDPQPLGE___	X4103	AAV8-VP1	170	22aa	mRNA_30cpc_Th	1
___KRLNFGQTGDSESVDPDPQPLGE___	X4103	AAV9-VP1	169	22aa	mRNA_30cpc_Th	1
____NFGQTGDSESVDPD_____	X2978	AAV1-VP1	172	14aa	mRNA_30cpc_Th	1
____NFGQTGDSESVDPD_____	X2978	AAV6-VP1	172	14aa	mRNA_30cpc_Th	1
____NFGQTGDSESVDPD_____	X2978	AAV8-VP1	173	14aa	mRNA_30cpc_Th	1
____NFGQTGDSESVDPD_____	X2978	AAV9-VP1	172	14aa	mRNA_30cpc_Th	1
____NFGQTGDTESVDPD_____	X2976	AAV1-VP1	172	14aa	mRNA_30cpc_Ctx_4wks	1
____NFGQTGDTESVDPD_____	X2976	AAV6-VP1	172	14aa	mRNA_30cpc_Ctx_4wks	1
____NFGQTGDTESVDPD_____	X2976	AAV8-VP1	173	14aa	mRNA_30cpc_Ctx_4wks	1
____NFGQTGDTESVDPD_____	X2976	AAV9-VP1	172	14aa	mRNA_30cpc_Ctx_4wks	1
____NFGQTGDTESVDPDPQPIGEPPA	X2975	AAV1-VP1	172	22aa	mRNA_30cpc_Organoid_MD114	1
____NFGQTGDTESVDPDPQPIGEPPA	X2975	AAV6-VP1	172	22aa	mRNA_30cpc_Organoid_MD114	1
____NFGQTGDTESVDPDPQPIGEPPA	X2975	AAV8-VP1	173	22aa	mRNA_30cpc_Organoid_MD114	1
____NFGQTGDTESVDPDPQPIGEPPA	X2975	AAV9-VP1	172	22aa	mRNA_30cpc_Organoid_MD114	1
PAKKRLNFGQTGDTESVDPDPQP_____	X23308	AAV1-VP1	166	22aa	mRNA_3000cpc_Organoid_MD101	1
PAKKRLNFGQTGDTESVDPDPQP_____	X23308	AAV6-VP1	166	22aa	mRNA_3000cpc_Organoid_MD101	1
PAKKRLNFGQTGDTESVDPDPQP_____	X23308	AAV8-VP1	167	22aa	mRNA_3000cpc_Organoid_MD101	1

alignment	LUThrs	GeneName	start	structure	Group	Score
PAKKRLNFGQTGDSESVDPQPQPL_____	X23308	AAV9-VP1	166	22aa	mRNA_3000cpc_Organoid_MD101	1
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_____QTGDSESVDPQPQL_____	X18701	AAV6-VP1	175	14aa	mRNA_30cpc_Th	1
_____QTGDSESVDPQPQL_____	X18701	AAV8-VP1	176	14aa	mRNA_30cpc_Th	1
_____QTGDSESVDPQPQL_____	X18701	AAV9-VP1	175	14aa	mRNA_30cpc_Th	1
_____QTGDSESVDPQPQL_____	X18701	AAV1-VP1	175	14aa	mRNA_30cpc_Th_4wks	1
_____QTGDSESVDPQPQL_____	X18701	AAV6-VP1	175	14aa	mRNA_30cpc_Th_4wks	1
_____QTGDSESVDPQPQL_____	X18701	AAV8-VP1	176	14aa	mRNA_30cpc_Th_4wks	1
_____QTGDSESVDPQPQL_____	X18701	AAV9-VP1	175	14aa	mRNA_30cpc_Th_4wks	1
__RKRLNFGQTGDSESVDPQPQLG_____	X24884	AAV1-VP1	168	22aa	mRNA_30cpc_Ctx	1
__RKRLNFGQTGDSESVDPQPQLG_____	X24884	AAV6-VP1	168	22aa	mRNA_30cpc_Ctx	1
__RKRLNFGQTGDSESVDPQPQLG_____	X24884	AAV8-VP1	169	22aa	mRNA_30cpc_Ctx	1
__RKRLNFGQTGDSESVDPQPQLG_____	X24884	AAV9-VP1	168	22aa	mRNA_30cpc_Ctx	1
____RLNFGQTGDSESV_____	X26310	AAV1-VP1	170	14aa	mRNA_30cpc_SN	3
____RLNFGQTGDSESV_____	X26310	AAV6-VP1	170	14aa	mRNA_30cpc_SN	3
____RLNFGQTGDSESV_____	X26310	AAV8-VP1	171	14aa	mRNA_30cpc_SN	3
____RLNFGQTGDSESV_____	X26310	AAV9-VP1	170	14aa	mRNA_30cpc_SN	3
____RLNFGQTGDSESV_____	X26310	AAV1-VP1	170	14aa	mRNA_30cpc_Th	1
____RLNFGQTGDSESV_____	X26310	AAV6-VP1	170	14aa	mRNA_30cpc_Th	1
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____RLNFGQTGDSESV_____	X26310	AAV6-VP1	170	14aa	mRNA_30cpc_Ctx	2
____RLNFGQTGDSESV_____	X26310	AAV8-VP1	171	14aa	mRNA_30cpc_Ctx	2
____RLNFGQTGDSESV_____	X26310	AAV9-VP1	170	14aa	mRNA_30cpc_Ctx	2
____SESVPDPQPLGEPP_____	X12643	AAV1-VP1	179	14aa	mRNA_30cpc_SN	1
____SESVPDPQPLGEPP_____	X12643	AAV6-VP1	179	14aa	mRNA_30cpc_SN	1
____SESVPDPQPLGEPP_____	X12643	AAV8-VP1	180	14aa	mRNA_30cpc_SN	1
____SESVPDPQPLGEPP_____	X12643	AAV9-VP1	179	14aa	mRNA_30cpc_SN	1
____SESVPDPQPLGEPP_____	X12643	AAV1-VP1	179	14aa	mRNA_30cpc_Th	2
____SESVPDPQPLGEPP_____	X12643	AAV6-VP1	179	14aa	mRNA_30cpc_Th	2
____SESVPDPQPLGEPP_____	X12643	AAV8-VP1	180	14aa	mRNA_30cpc_Th	2
____SESVPDPQPLGEPP_____	X12643	AAV9-VP1	179	14aa	mRNA_30cpc_Th	2
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____SESVPDPQPLGEPP_____	X12643	AAV6-VP1	179	14aa	mRNA_30cpc_Ctx	2
____SESVPDPQPLGEPP_____	X12643	AAV8-VP1	180	14aa	mRNA_30cpc_Ctx	2
____SESVPDPQPLGEPP_____	X12643	AAV9-VP1	179	14aa	mRNA_30cpc_Ctx	2
____SESVPDPQPLGEPP_____	X12643	AAV1-VP1	179	14aa	mRNA_3cpc_Th	1
____SESVPDPQPLGEPP_____	X12643	AAV6-VP1	179	14aa	mRNA_3cpc_Th	1
____SESVPDPQPLGEPP_____	X12643	AAV8-VP1	180	14aa	mRNA_3cpc_Th	1
____SESVPDPQPLGEPP_____	X12643	AAV9-VP1	179	14aa	mRNA_3cpc_Th	1
____SESVPDPQPLGEPP_____	X12643	AAV1-VP1	179	14aa	mRNA_3cpc_Ctx	1
____SESVPDPQPLGEPP_____	X12643	AAV6-VP1	179	14aa	mRNA_3cpc_Ctx	1
____SESVPDPQPLGEPP_____	X12643	AAV8-VP1	180	14aa	mRNA_3cpc_Ctx	1
____SESVPDPQPLGEPP_____	X12643	AAV9-VP1	179	14aa	mRNA_3cpc_Ctx	1

Peptide NTLVDTSGYNAEVS from BoNT-C-Hc with cluster number 7184

Peptide NTLVDTSGYNAEVS from BoNT-C-Hc with cluster number 7184



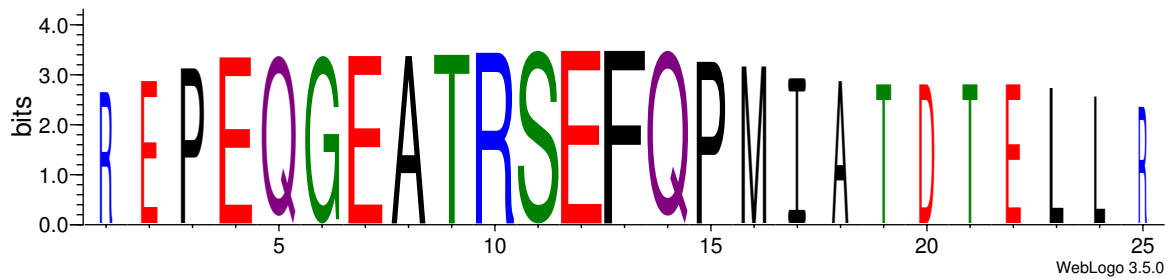
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7184	NTLVDTSGYNAEVS	32	9	6	8	7	0	1

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7184	NTLVDTSGYNAEVS	-----NTLVDTSGYNAEVS	10	3	2	3
7184	RGGRLIDSSGYGAT	-----RGGRLIDSSGYGAT__	8	2	2	3
7184	NDKYVDTSGYDSNI	-----NDKYVDTSGYDSNI_	5	1	1	1
7184	INGRLIDQKPISNL	-----INGRLIDQKPISNL__	3	0	0	0
7184	ENNKFIDISGYGSN	-----ENNKFIDISGYGSN__	3	1	1	1
7184	SNAILSLSYRGGRLLDSSGYGA	SNAILSLSYRGGRLLDSSGYGA__	1	1	0	0
7184	NNSKIYINGRLIDQ	___NNSKIYINGRLIDQ_____	1	1	0	0
7184	LNMRYKNDKYVDTS	___LNMRYKNDKYVDTS_____	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
-----ENNKFIDISGYGSN__	X86079	BoNT-F-Hc	16	14aaG4S	mRNA_30cpc_SN	1
-----ENNKFIDISGYGSN__	X86079	BoNT-F-Hc	16	14aaG4S	mRNA_30cpc_Th	1
-----ENNKFIDISGYGSN__	X86079	BoNT-F-Hc	16	14aaG4S	mRNA_30cpc_Ctx	1
-----INGRLIDQKPISNL__	X14311	BoNT-A-Hc	198	14aa	mRNA_3cpc_Th	2
-----INGRLIDQKPISNL__	X14311	BoNT-A-Hc	198	14aa	mRNA_3cpc_Ctx	1
___LNMRYKNDKYVDTS_____	X52597	BoNT-E-Hc	73	14aaA5	mRNA_3cpc_Th	1
-----NDKYVDTSGYDSNI_	X1776	BoNT-E-Hc	79	14aa	mRNA_30cpc_SN	1
-----NDKYVDTSGYDSNI_	X45703	BoNT-E-Hc	79	14aaA5	mRNA_30cpc_Th	1
-----NDKYVDTSGYDSNI_	X45703	BoNT-E-Hc	79	14aaA5	mRNA_30cpc_Ctx	1
-----NDKYVDTSGYDSNI_	X45703	BoNT-E-Hc	79	14aaA5	mRNA_3cpc_Th	1
-----NDKYVDTSGYDSNI_	X1776	BoNT-E-Hc	79	14aa	mRNA_3000cpc_Organoid_MD101	1
___NNSKIYINGRLIDQ_____	X58	BoNT-A-Hc	192	14aa	mRNA_30cpc_Ctx	1
-----NTLVDTSGYNAEVS	X514	BoNT-C-Hc	21	14aa	mRNA_30cpc_SN	3
-----NTLVDTSGYNAEVS	X514	BoNT-D-Hc	14	14aa	mRNA_30cpc_SN	3
-----NTLVDTSGYNAEVS	X514	BoNT-C-Hc	21	14aa	mRNA_30cpc_Th	2
-----NTLVDTSGYNAEVS	X514	BoNT-D-Hc	14	14aa	mRNA_30cpc_Th	2
-----NTLVDTSGYNAEVS	X514	BoNT-C-Hc	21	14aa	mRNA_30cpc_Ctx	3
-----NTLVDTSGYNAEVS	X514	BoNT-D-Hc	14	14aa	mRNA_30cpc_Ctx	3
-----NTLVDTSGYNAEVS	X514	BoNT-C-Hc	21	14aa	mRNA_3cpc_Th	2
-----NTLVDTSGYNAEVS	X514	BoNT-D-Hc	14	14aa	mRNA_3cpc_Th	2
-----RGGRLIDSSGYGAT__	X27569	BoNT-G-Hc	10	14aa	mRNA_30cpc_SN	3
-----RGGRLIDSSGYGAT__	X27569	BoNT-G-Hc	10	14aa	mRNA_30cpc_Th	2
-----RGGRLIDSSGYGAT__	X27569	BoNT-G-Hc	10	14aa	mRNA_30cpc_Ctx	2
-----RGGRLIDSSGYGAT__	X27569	BoNT-G-Hc	10	14aa	mRNA_3cpc_Th	1
SNAILSLSYRGGRLLDSSGYGA___	X9944	BoNT-G-Hc	1	22aa	mRNA_30cpc_Ctx	1

Peptide REPEQGEATRSEFQ from NT3 with cluster number 8546

Peptide REPEQGEATRSEFQ from NT3 with cluster number 8546



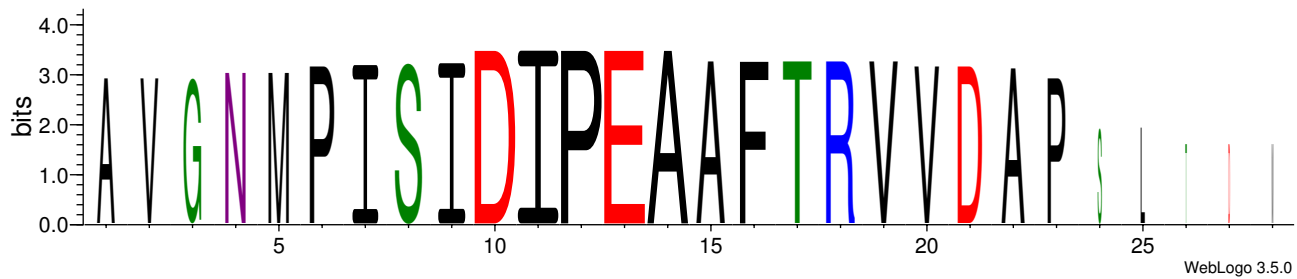
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8546	REPEQGEATRSEFQ	30	5	6	6	7	1	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8546	REPEQGEATRSEFQ	REPEQGEATRSEFQ_____	9	2	2	2
8546	EQGEATRSEFQPMIATDELLR	___EQGEATRSEFQPMIATDELLR	6	1	1	2
8546	PEQGEATRSEFQPM	__PEQGEATRSEFQPM_____	5	0	0	0
8546	EPEQGEATRSEFQP	_EPEQGEATRSEFQP_____	3	0	0	2
8546	SEFQPMIATDELL	_____SEFQPMIATDELL_	2	0	1	0
8546	RSEFQPMIATDEL	_____RSEFQPMIATDEL__	2	1	1	0
8546	TRSEFQPMIATDTE	_____TRSEFQPMIATDTE__	1	1	0	0
8546	QGEATRSEFQPMIA	____QGEATRSEFQPMIA_____	1	0	0	0
8546	EQGEATRSEFQPMI	___EQGEATRSEFQPMI_____	1	0	1	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_EPEQGEATRSEFQP_____	X37862	NT3	53	14aa	mRNA_30cpc_SN	2
_EPEQGEATRSEFQP_____	X37862	NT3	53	14aa	mRNA_30cpc_Th_4wks	1
___EQGEATRSEFQPMI_____	X55039	NT3	55	14aaA5	mRNA_30cpc_Th	1
___EQGEATRSEFQPMIATDELLR	X37743	NT3	55	22aa	mRNA_30cpc_SN	2
___EQGEATRSEFQPMIATDELLR	X37743	NT3	55	22aa	mRNA_30cpc_Th	1
___EQGEATRSEFQPMIATDELLR	X37743	NT3	55	22aa	mRNA_30cpc_Ctx	1
___EQGEATRSEFQPMIATDELLR	X37743	NT3	55	22aa	mRNA_3cpc_Th	1
___EQGEATRSEFQPMIATDELLR	X37743	NT3	55	22aa	mRNA_30cpc_Organoid_MD114	1
__PEQGEATRSEFQPM_____	X23116	NT3	54	14aa	mRNA_3cpc_SN	1
__PEQGEATRSEFQPM_____	X23116	NT3	54	14aa	mRNA_3cpc_Th	3
__PEQGEATRSEFQPM_____	X23116	NT3	54	14aa	mRNA_3000cpc_Organoid_MD101	1
____QGEATRSEFQPMIA_____	X20075	NT3	56	14aa	mRNA_3000cpc_Organoid_MD101	1
REPEQGEATRSEFQ_____	X26899	NT3	52	14aa	mRNA_30cpc_SN	2
REPEQGEATRSEFQ_____	X26899	NT3	52	14aa	mRNA_30cpc_Th	2
REPEQGEATRSEFQ_____	X26899	NT3	52	14aa	mRNA_30cpc_Ctx	2
REPEQGEATRSEFQ_____	X26899	NT3	52	14aa	mRNA_3cpc_Th	2
REPEQGEATRSEFQ_____	X26899	NT3	52	14aa	mRNA_30cpc_Th_4wks	1
_____RSEFQPMIATDEL__	X25281	NT3	61	14aa	mRNA_30cpc_Th	1
_____RSEFQPMIATDEL__	X25281	NT3	61	14aa	mRNA_30cpc_Ctx	1
_____SEFQPMIATDELL_	X12761	NT3	62	14aa	mRNA_30cpc_Th	1
_____SEFQPMIATDELL_	X12761	NT3	62	14aa	mRNA_3cpc_Th	1
_____TRSEFQPMIATDTE__	X7524	NT3	60	14aa	mRNA_30cpc_Ctx	1

Peptide DIPEAAFTRVVDAP from CHIKV-Sp-1 with cluster number 5911

Peptide DIPEAAFTRVVDAP from CHIKV-Sp-1 with cluster number 5911



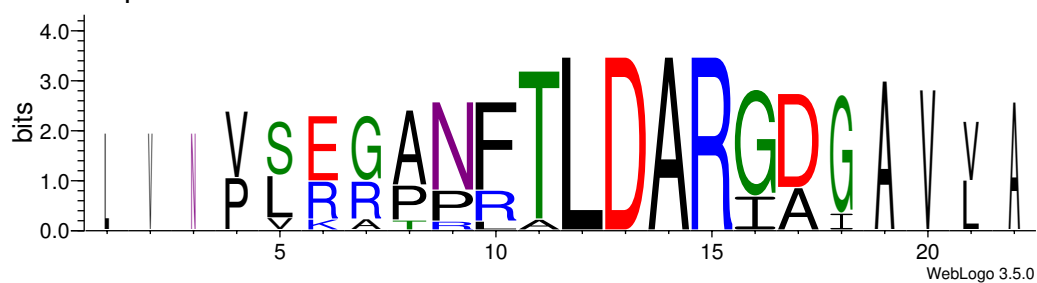
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5911	DIPEAAFTRVVDAP	30	9	11	3	4	0	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
5911	DIPEAAFTRVVDAP	_____DIPEAAFTRVVDAP_____	10	4	4	1
5911	AVGNMPISIDIPEA	AVGNMPISIDIPEA_____	9	3	3	1
5911	AVGNMPISIDIPEAAFTRVVD	AVGNMPISIDIPEAAFTRVVD_____	4	1	1	1
5911	PISIDIPEAAFTRV	_____PISIDIPEAAFTRV_____	3	0	2	0
5911	NMPISIDIPEAAFTRVVDAPSL	____NMPISIDIPEAAFTRVVDAPSL____	2	1	1	0
5911	SIDIPEAAFTRVVD	_____SIDIPEAAFTRVVD_____	1	0	0	0
5911	ISIDIPEAAFTRVVDAPSLTDM	_____ISIDIPEAAFTRVVDAPSLTDM_____	1	0	0	0

alignment	LUTnrs	GeneName	start	structure	Group	Score
AVGNMPISIDIPEA_____	X56814	CHIKV-Sp-1	1081	14aaA5	mRNA_30cpc_SN	1
AVGNMPISIDIPEA_____	X44622	CHIKV-Sp-1	1081	14aa	mRNA_30cpc_Th	1
AVGNMPISIDIPEA_____	X56814	CHIKV-Sp-1	1081	14aaA5	mRNA_30cpc_Th	2
AVGNMPISIDIPEA_____	X44622	CHIKV-Sp-1	1081	14aa	mRNA_30cpc_Ctx	1
AVGNMPISIDIPEA_____	X56814	CHIKV-Sp-1	1081	14aaA5	mRNA_30cpc_Ctx	2
AVGNMPISIDIPEA_____	X56814	CHIKV-Sp-1	1081	14aaA5	mRNA_3cpc_Th	1
AVGNMPISIDIPEA_____	X44622	CHIKV-Sp-1	1081	14aa	mRNA_3000cpc_Organoid_MD101	1
AVGNMPISIDIPEAAFTRVVD_____	X44623	CHIKV-Sp-1	1081	22aa	mRNA_30cpc_SN	1
AVGNMPISIDIPEAAFTRVVD_____	X44623	CHIKV-Sp-1	1081	22aa	mRNA_30cpc_Th	1
AVGNMPISIDIPEAAFTRVVD_____	X44623	CHIKV-Sp-1	1081	22aa	mRNA_30cpc_Ctx	1
AVGNMPISIDIPEAAFTRVVD_____	X44623	CHIKV-Sp-1	1081	22aa	mRNA_3cpc_Th	1
_____DIPEAAFTRVVDAP_____	X34522	CHIKV-Sp-1	1090	14aa	mRNA_30cpc_SN	1
_____DIPEAAFTRVVDAP_____	X34522	CHIKV-Sp-1	1090	14aa	mRNA_30cpc_Th	4
_____DIPEAAFTRVVDAP_____	X34522	CHIKV-Sp-1	1090	14aa	mRNA_30cpc_Ctx	4
_____DIPEAAFTRVVDAP_____	X34522	CHIKV-Sp-1	1090	14aa	mRNA_3cpc_Th	1
_____ISIDIPEAAFTRVVDAPSLTDM_____	X14782	CHIKV-Sp-1	1087	22aa	mRNA_3000cpc_Organoid_MD101	1
____NMPISIDIPEAAFTRVVDAPSL____	X975	CHIKV-Sp-1	1084	22aa	mRNA_30cpc_Th	1
____NMPISIDIPEAAFTRVVDAPSL____	X975	CHIKV-Sp-1	1084	22aa	mRNA_30cpc_Ctx	1
_____PISIDIPEAAFTRV_____	X21409	CHIKV-Sp-1	1086	14aa	mRNA_30cpc_Th	2
_____PISIDIPEAAFTRV_____	X21409	CHIKV-Sp-1	1086	14aa	mRNA_3cpc_Th	1
_____SIDIPEAAFTRVVD_____	X11056	CHIKV-Sp-1	1088	14aa	mRNA_3000cpc_Organoid_MD101	1

Peptide PLRRPPRTL DARIA from NRTN with cluster number 8985

Peptide PLRRPPRTL DARIA from NRTN with cluster number 8985



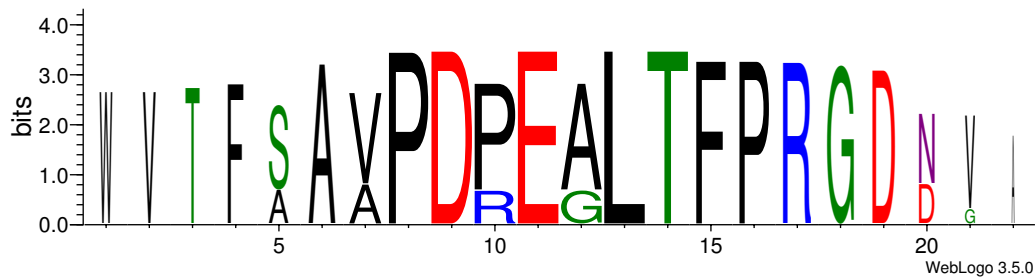
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8985	PLRRPPRTL DARIA	29	11	5	7	2	2	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8985	PLRRPPRTL DARIA	___PLRRPPRTL DARIA_____	7	2	2	2
8985	VSEGANFTLDARGD	___VSEGANFTLDARGD_____	6	2	2	2
8985	NFTLDARGDGAVLA	_____NFTLDARGDGAVLA	3	2	0	1
8985	LVNVSEGANFTLDARGDGAVVA	LVNVSEGANFTLDARGDGAVVA	3	3	0	0
8985	EGANFTLDARGDGA	_____EGANFTLDARGDGA___	3	1	0	2
8985	VKATRLALDARGAI	_____VKATRLALDARGAI_____	2	1	1	0
8985	NFTLDARGDGAVVA	_____NFTLDARGDGAVVA	2	0	0	0
8985	ANFTLDARGDGAVL	_____ANFTLDARGDGAVL_	2	0	0	0
8985	ANFTLDARGDGAVV	_____ANFTLDARGDGAVV_	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_____ANFTLDARGDGAVL_	X39958	PRV-Becker-gE	92	14aa	mRNA_3cpc_Th	1
_____ANFTLDARGDGAVL_	X39958	PRV-TJ-gE	93	14aa	mRNA_3cpc_Th	1
_____ANFTLDARGDGAVL_	X39958	PRV-Becker-gE	92	14aa	mRNA_3000cpc_Organoid_MD101	1
_____ANFTLDARGDGAVL_	X39958	PRV-TJ-gE	93	14aa	mRNA_3000cpc_Organoid_MD101	1
_____ANFTLDARGDGAVV_	X39959	PRV-Becker-gE	92	14aa	mRNA_30cpc_Organoid_MD114	1
_____ANFTLDARGDGAVV_	X39959	PRV-TJ-gE	93	14aa	mRNA_30cpc_Organoid_MD114	1
_____EGANFTLDARGDGA_	X39108	PRV-Becker-gE	90	14aa	mRNA_30cpc_SN	2
_____EGANFTLDARGDGA_	X39108	PRV-TJ-gE	91	14aa	mRNA_30cpc_SN	2
_____EGANFTLDARGDGA_	X39108	PRV-Becker-gE	90	14aa	mRNA_30cpc_Ctx	1
_____EGANFTLDARGDGA_	X39108	PRV-TJ-gE	91	14aa	mRNA_30cpc_Ctx	1
LVNVSEGANFTLDARGDGAVVA	X32748	PRV-Becker-gE	85	22aa	mRNA_30cpc_Ctx	3
LVNVSEGANFTLDARGDGAVVA	X32748	PRV-TJ-gE	86	22aa	mRNA_30cpc_Ctx	3
_____NFTLDARGDGAVLA	X2902	PRV-Becker-gE	93	14aa	mRNA_30cpc_SN	1
_____NFTLDARGDGAVLA	X2902	PRV-TJ-gE	94	14aa	mRNA_30cpc_SN	1
_____NFTLDARGDGAVLA	X2902	PRV-Becker-gE	93	14aa	mRNA_30cpc_Ctx	2
_____NFTLDARGDGAVLA	X2902	PRV-TJ-gE	94	14aa	mRNA_30cpc_Ctx	2
_____NFTLDARGDGAVVA	X2904	PRV-Becker-gE	93	14aa	mRNA_30cpc_Organoid_MD114	1
_____NFTLDARGDGAVVA	X2904	PRV-TJ-gE	94	14aa	mRNA_30cpc_Organoid_MD114	1
_____NFTLDARGDGAVVA	X2904	PRV-Becker-gE	93	14aa	mRNA_3000cpc_Organoid_MD101	1
_____NFTLDARGDGAVVA	X2904	PRV-TJ-gE	94	14aa	mRNA_3000cpc_Organoid_MD101	1
___PLRRPPRTLDARIA_____	X82406	NRTN	16	14aaG4S	mRNA_30cpc_SN	2
___PLRRPPRTLDARIA_____	X82406	NRTN	16	14aaG4S	mRNA_30cpc_Th	2
___PLRRPPRTLDARIA_____	X82406	NRTN	16	14aaG4S	mRNA_30cpc_Ctx	2
___PLRRPPRTLDARIA_____	X82406	NRTN	16	14aaG4S	mRNA_3cpc_Th	1
_____VKATRLALDARGAI_____	X65897	HSV-1-pUL36	1203	14aa	mRNA_30cpc_Th	1
_____VKATRLALDARGAI_____	X65897	HSV-1-pUL36	1203	14aa	mRNA_30cpc_Ctx	1
_____VSEGANFTLDARGD_____	X58402	PRV-Becker-gE	88	14aaA5	mRNA_30cpc_SN	2
_____VSEGANFTLDARGD_____	X58402	PRV-TJ-gE	89	14aaA5	mRNA_30cpc_SN	2
_____VSEGANFTLDARGD_____	X58402	PRV-Becker-gE	88	14aaA5	mRNA_30cpc_Th	2
_____VSEGANFTLDARGD_____	X58402	PRV-TJ-gE	89	14aaA5	mRNA_30cpc_Th	2
_____VSEGANFTLDARGD_____	X58402	PRV-Becker-gE	88	14aaA5	mRNA_30cpc_Ctx	2
_____VSEGANFTLDARGD_____	X58402	PRV-TJ-gE	89	14aaA5	mRNA_30cpc_Ctx	2

Peptide WVTFSAVPDPEALT from HSV-1-pUL22 with cluster number 7858

Peptide WVTFSAVPDPEALT from HSV-1-pUL22 with cluster number 785



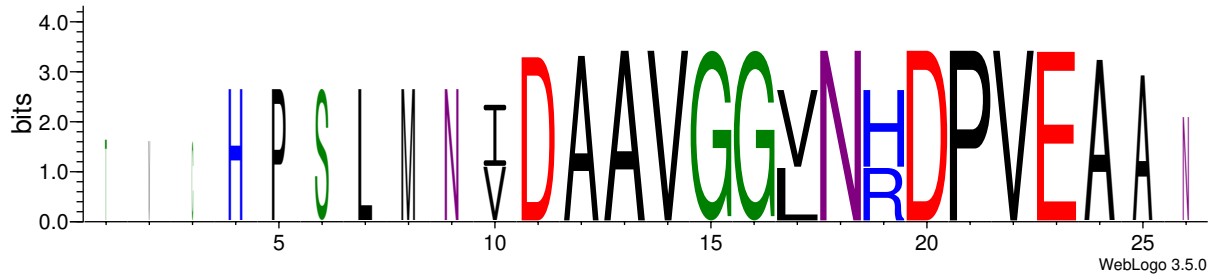
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7858	WVTFSAVPDPEALT	29	8	5	3	3	6	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7858	WVTFSAVPDPEALT	WVTFSAVPDPEALT_____	7	2	2	2
7858	PDPEALTFFPRGDNV	_____PDPEALTFFPRGDNV_	5	1	1	0
7858	AVPDPEALTFFPRGD	_____AVPDPEALTFFPRGD__	5	2	1	1
7858	APDREGLTFPRGDD	_____APDREGLTFPRGDD__	3	1	1	0
7858	AAAPDREGLTFPRG	_____AAAPDREGLTFPRG__	2	0	0	0
7858	WVTFAAAPDREGLTFPRGDDGA	WVTFAAAPDREGLTFPRGDDGA	1	1	0	0
7858	WVTFAAAPDREGLT	WVTFAAAPDREGLT_____	1	0	0	0
7858	VPDPEALTFFPRGDN	_____VPDPEALTFFPRGDN__	1	0	0	0
7858	TFSAVPDPEALTFFP	____TFSAVPDPEALTFFP_____	1	1	0	0
7858	SAVPDPEALTFFPRG	____SAVPDPEALTFFPRG_____	1	0	0	0
7858	FSAVPDPEALTFFPR	____FSAVPDPEALTFFPR_____	1	0	0	0
7858	DPEALTFFPRGDNVA	____DPEALTFFPRGDNVA_____	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
____AAAPDREGLTFPRG____	X43740	HSV-2-pUL22	164	14aa	mRNA_30cpc_Organoid_MD114	1
____AAAPDREGLTFPRG____	X43740	HSV-2-pUL22	164	14aa	mRNA_3000cpc_Organoid_MD101	1
____APDREGLTFPRGDD__	X41814	HSV-2-pUL22	166	14aa	mRNA_30cpc_Th	1
____APDREGLTFPRGDD__	X41814	HSV-2-pUL22	166	14aa	mRNA_30cpc_Ctx	1
____APDREGLTFPRGDD__	X41814	HSV-2-pUL22	166	14aa	mRNA_3cpc_Th	1
____AVPDPEALTFFPRGD__	X44463	HSV-1-pUL22	165	14aa	mRNA_30cpc_SN	1
____AVPDPEALTFFPRGD__	X44463	HSV-1-pUL22	165	14aa	mRNA_30cpc_Th	1
____AVPDPEALTFFPRGD__	X44463	HSV-1-pUL22	165	14aa	mRNA_30cpc_Ctx	2
____AVPDPEALTFFPRGD__	X44463	HSV-1-pUL22	165	14aa	mRNA_3cpc_Th	1
____DPEALTFFPRGDNVA	X34957	HSV-1-pUL22	168	14aa	mRNA_30cpc_Organoid_MD114	1
____FSAVPDPEALTFFPR____	X60602	HSV-1-pUL22	163	14aaA5	mRNA_30cpc_Th_4wks	1
____PDPEALTFFPRGDNV_	X22953	HSV-1-pUL22	167	14aa	mRNA_30cpc_Th	1
____PDPEALTFFPRGDNV_	X22953	HSV-1-pUL22	167	14aa	mRNA_30cpc_Ctx	1
____PDPEALTFFPRGDNV_	X22953	HSV-1-pUL22	167	14aa	mRNA_30cpc_Organoid_MD114	2
____PDPEALTFFPRGDNV_	X22953	HSV-1-pUL22	167	14aa	mRNA_3000cpc_Organoid_MD101	1
____SAVPDPEALTFFPRG____	X13061	HSV-1-pUL22	164	14aa	mRNA_3000cpc_Organoid_MD101	1
____TFSAVPDPEALTFFP____	X9673	HSV-1-pUL22	162	14aa	mRNA_30cpc_Ctx	1
____VPDPEALTFFPRGDN__	X67221	HSV-1-pUL22	166	14aa	mRNA_30cpc_Organoid_MD114	1
WVTFAAAPDREGLT_____	X60426	HSV-2-pUL22	160	14aaA5	mRNA_30cpc_Organoid_MD114	1
WVTFAAAPDREGLTFPRGDDGA	X74153	HSV-2-pUL22	160	22aa	mRNA_30cpc_Ctx	1
WVTFSAVPDPEALT_____	X60425	HSV-1-pUL22	160	14aaA5	mRNA_30cpc_SN	2
WVTFSAVPDPEALT_____	X60425	HSV-1-pUL22	160	14aaA5	mRNA_30cpc_Th	2
WVTFSAVPDPEALT_____	X60425	HSV-1-pUL22	160	14aaA5	mRNA_30cpc_Ctx	2
WVTFSAVPDPEALT_____	X60425	HSV-1-pUL22	160	14aaA5	mRNA_3cpc_Th	1

Peptide HPSLMNIDAAVGGVNHDPVEAA from HSV-2-pUL19 with cluster number 9365

Peptide HPSLMNIDAAVGGVNHDPVEAA from HSV-2-pUL19 with cluster number 936



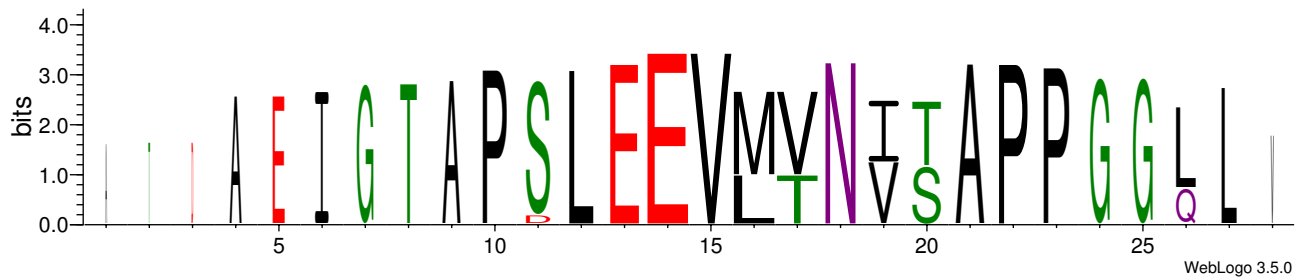
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9365	HPSLMNIDAAVGGVNHDPVEAA	27	5	10	4	5	0	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
9365	HPSLMNIDAAVGGVNHDPVEAA	__HPSLMNIDAAVGGVNHDPVEAA_	8	2	2	2
9365	VDAAVGGLNRDPVE	-----VDAAVGGLNRDPVE----	6	2	2	0
9365	DAAVGGVNHDPVEA	-----DAAVGGVNHDPVEA__	6	1	3	1
9365	AVGGLNRDPVEAAN	-----AVGGLNRDPVEAAN	3	0	1	1
9365	TVCHPSLMNVDAAVGGLNRDPV	TVCHPSLMNVDAAVGGLNRDPV----	1	0	0	0
9365	DAAVGGLNRDPVEA	-----DAAVGGLNRDPVEA__	1	0	1	0
9365	AVGGVNHDPVEAAN	-----AVGGVNHDPVEAAN	1	0	0	0
9365	AAVGGVNHDPVEAA	-----AAVGGVNHDPVEAA_	1	0	1	0

alignment	LUThrs	GeneName	start	structure	Group	Score
-----AAVGGVNHDPVEAA_	X43867	HSV-2-pUL19	471	14aa	mRNA_30cpc_Th	1
-----AVGGLNRDPVEAAN	X44659	HSV-1-pUL19	472	14aa	mRNA_30cpc_SN	1
-----AVGGLNRDPVEAAN	X44659	HSV-1-pUL19	472	14aa	mRNA_30cpc_Th	1
-----AVGGLNRDPVEAAN	X44659	HSV-1-pUL19	472	14aa	mRNA_3cpc_Th	1
-----AVGGVNHDPVEAAN	X44661	HSV-2-pUL19	472	14aa	mRNA_30cpc_SN_4wks	1
-----DAAVGGLNRDPVEA__	X35979	HSV-1-pUL19	470	14aa	mRNA_30cpc_Th	1
-----DAAVGGVNHDPVEA__	X35980	HSV-2-pUL19	470	14aa	mRNA_30cpc_SN	1
-----DAAVGGVNHDPVEA__	X35980	HSV-2-pUL19	470	14aa	mRNA_30cpc_Th	3
-----DAAVGGVNHDPVEA__	X35980	HSV-2-pUL19	470	14aa	mRNA_30cpc_Ctx	1
-----DAAVGGVNHDPVEA__	X35980	HSV-2-pUL19	470	14aa	mRNA_3cpc_Th	1
___HPSLMNIDAAVGGVNHDPVEAA_	X17497	HSV-2-pUL19	463	22aa	mRNA_30cpc_SN	2
___HPSLMNIDAAVGGVNHDPVEAA_	X17497	HSV-2-pUL19	463	22aa	mRNA_30cpc_Th	2
___HPSLMNIDAAVGGVNHDPVEAA_	X17497	HSV-2-pUL19	463	22aa	mRNA_30cpc_Ctx	2
___HPSLMNIDAAVGGVNHDPVEAA_	X17497	HSV-2-pUL19	463	22aa	mRNA_3cpc_Th	1
___HPSLMNIDAAVGGVNHDPVEAA_	X17497	HSV-2-pUL19	463	22aa	mRNA_30cpc_Th_4wks	1
TVCHPSLMNVDAAVGGLNRDPV----	X9324	HSV-1-pUL19	460	22aa	mRNA_3cpc_Th	1
TVCHPSLMNVDAAVGGLNRDPV----	X9324	HSV-2-pUL19	460	22aa	mRNA_3cpc_Th	1
-----VDAAVGGLNRDPVE----	X68179	HSV-1-pUL19	469	14aa	mRNA_30cpc_Th	1
-----VDAAVGGLNRDPVE----	X58843	HSV-1-pUL19	469	14aaA5	mRNA_30cpc_Th	1
-----VDAAVGGLNRDPVE----	X68179	HSV-1-pUL19	469	14aa	mRNA_30cpc_Ctx	1
-----VDAAVGGLNRDPVE----	X58843	HSV-1-pUL19	469	14aaA5	mRNA_30cpc_Ctx	1
-----VDAAVGGLNRDPVE----	X68179	HSV-1-pUL19	469	14aa	mRNA_3cpc_Th	1
-----VDAAVGGLNRDPVE----	X68179	HSV-1-pUL19	469	14aa	mRNA_30cpc_Th_4wks	1

Peptide EVLTNITAPPGGLL from HSV-1-pUL44 with cluster number 8224

Peptide EVLTNITAPPGGLL from HSV-1-pUL44 with cluster number 8224



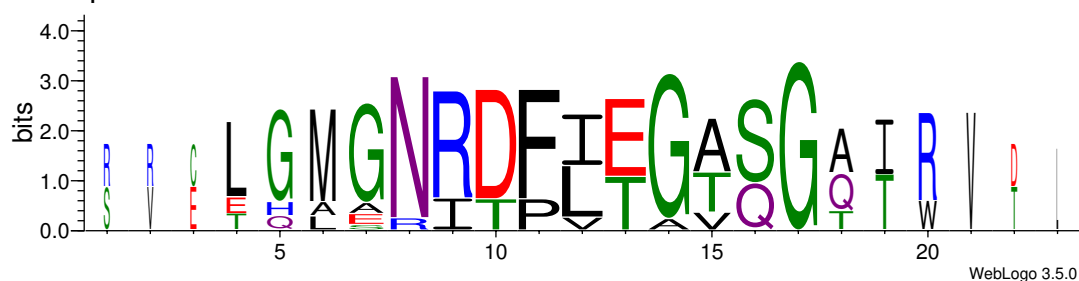
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8224	EVLTNITAPPGGLL	27	5	3	4	7	1	3

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8224	EVLTNITAPPGGLL	_____EVLTNITAPPGGLL_	8	2	1	2
8224	AEIGTAPSLEEV MV	___AEIGTAPSLEEV MV_____	7	1	1	0
8224	PSLEEV MNVSAPP	_____PSLEEV MNVSAPP_____	4	2	0	1
8224	GTAPSLEEV MNVSAPP GGQLV	_____GTAPSLEEV MNVSAPP GGQLV_____	2	0	0	0
8224	EEV MNVSAPP GGQ	_____EEV MNVSAPP GGQ_____	2	0	0	0
8224	IGTAPSLEEV MNV	_____IGTAPSLEEV MNV_____	1	0	1	0
8224	EEVLTNITAPPGGL	_____EEVLTNITAPPGGL_____	1	0	0	0
8224	ATDAEIGTAPSLEEV MNVSAP	ATDAEIGTAPSLEEV MNVSAP_____	1	0	0	0
8224	APDLEEVLTNITAP	_____APDLEEVLTNITAP_____	1	0	0	1

alignment	LUThrs	GeneName	start	structure	Group	Score
___AEIGTAPSLEEV MV_____	X43146	HSV-2-pUL44	136	14aa	mRNA_30cpc_Th	1
___AEIGTAPSLEEV MV_____	X43146	HSV-2-pUL44	136	14aa	mRNA_30cpc_Ctx	1
___AEIGTAPSLEEV MV_____	X43146	HSV-2-pUL44	136	14aa	mRNA_3cpc_SN	1
___AEIGTAPSLEEV MV_____	X43146	HSV-2-pUL44	136	14aa	mRNA_3cpc_Th	2
___AEIGTAPSLEEV MV_____	X43146	HSV-2-pUL44	136	14aa	mRNA_3cpc_Ctx	2
_____APDLEEVLTNITAP_____	X41818	HSV-1-pUL44	172	14aa	mRNA_30cpc_SN	1
ATDAEIGTAPSLEEV MNVSAP	X40363	HSV-2-pUL44	133	22aa	mRNA_3000cpc_Organoid_MD101	1
_____EEVLTNITAPPGGL_____	X38678	HSV-1-pUL44	176	14aa	mRNA_3000cpc_Organoid_MD101	1
_____EEV MNVSAPP GGQ_____	X86563	HSV-2-pUL44	145	14aaG4S	mRNA_3cpc_Th	2
_____EVLTNITAPPGGLL_____	X39327	HSV-1-pUL44	177	14aa	mRNA_30cpc_SN	2
_____EVLTNITAPPGGLL_____	X39327	HSV-1-pUL44	177	14aa	mRNA_30cpc_Th	1
_____EVLTNITAPPGGLL_____	X39327	HSV-1-pUL44	177	14aa	mRNA_30cpc_Ctx	2
_____EVLTNITAPPGGLL_____	X39327	HSV-1-pUL44	177	14aa	mRNA_3cpc_Th	1
_____EVLTNITAPPGGLL_____	X39327	HSV-1-pUL44	177	14aa	mRNA_30cpc_Organoid_MD114	1
_____EVLTNITAPPGGLL_____	X39327	HSV-1-pUL44	177	14aa	mRNA_3000cpc_Organoid_MD101	1
_____GTAPSLEEV MNVSAPP GGQLV_____	X61616	HSV-2-pUL44	139	22aa	mRNA_3cpc_Th	1
_____GTAPSLEEV MNVSAPP GGQLV_____	X61616	HSV-2-pUL44	139	22aa	mRNA_3cpc_Ctx	1
_____IGTAPSLEEV MNV_____	X16401	HSV-2-pUL44	138	14aa	mRNA_30cpc_Th	1
_____PSLEEV MNVSAPP_____	X21241	HSV-2-pUL44	142	14aa	mRNA_30cpc_SN	1
_____PSLEEV MNVSAPP_____	X21241	HSV-2-pUL44	142	14aa	mRNA_30cpc_Ctx	2
_____PSLEEV MNVSAPP_____	X21241	HSV-2-pUL44	142	14aa	mRNA_3cpc_Th	1

Peptide LGMGNRDFIEGASG from JEV-E-BN19 with cluster number 6860

Peptide LGMGNRDFIEGASG from JEV-E-BN19 with cluster number 6860



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
6860	LGMGNRDFIEGASG	27	5	6	6	5	1	0

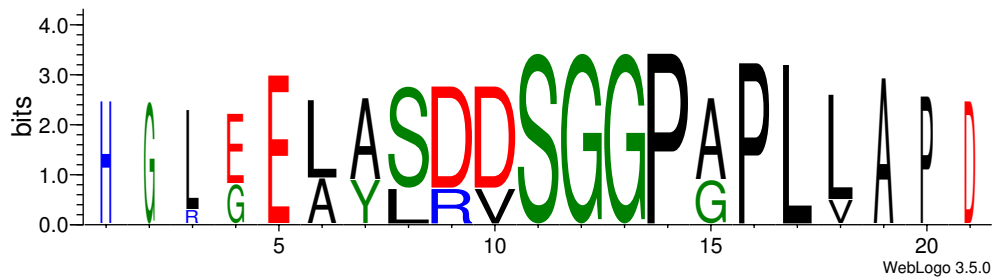
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
6860	LGMGNRDFIEGASG	___LGMGNRDFIEGASG_____	9	3	3	2
6860	GNITPLTGTQGQIR	_____GNITPLTGTQGQIR___	6	1	0	2
6860	GMGNRDFIEGASGA	_____GMGNRDFIEGASGA_____	3	0	0	0
6860	SRCTHLENRDFVTGTQGTTTRVT	SRCTHLENRDFVTGTQGTTTRVT_	2	0	1	1
6860	RVEEQAARRDFLTA	RVEEQAARRDFLTA_____	2	0	1	1
6860	RDFLEGVSGATWVD	_____RDFLEGVSGATWVD_	1	1	0	0
6860	NRDFVTGTQGTTTRV	_____NRDFVTGTQGTTTRV__	1	0	1	0
6860	NRDFLEGVSGATWV	_____NRDFLEGVSGATWV__	1	0	0	0
6860	GMSNRDFLEGVSGA	____GMSNRDFLEGVSGA_____	1	0	0	0
6860	DFLEGVSGATWVDL	_____DFLEGVSGATWVDL	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_____DFLEGVSGATWVDL	X36677	JEV-E-BN19	10	14aa	mRNA_30cpc_Th_4wks	1
_____DFLEGVSGATWVDL	X36677	JEV-E-KE-093	10	14aa	mRNA_30cpc_Th_4wks	1
_____DFLEGVSGATWVDL	X36677	JEV-E-SA14-5-3	10	14aa	mRNA_30cpc_Th_4wks	1
_____DFLEGVSGATWVDL	X36677	JEV-E-ThCMAr4492	10	14aa	mRNA_30cpc_Th_4wks	1
_____DFLEGVSGATWVDL	X36677	WNV-E-AZ10-918	10	14aa	mRNA_30cpc_Th_4wks	1
_____DFLEGVSGATWVDL	X36677	WNV-E-ArD76104	10	14aa	mRNA_30cpc_Th_4wks	1
_____DFLEGVSGATWVDL	X36677	WNV-E-H-442	10	14aa	mRNA_30cpc_Th_4wks	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-BN19	5	14aa	mRNA_3cpc_Th	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-KE-093	5	14aa	mRNA_3cpc_Th	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-SA14-5-3	5	14aa	mRNA_3cpc_Th	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-ThCMAr4492	5	14aa	mRNA_3cpc_Th	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-BN19	5	14aa	mRNA_30cpc_Organoid_MD114	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-KE-093	5	14aa	mRNA_30cpc_Organoid_MD114	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-SA14-5-3	5	14aa	mRNA_30cpc_Organoid_MD114	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-ThCMAr4492	5	14aa	mRNA_30cpc_Organoid_MD114	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-BN19	5	14aa	mRNA_3000cpc_Organoid_MD101	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-KE-093	5	14aa	mRNA_3000cpc_Organoid_MD101	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-SA14-5-3	5	14aa	mRNA_3000cpc_Organoid_MD101	1
___GMGNRDFIEGASGA_____	X62245	JEV-E-ThCMAr4492	5	14aa	mRNA_3000cpc_Organoid_MD101	1
___GMSNRDFIEGVSGA_____	X62205	WNV-E-AZ10-918	5	14aa	mRNA_3000cpc_Organoid_MD101	1
___GMSNRDFIEGVSGA_____	X62205	WNV-E-ArD76104	5	14aa	mRNA_3000cpc_Organoid_MD101	1
___GMSNRDFIEGVSGA_____	X62205	WNV-E-H-442	5	14aa	mRNA_3000cpc_Organoid_MD101	1
___GNITPLTGTQGQIR_____	X61103	HRP	286	14aa	mRNA_30cpc_SN	1
___GNITPLTGTQGQIR_____	X57002	HRP	286	14aaA5	mRNA_30cpc_SN	1
___GNITPLTGTQGQIR_____	X57002	HRP	286	14aaA5	mRNA_30cpc_Ctx	1
___GNITPLTGTQGQIR_____	X61103	HRP	286	14aa	mRNA_3cpc_Th	3
___LGMGNRDFIEGASG_____	X53668	JEV-E-BN19	4	14aaA5	mRNA_30cpc_SN	2
___LGMGNRDFIEGASG_____	X53668	JEV-E-KE-093	4	14aaA5	mRNA_30cpc_SN	2
___LGMGNRDFIEGASG_____	X53668	JEV-E-SA14-5-3	4	14aaA5	mRNA_30cpc_SN	2
___LGMGNRDFIEGASG_____	X53668	JEV-E-ThCMAr4492	4	14aaA5	mRNA_30cpc_SN	2
___LGMGNRDFIEGASG_____	X53668	JEV-E-BN19	4	14aaA5	mRNA_30cpc_Th	3
___LGMGNRDFIEGASG_____	X53668	JEV-E-KE-093	4	14aaA5	mRNA_30cpc_Th	3
___LGMGNRDFIEGASG_____	X53668	JEV-E-SA14-5-3	4	14aaA5	mRNA_30cpc_Th	3
___LGMGNRDFIEGASG_____	X53668	JEV-E-ThCMAr4492	4	14aaA5	mRNA_30cpc_Th	3
___LGMGNRDFIEGASG_____	X53668	JEV-E-BN19	4	14aaA5	mRNA_30cpc_Ctx	3
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___LGMGNRDFIEGASG_____	X53668	JEV-E-SA14-5-3	4	14aaA5	mRNA_30cpc_Ctx	3
___LGMGNRDFIEGASG_____	X53668	JEV-E-ThCMAr4492	4	14aaA5	mRNA_30cpc_Ctx	3
___LGMGNRDFIEGASG_____	X53668	JEV-E-BN19	4	14aaA5	mRNA_3cpc_Th	1
___LGMGNRDFIEGASG_____	X53668	JEV-E-KE-093	4	14aaA5	mRNA_3cpc_Th	1
___LGMGNRDFIEGASG_____	X53668	JEV-E-SA14-5-3	4	14aaA5	mRNA_3cpc_Th	1
___LGMGNRDFIEGASG_____	X53668	JEV-E-ThCMAr4492	4	14aaA5	mRNA_3cpc_Th	1
_____NRDFLEGVSGATWV__	X1492	WNV-E-AZ10-918	8	14aa	mRNA_3000cpc_Organoid_MD101	1
_____NRDFLEGVSGATWV__	X1492	WNV-E-ArD76104	8	14aa	mRNA_3000cpc_Organoid_MD101	1
_____NRDFLEGVSGATWV__	X1492	WNV-E-H-442	8	14aa	mRNA_3000cpc_Organoid_MD101	1
_____NRDFVTGTQGTTTRV__	X1493	TBEV-E-4387-B7	8	14aa	mRNA_30cpc_Th	1
_____NRDFVTGTQGTTTRV__	X1493	TBEV-E-80	8	14aa	mRNA_30cpc_Th	1

alignment	LUThrs	GeneName	start	structure	Group	Score
-----RDFLEGVSGATWVD_	X26816	WNV-E-AZ10-918	9	14aa	mRNA_30cpc_Ctx	1
-----RDFLEGVSGATWVD_	X26816	WNV-E-ArD76104	9	14aa	mRNA_30cpc_Ctx	1
-----RDFLEGVSGATWVD_	X26816	WNV-E-H-442	9	14aa	mRNA_30cpc_Ctx	1
RVEEQAARRDFLTA-----	X27794	HSV-1-pUL14	80	14aa	mRNA_30cpc_SN	1
RVEEQAARRDFLTA-----	X27794	HSV-1-pUL14	80	14aa	mRNA_30cpc_Th	1
SRCTHLENRDFVTGTQGTTTRVT_	X11994	TBEV-E-4387-B7	1	22aa	mRNA_30cpc_SN	1
SRCTHLENRDFVTGTQGTTTRVT_	X11994	TBEV-E-80	1	22aa	mRNA_30cpc_SN	1
SRCTHLENRDFVTGTQGTTTRVT_	X11994	TBEV-E-4387-B7	1	22aa	mRNA_30cpc_Th	1
SRCTHLENRDFVTGTQGTTTRVT_	X11994	TBEV-E-80	1	22aa	mRNA_30cpc_Th	1

Peptide HGLEELASDDSGGP from HSV-1-pUL36 with cluster number 6486

Peptide HGLEELASDDSGGP from HSV-1-pUL36 with cluster number 64



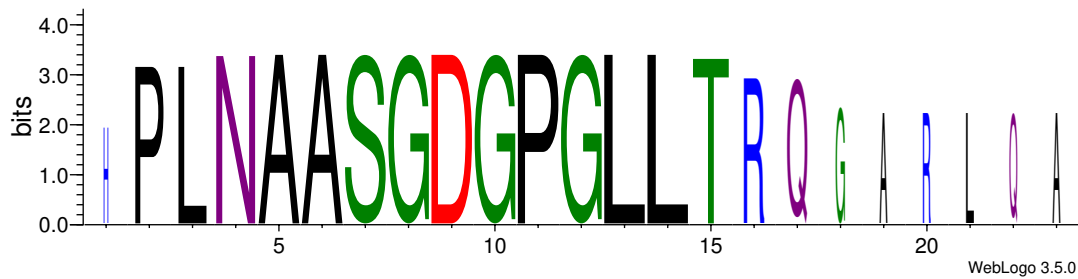
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6486	HGLEELASDDSGGP	27	6	7	6	3	1	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
6486	SDDSGGPAPLLAPD	_____SDDSGGPAPLLAPD	7	2	2	2
6486	HGLEELASDDSGGP	HGLEELASDDSGGP_____	7	1	2	2
6486	LASDDSGGPAPLLA	_____LASDDSGGPAPLLA__	5	0	2	0
6486	GEAYLRVSGGPGPL	___GEAYLRVSGGPGPL_____	3	1	0	1
6486	EAYLRVSGGPGPLV	____EAYLRVSGGPGPLV____	3	1	1	1
6486	RGEAYLRVSGGPGP	__RGEAYLRVSGGPGP_____	1	1	0	0
6486	ASDDSGGPAPLLAP	_____ASDDSGGPAPLLAP_	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_____ASDDSGGPAPLLAP_	X40784	HSV-1-pUL36	2553	14aa	mRNA_3000cpc_Organoid_MD101	1
____EAYLRVSGGPGPLV____	X38972	HSV-1-pUL36	1927	14aa	mRNA_30cpc_SN	1
____EAYLRVSGGPGPLV____	X38972	HSV-1-pUL36	1927	14aa	mRNA_30cpc_Th	1
____EAYLRVSGGPGPLV____	X38972	HSV-1-pUL36	1927	14aa	mRNA_30cpc_Ctx	1
___GEAYLRVSGGPGPL_____	X63906	HSV-1-pUL36	1926	14aa	mRNA_30cpc_SN	1
___GEAYLRVSGGPGPL_____	X63906	HSV-1-pUL36	1926	14aa	mRNA_30cpc_Ctx	1
___GEAYLRVSGGPGPL_____	X63906	HSV-1-pUL36	1926	14aa	mRNA_3000cpc_Organoid_MD101	1
HGLEELASDDSGGP_____	X18139	HSV-1-pUL36	2547	14aa	mRNA_30cpc_SN	2
HGLEELASDDSGGP_____	X18139	HSV-1-pUL36	2547	14aa	mRNA_30cpc_Th	2
HGLEELASDDSGGP_____	X18139	HSV-1-pUL36	2547	14aa	mRNA_30cpc_Ctx	1
HGLEELASDDSGGP_____	X18139	HSV-1-pUL36	2547	14aa	mRNA_3cpc_Th	1
HGLEELASDDSGGP_____	X18139	HSV-1-pUL36	2547	14aa	mRNA_3000cpc_Organoid_MD101	1
_____LASDDSGGPAPLLA__	X31841	HSV-1-pUL36	2552	14aa	mRNA_30cpc_Th	2
_____LASDDSGGPAPLLA__	X31841	HSV-1-pUL36	2552	14aa	mRNA_3cpc_Th	1
_____LASDDSGGPAPLLA__	X31841	HSV-1-pUL36	2552	14aa	mRNA_30cpc_Organoid_MD114	1
_____LASDDSGGPAPLLA__	X31841	HSV-1-pUL36	2552	14aa	mRNA_3000cpc_Organoid_MD101	1
__RGEAYLRVSGGPGP_____	X27524	HSV-1-pUL36	1925	14aa	mRNA_30cpc_Ctx	1
_____SDDSGGPAPLLAPD	X12504	HSV-1-pUL36	2554	14aa	mRNA_30cpc_SN	2
_____SDDSGGPAPLLAPD	X12504	HSV-1-pUL36	2554	14aa	mRNA_30cpc_Th	2
_____SDDSGGPAPLLAPD	X12504	HSV-1-pUL36	2554	14aa	mRNA_30cpc_Ctx	2
_____SDDSGGPAPLLAPD	X12504	HSV-1-pUL36	2554	14aa	mRNA_3cpc_Th	1

Peptide PLNAASGDGPGLLT from HSV-1-pUL36 with cluster number 9360

Peptide PLNAASGDGPGLLT from HSV-1-pUL36 with cluster number 9360



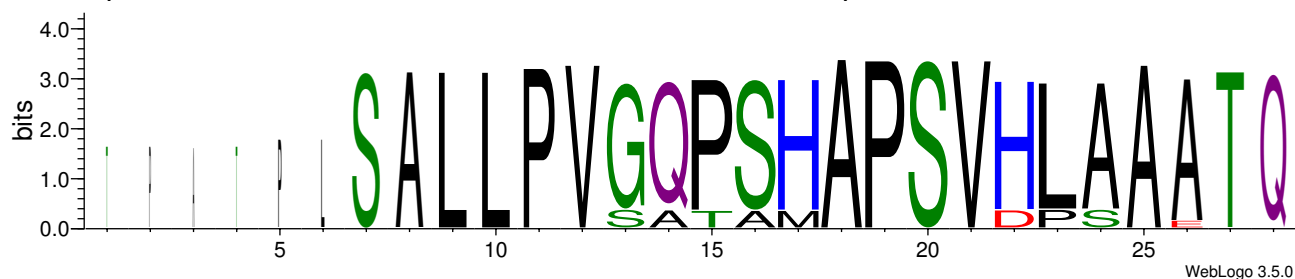
cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
9360	PLNAASGDGPGLLT	26	8	4	4	8	0	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
9360	PLNAASGDGPGLLT	_PLNAASGDGPGLLT_	10	2	2	1
9360	NAASGDGPGLLTRQ	__NAASGDGPGLLTRQ__	7	3	1	1
9360	PLNAASGDGPGLLTRQGARLQA	_PLNAASGDGPGLLTRQGARLQA	5	1	1	1
9360	HPLNAASGDGPGLL	HPLNAASGDGPGLL_	3	2	0	0
9360	AASGDGPGLLTRQG	____AASGDGPGLLTRQG____	1	0	0	1

alignment	LUTnrs	GeneName	start	structure	Group	Score
____AASGDGPGLLTRQG____	X43464	HSV-1-pUL36	1696	14aa	mRNA_30cpc_SN	1
HPLNAASGDGPGLL_	X17539	HSV-1-pUL36	1692	14aa	mRNA_30cpc_Ctx	2
HPLNAASGDGPGLL_	X17539	HSV-1-pUL36	1692	14aa	mRNA_3cpc_Th	1
__NAASGDGPGLLTRQ__	X2210	HSV-1-pUL36	1695	14aa	mRNA_30cpc_SN	1
__NAASGDGPGLLTRQ__	X2210	HSV-1-pUL36	1695	14aa	mRNA_30cpc_Th	1
__NAASGDGPGLLTRQ__	X2210	HSV-1-pUL36	1695	14aa	mRNA_30cpc_Ctx	3
__NAASGDGPGLLTRQ__	X2210	HSV-1-pUL36	1695	14aa	mRNA_3cpc_Th	1
__NAASGDGPGLLTRQ__	X2210	HSV-1-pUL36	1695	14aa	mRNA_30cpc_Th_4wks	1
PLNAASGDGPGLLT	X51083	HSV-1-pUL36	1693	14aaA5	mRNA_30cpc_SN	1
PLNAASGDGPGLLT	X51083	HSV-1-pUL36	1693	14aaA5	mRNA_30cpc_Th	2
PLNAASGDGPGLLT	X51083	HSV-1-pUL36	1693	14aaA5	mRNA_30cpc_Ctx	2
PLNAASGDGPGLLT	X22543	HSV-1-pUL36	1693	14aa	mRNA_3cpc_Th	4
PLNAASGDGPGLLT	X51083	HSV-1-pUL36	1693	14aaA5	mRNA_3000cpc_Organoid_MD101	1
_PLNAASGDGPGLLTRQGARLQA	X22542	HSV-1-pUL36	1693	22aa	mRNA_30cpc_SN	1
_PLNAASGDGPGLLTRQGARLQA	X22542	HSV-1-pUL36	1693	22aa	mRNA_30cpc_Th	1
_PLNAASGDGPGLLTRQGARLQA	X22542	HSV-1-pUL36	1693	22aa	mRNA_30cpc_Ctx	1
_PLNAASGDGPGLLTRQGARLQA	X22542	HSV-1-pUL36	1693	22aa	mRNA_3cpc_Th	2

Peptide SALLPVGQPSHAPSVHLAAATQ from HSV-1-pUL37 with cluster number 9203

Peptide SALLPVGQPSHAPSVHLAAATQ from HSV-1-pUL37 with cluster number 9203



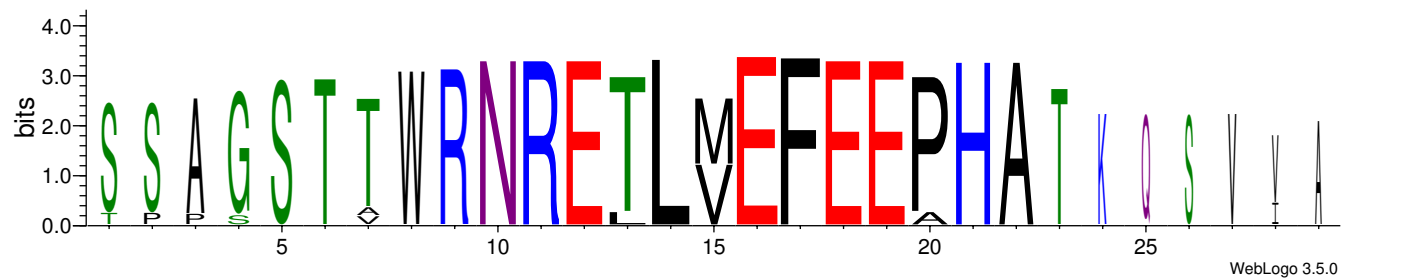
cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
9203	SALLPVGQPSHAPSVHLAAATQ	25	5	3	2	4	3	3

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
9203	SALLPVGQPSHAPSVHLAAATQ	-----SALLPVGQPSHAPSVHLAAATQ	15	2	2	2
9203	VSATAMAPSVDPSEA	-----VSATAMAPSVDPSEA__	2	1	1	0
9203	PVGQPSHAPSVHLA	-----PVGQPSHAPSVHLA__	2	0	0	0
9203	TPATPLSALLPVGQPSHAPSVH	TPATPLSALLPVGQPSHAPSVH_____	1	1	0	0
9203	SATAMAPSVDPSEAE	-----SATAMAPSVDPSEAE__	1	1	0	0
9203	QPSHAPSVHLAAAT	-----QPSHAPSVHLAAAT_	1	0	0	0
9203	PSHAPSVHLAAATQ	-----PSHAPSVHLAAATQ	1	0	0	0
9203	PLSALLPVGQPSHA	-----PLSALLPVGQPSHA_____	1	0	0	0
9203	GQPSHAPSVHLAAA	-----GQPSHAPSVHLAAA__	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
-----GQPSHAPSVHLAAA__	X88609	HSV-1-pUL37	586	14aaG4S	mRNA_30cpc_SN_4wks	1
----PLSALLPVGQPSHA_____	X22598	HSV-1-pUL37	578	14aa	mRNA_30cpc_Organoid_MD114	1
-----PSHAPSVHLAAATQ	X21171	HSV-1-pUL37	588	14aa	mRNA_30cpc_Organoid_MD114	1
-----PVGQPSHAPSVHLA__	X24308	HSV-1-pUL37	584	14aa	mRNA_30cpc_Organoid_MD114	1
-----PVGQPSHAPSVHLA__	X24308	HSV-1-pUL37	584	14aa	mRNA_3000cpc_Organoid_MD101	1
-----QPSHAPSVHLAAAT_	X19194	HSV-1-pUL37	587	14aa	mRNA_3cpc_Th_4wks	1
-----SALLPVGQPSHAPSVHLAAATQ	X12949	HSV-1-pUL37	580	22aa	mRNA_30cpc_SN	2
-----SALLPVGQPSHAPSVHLAAATQ	X12949	HSV-1-pUL37	580	22aa	mRNA_30cpc_Th	2
-----SALLPVGQPSHAPSVHLAAATQ	X12949	HSV-1-pUL37	580	22aa	mRNA_30cpc_Ctx	2
-----SALLPVGQPSHAPSVHLAAATQ	X12949	HSV-1-pUL37	580	22aa	mRNA_3cpc_SN	2
-----SALLPVGQPSHAPSVHLAAATQ	X12949	HSV-1-pUL37	580	22aa	mRNA_3cpc_Th	4
-----SALLPVGQPSHAPSVHLAAATQ	X12949	HSV-1-pUL37	580	22aa	mRNA_3cpc_Ctx	3
-----SATAMAPSVDPSEAE__	X48604	HSV-2-pUS4	367	14aaA5	mRNA_30cpc_Ctx	1
TPATPLSALLPVGQPSHAPSVH_____	X7369	HSV-1-pUL37	574	22aa	mRNA_30cpc_Ctx	1
-----VSATAMAPSVDPSEA__	X66460	HSV-2-pUS4	366	14aa	mRNA_30cpc_Th	1
-----VSATAMAPSVDPSEA__	X66460	HSV-2-pUS4	366	14aa	mRNA_30cpc_Ctx	1

Peptide SSAGSTTWRNRETLMEFEEPHA from WNV-E-AZ10-918 with cluster number 8393

Peptide SSAGSTTWRNRETLMEFEEPHA from WNV-E-AZ10-918 with cluster number 8393



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
8393	SSAGSTTWRNRETLMEFEEPHA	25	8	7	4	4	1	0

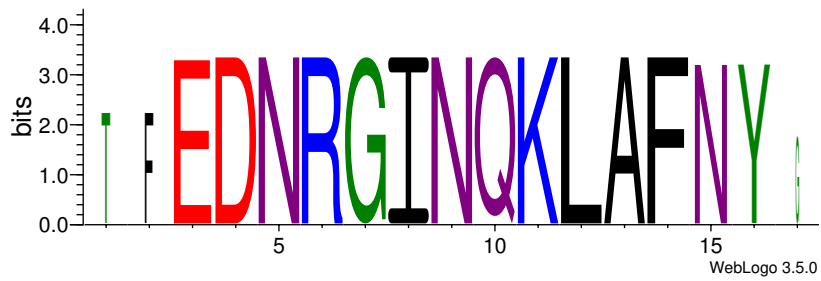
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8393	SSAGSTTWRNRETLMEFEEPHA	SSAGSTTWRNRETLMEFEEPHA_____	9	3	3	2
8393	NRETLVEFEEPHAT	____NRETLVEFEEPHAT_____	5	2	1	1
8393	WRNRETLVEFEEPHATKQSVVA	____WRNRETLVEFEEPHATKQSVVA	2	1	1	0
8393	GSTTWRNRETLVEF	___GSTTWRNRETLVEF_____	2	1	1	0
8393	VWRNRETLMEFEET	____VWRNRETLMEFEET_____	1	0	1	0
8393	TPPSSTAWRNRELLMEFEEAHA	TPPSSTAWRNRELLMEFEEAHA_____	1	0	0	0
8393	RNRELLMEFEEAHA	____RNRELLMEFEEAHA_____	1	0	0	0
8393	LVEFEEPHATKQSV	____LVEFEEPHATKQSV_____	1	0	0	0
8393	EFEPPHATKQSVVA	____EFEPPHATKQSVVA_____	1	1	0	0
8393	EFEPPHATKQSVIA	____EFEPPHATKQSVIA_____	1	0	0	1
8393	AGSTTWRNRETLVE	__AGSTTWRNRETLVE_____	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
__AGSTTWRNRETLVE_____	X43988	WNV-E-AZ10-918	228	14aa	mRNA_3cpc_Th	1
__AGSTTWRNRETLVE_____	X43988	WNV-E-ArD76104	224	14aa	mRNA_3cpc_Th	1
__AGSTTWRNRETLVE_____	X43988	WNV-E-H-442	228	14aa	mRNA_3cpc_Th	1
_____EFEEPHATKQSVIA	X39715	JEV-E-BN19	241	14aa	mRNA_30cpc_SN	1
_____EFEEPHATKQSVIA	X39715	JEV-E-KE-093	241	14aa	mRNA_30cpc_SN	1
_____EFEEPHATKQSVIA	X39715	JEV-E-SA14-5-3	241	14aa	mRNA_30cpc_SN	1
_____EFEEPHATKQSVIA	X39715	JEV-E-ThCMAr4492	241	14aa	mRNA_30cpc_SN	1
_____EFEEPHATKQSVIA	X39715	WNV-E-AZ10-918	241	14aa	mRNA_30cpc_SN	1
_____EFEEPHATKQSVIA	X39715	WNV-E-ArD76104	237	14aa	mRNA_30cpc_SN	1
_____EFEEPHATKQSVIA	X39715	WNV-E-H-442	241	14aa	mRNA_30cpc_SN	1
_____EFEEPHATKQSVVA	X39717	JEV-E-BN19	241	14aa	mRNA_30cpc_Ctx	1
_____EFEEPHATKQSVVA	X39717	JEV-E-KE-093	241	14aa	mRNA_30cpc_Ctx	1
_____EFEEPHATKQSVVA	X39717	JEV-E-SA14-5-3	241	14aa	mRNA_30cpc_Ctx	1
_____EFEEPHATKQSVVA	X39717	JEV-E-ThCMAr4492	241	14aa	mRNA_30cpc_Ctx	1
_____EFEEPHATKQSVVA	X39717	WNV-E-AZ10-918	241	14aa	mRNA_30cpc_Ctx	1
_____EFEEPHATKQSVVA	X39717	WNV-E-ArD76104	237	14aa	mRNA_30cpc_Ctx	1
_____EFEEPHATKQSVVA	X39717	WNV-E-H-442	241	14aa	mRNA_30cpc_Ctx	1
___GSTTWRNRETLVEF_____	X61736	WNV-E-AZ10-918	229	14aa	mRNA_30cpc_Th	1
___GSTTWRNRETLVEF_____	X61736	WNV-E-ArD76104	225	14aa	mRNA_30cpc_Th	1
___GSTTWRNRETLVEF_____	X61736	WNV-E-H-442	229	14aa	mRNA_30cpc_Th	1
___GSTTWRNRETLVEF_____	X61736	WNV-E-AZ10-918	229	14aa	mRNA_30cpc_Ctx	1
___GSTTWRNRETLVEF_____	X61736	WNV-E-ArD76104	225	14aa	mRNA_30cpc_Ctx	1
___GSTTWRNRETLVEF_____	X61736	WNV-E-H-442	229	14aa	mRNA_30cpc_Ctx	1
_____LVEFEEPHATKQSV__	X32995	JEV-E-BN19	239	14aa	mRNA_3000cpc_Organoid_MD101	1
_____LVEFEEPHATKQSV__	X32995	JEV-E-KE-093	239	14aa	mRNA_3000cpc_Organoid_MD101	1
_____LVEFEEPHATKQSV__	X32995	JEV-E-SA14-5-3	239	14aa	mRNA_3000cpc_Organoid_MD101	1
_____LVEFEEPHATKQSV__	X32995	JEV-E-ThCMAr4492	239	14aa	mRNA_3000cpc_Organoid_MD101	1
_____LVEFEEPHATKQSV__	X32995	WNV-E-AZ10-918	239	14aa	mRNA_3000cpc_Organoid_MD101	1
_____LVEFEEPHATKQSV__	X32995	WNV-E-ArD76104	235	14aa	mRNA_3000cpc_Organoid_MD101	1
_____LVEFEEPHATKQSV__	X32995	WNV-E-H-442	239	14aa	mRNA_3000cpc_Organoid_MD101	1
_____NRETLVEFEEPHAT_____	X1499	WNV-E-AZ10-918	235	14aa	mRNA_30cpc_SN	1
_____NRETLVEFEEPHAT_____	X1499	WNV-E-ArD76104	231	14aa	mRNA_30cpc_SN	1
_____NRETLVEFEEPHAT_____	X1499	WNV-E-H-442	235	14aa	mRNA_30cpc_SN	1
_____NRETLVEFEEPHAT_____	X1499	WNV-E-AZ10-918	235	14aa	mRNA_30cpc_Th	1
_____NRETLVEFEEPHAT_____	X1499	WNV-E-ArD76104	231	14aa	mRNA_30cpc_Th	1
_____NRETLVEFEEPHAT_____	X1499	WNV-E-H-442	235	14aa	mRNA_30cpc_Th	1
_____NRETLVEFEEPHAT_____	X1499	WNV-E-AZ10-918	235	14aa	mRNA_30cpc_Ctx	2
_____NRETLVEFEEPHAT_____	X1499	WNV-E-ArD76104	231	14aa	mRNA_30cpc_Ctx	2
_____NRETLVEFEEPHAT_____	X1499	WNV-E-H-442	235	14aa	mRNA_30cpc_Ctx	2
_____NRETLVEFEEPHAT_____	X1499	WNV-E-AZ10-918	235	14aa	mRNA_3cpc_Th	1
_____NRETLVEFEEPHAT_____	X1499	WNV-E-ArD76104	231	14aa	mRNA_3cpc_Th	1
_____NRETLVEFEEPHAT_____	X1499	WNV-E-H-442	235	14aa	mRNA_3cpc_Th	1
_____RNRELLMEFEEAHA_____	X24772	JEV-E-BN19	234	14aa	mRNA_30cpc_Organoid_MD114	1
_____RNRELLMEFEEAHA_____	X24772	JEV-E-KE-093	234	14aa	mRNA_30cpc_Organoid_MD114	1
_____RNRELLMEFEEAHA_____	X24772	JEV-E-SA14-5-3	234	14aa	mRNA_30cpc_Organoid_MD114	1
_____RNRELLMEFEEAHA_____	X24772	JEV-E-ThCMAr4492	234	14aa	mRNA_30cpc_Organoid_MD114	1
SSAGSTTWRNRETLMEFEEPHA_____	X10815	WNV-E-AZ10-918	226	22aa	mRNA_30cpc_SN	2

alignment	LUThrs	GeneName	start	structure	Group	Score
SSAGSTTWRNRETLMEFEEPHA_-----	X10815	WNV-E-ArD76104	222	22aa	mRNA_30cpc_SN	2
SSAGSTTWRNRETLMEFEEPHA_-----	X10815	WNV-E-H-442	226	22aa	mRNA_30cpc_SN	2
SSAGSTTWRNRETLMEFEEPHA_-----	X10815	WNV-E-AZ10-918	226	22aa	mRNA_30cpc_Th	3
SSAGSTTWRNRETLMEFEEPHA_-----	X10815	WNV-E-ArD76104	222	22aa	mRNA_30cpc_Th	3
SSAGSTTWRNRETLMEFEEPHA_-----	X10815	WNV-E-H-442	226	22aa	mRNA_30cpc_Th	3
SSAGSTTWRNRETLMEFEEPHA_-----	X10815	WNV-E-AZ10-918	226	22aa	mRNA_30cpc_Ctx	3
SSAGSTTWRNRETLMEFEEPHA_-----	X10815	WNV-E-ArD76104	222	22aa	mRNA_30cpc_Ctx	3
SSAGSTTWRNRETLMEFEEPHA_-----	X10815	WNV-E-H-442	226	22aa	mRNA_30cpc_Ctx	3
SSAGSTTWRNRETLMEFEEPHA_-----	X10815	WNV-E-AZ10-918	226	22aa	mRNA_3cpc_Th	1
SSAGSTTWRNRETLMEFEEPHA_-----	X10815	WNV-E-ArD76104	222	22aa	mRNA_3cpc_Th	1
SSAGSTTWRNRETLMEFEEPHA_-----	X10815	WNV-E-H-442	226	22aa	mRNA_3cpc_Th	1
TPPSSTAWRNRELLMEFEEAHA_-----	X7244	JEV-E-BN19	226	22aa	mRNA_3cpc_Th	1
TPPSSTAWRNRELLMEFEEAHA_-----	X7244	JEV-E-KE-093	226	22aa	mRNA_3cpc_Th	1
TPPSSTAWRNRELLMEFEEAHA_-----	X7244	JEV-E-SA14-5-3	226	22aa	mRNA_3cpc_Th	1
TPPSSTAWRNRELLMEFEEAHA_-----	X7244	JEV-E-ThCMAR4492	226	22aa	mRNA_3cpc_Th	1
-----VWRNRETLMEFEEEP_-----	X59279	WNV-E-AZ10-918	232	14aaA5	mRNA_30cpc_Th	1
-----VWRNRETLMEFEEEP_-----	X59279	WNV-E-ArD76104	228	14aaA5	mRNA_30cpc_Th	1
-----VWRNRETLMEFEEEP_-----	X59279	WNV-E-H-442	232	14aaA5	mRNA_30cpc_Th	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	JEV-E-BN19	233	22aa	mRNA_30cpc_Th	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	JEV-E-KE-093	233	22aa	mRNA_30cpc_Th	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	JEV-E-SA14-5-3	233	22aa	mRNA_30cpc_Th	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	JEV-E-ThCMAR4492	233	22aa	mRNA_30cpc_Th	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	WNV-E-AZ10-918	233	22aa	mRNA_30cpc_Th	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	WNV-E-ArD76104	229	22aa	mRNA_30cpc_Th	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	WNV-E-H-442	233	22aa	mRNA_30cpc_Th	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	JEV-E-BN19	233	22aa	mRNA_30cpc_Ctx	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	JEV-E-KE-093	233	22aa	mRNA_30cpc_Ctx	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	JEV-E-SA14-5-3	233	22aa	mRNA_30cpc_Ctx	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	JEV-E-ThCMAR4492	233	22aa	mRNA_30cpc_Ctx	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	WNV-E-AZ10-918	233	22aa	mRNA_30cpc_Ctx	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	WNV-E-ArD76104	229	22aa	mRNA_30cpc_Ctx	1
-----WRNRETLVEFEEPHATKQSVVA	X73771	WNV-E-H-442	233	22aa	mRNA_30cpc_Ctx	1

Peptide EDNRGINQKLAFFNY from BoNT-E-Hc with cluster number 9049

ide EDNRGINQKLAFFNY from BoNT-E-Hc with cluster numb



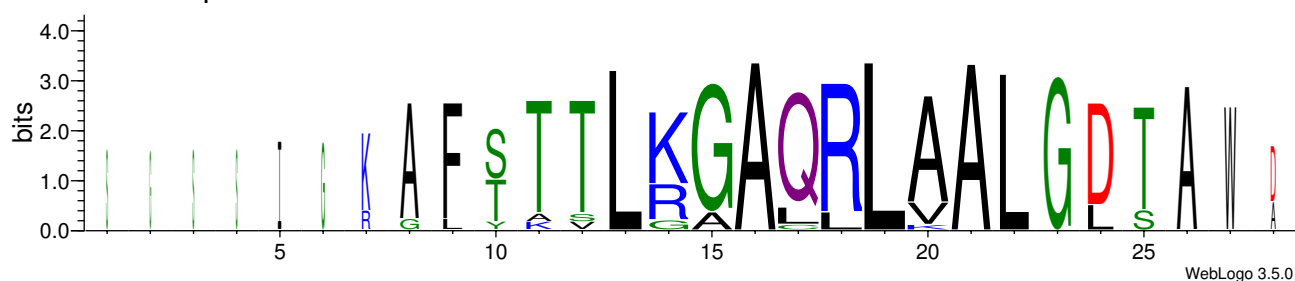
cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
9049	EDNRGINQKLAFFNY	24	3	3	3	7	0	5

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
9049	EDNRGINQKLAFFNY	__EDNRGINQKLAFFNY_	17	3	3	3
9049	TFEDNRGINQKLAF	TFEDNRGINQKLAF__	5	0	0	0
9049	DNRGINQKLAFFNYG	__DNRGINQKLAFFNYG	2	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
__DNRGINQKLAFFNYG	X33773	BoNT-E-Hc	185	14aa	mRNA_3cpc_Th	1
__DNRGINQKLAFFNYG	X33773	BoNT-E-Hc	185	14aa	mRNA_3cpc_Ctx	1
__EDNRGINQKLAFFNY_	X38325	BoNT-E-Hc	184	14aa	mRNA_30cpc_SN	3
__EDNRGINQKLAFFNY_	X38325	BoNT-E-Hc	184	14aa	mRNA_30cpc_Th	3
__EDNRGINQKLAFFNY_	X38325	BoNT-E-Hc	184	14aa	mRNA_30cpc_Ctx	3
__EDNRGINQKLAFFNY_	X38325	BoNT-E-Hc	184	14aa	mRNA_3cpc_SN	2
__EDNRGINQKLAFFNY_	X38325	BoNT-E-Hc	184	14aa	mRNA_3cpc_Th	4
__EDNRGINQKLAFFNY_	X38325	BoNT-E-Hc	184	14aa	mRNA_3cpc_Ctx	2
TFEDNRGINQKLAF__	X9739	BoNT-E-Hc	182	14aa	mRNA_3cpc_SN	1
TFEDNRGINQKLAF__	X9739	BoNT-E-Hc	182	14aa	mRNA_3cpc_Th	2
TFEDNRGINQKLAF__	X9739	BoNT-E-Hc	182	14aa	mRNA_3cpc_Ctx	2

Peptide AFSTTLKGAQRLAA from JEV-E-BN19 with cluster number 9034

Peptide AFSTTLKGAQRLAA from JEV-E-BN19 with cluster number 9034



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
9034	AFSTTLKGAQRLAA	24	5	5	5	2	4	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
9034	AFSTTLKGAQRLAA	-----AFSTTLKGAQRLAA-----	6	1	1	2
9034	RGAQRLAALGDTAW	-----RGAQRLAALGDTAW_	3	2	1	0
9034	TTLKGAQRLVALGD	-----TTLKGAQRLVALGD_	2	1	1	0
9034	LKGAQRLVALGDTA	-----LKGAQRLVALGDTA__	2	0	1	1
9034	KAFTTTLKGAQRLAALGDTAWD	-----KAFTTTLKGAQRLAALGDTAWD	2	1	1	0
9034	TTTLRGAQRLAALG	-----TTTLRGAQRLAALG_	1	0	0	0
9034	SGSSIGKAFTTTLRGAQRLAAL	SGSSIGKAFTTTLRGAQRLAAL_	1	0	0	0
9034	RGLYKSLKGACRLK	-----RGLYKSLKGACRLK_	1	0	0	1
9034	LRGAQRLAALGDTA	-----LRGAQRLAALGDTA__	1	0	0	0
9034	LKGAQRLAALGDTA	-----LKGAQRLAALGDTA__	1	0	0	1
9034	IGKAFTTTLRGAQRLAALGDTA	___IGKAFTTTLRGAQRLAALGDTA__	1	0	0	0
9034	GAALLAALGLSAW	-----GAALLAALGLSAW_	1	0	0	0
9034	AVLGAALLAALGL	-----AVLGAALLAALGL_	1	0	0	0
9034	AALLAALGLSAWA	-----AALLAALGLSAWA_	1	0	0	0

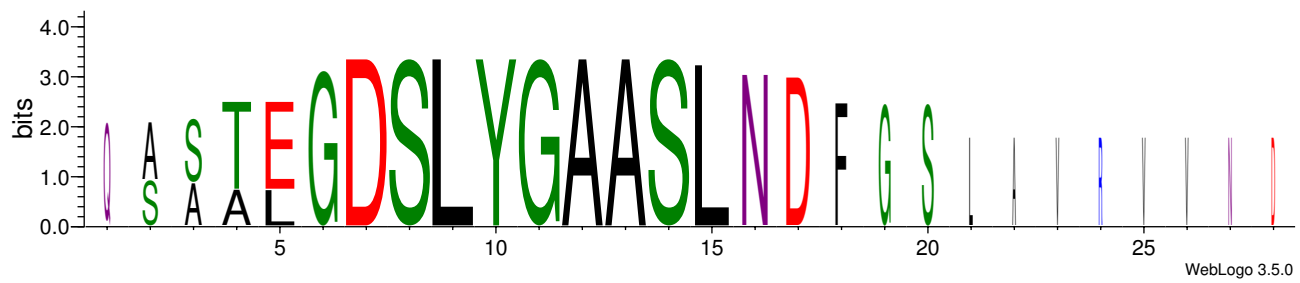
alignment	LUThrs	GeneName	start	structure	Group	Score
-----AALLLAALGLSAWA	X87849	HSV-2-pUS8	421	14aaG4S	mRNA_30cpc_SN_4wks	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-BN19	406	14aaA5	mRNA_30cpc_SN	2
-----AFSTTLKGAQRLAA	X56956	JEV-E-KE-093	406	14aaA5	mRNA_30cpc_SN	2
-----AFSTTLKGAQRLAA	X56956	JEV-E-SA14-5-3	406	14aaA5	mRNA_30cpc_SN	2
-----AFSTTLKGAQRLAA	X56956	JEV-E-ThCMAr4492	406	14aaA5	mRNA_30cpc_SN	2
-----AFSTTLKGAQRLAA	X56956	WNV-E-AZ10-918	407	14aaA5	mRNA_30cpc_SN	2
-----AFSTTLKGAQRLAA	X56956	WNV-E-ArD76104	403	14aaA5	mRNA_30cpc_SN	2
-----AFSTTLKGAQRLAA	X56956	WNV-E-H-442	407	14aaA5	mRNA_30cpc_SN	2
-----AFSTTLKGAQRLAA	X56956	JEV-E-BN19	406	14aaA5	mRNA_30cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-KE-093	406	14aaA5	mRNA_30cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-SA14-5-3	406	14aaA5	mRNA_30cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-ThCMAr4492	406	14aaA5	mRNA_30cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-AZ10-918	407	14aaA5	mRNA_30cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-ArD76104	403	14aaA5	mRNA_30cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-H-442	407	14aaA5	mRNA_30cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-BN19	406	14aaA5	mRNA_30cpc_Ctx	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-KE-093	406	14aaA5	mRNA_30cpc_Ctx	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-SA14-5-3	406	14aaA5	mRNA_30cpc_Ctx	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-ThCMAr4492	406	14aaA5	mRNA_30cpc_Ctx	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-AZ10-918	407	14aaA5	mRNA_30cpc_Ctx	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-ArD76104	403	14aaA5	mRNA_30cpc_Ctx	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-H-442	407	14aaA5	mRNA_30cpc_Ctx	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-BN19	406	14aaA5	mRNA_3cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-KE-093	406	14aaA5	mRNA_3cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-SA14-5-3	406	14aaA5	mRNA_3cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-ThCMAr4492	406	14aaA5	mRNA_3cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-AZ10-918	407	14aaA5	mRNA_3cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-ArD76104	403	14aaA5	mRNA_3cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-H-442	407	14aaA5	mRNA_3cpc_Th	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-BN19	406	14aaA5	mRNA_30cpc_Organoid_MD114	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-KE-093	406	14aaA5	mRNA_30cpc_Organoid_MD114	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-SA14-5-3	406	14aaA5	mRNA_30cpc_Organoid_MD114	1
-----AFSTTLKGAQRLAA	X56956	JEV-E-ThCMAr4492	406	14aaA5	mRNA_30cpc_Organoid_MD114	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-AZ10-918	407	14aaA5	mRNA_30cpc_Organoid_MD114	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-ArD76104	403	14aaA5	mRNA_30cpc_Organoid_MD114	1
-----AFSTTLKGAQRLAA	X56956	WNV-E-H-442	407	14aaA5	mRNA_30cpc_Organoid_MD114	1
-----AVLGAALLLAALGL	X44544	HSV-2-pUS8	417	14aa	mRNA_30cpc_Organoid_MD114	1
-----GAALLLAALGLSAW	X64255	HSV-2-pUS8	420	14aa	mRNA_30cpc_Organoid_MD114	1
-----IGKAFTTTLRGAQRLAALGDTA	X16394	JEV-E-KE-093	403	22aa	mRNA_30cpc_SN_4wks	1
-----IGKAFTTTLRGAQRLAALGDTA	X16394	JEV-E-SA14-5-3	403	22aa	mRNA_30cpc_SN_4wks	1
-----IGKAFTTTLRGAQRLAALGDTA	X16394	JEV-E-ThCMAr4492	403	22aa	mRNA_30cpc_SN_4wks	1
-----IGKAFTTTLRGAQRLAALGDTA	X16394	WNV-E-AZ10-918	404	22aa	mRNA_30cpc_SN_4wks	1
-----IGKAFTTTLRGAQRLAALGDTA	X16394	WNV-E-ArD76104	400	22aa	mRNA_30cpc_SN_4wks	1
-----IGKAFTTTLRGAQRLAALGDTA	X16394	WNV-E-H-442	404	22aa	mRNA_30cpc_SN_4wks	1
-----KAFTTTLKGAQRLAALGDTAWD	X4852	JEV-E-BN19	405	22aa	mRNA_30cpc_Th	1
-----KAFTTTLKGAQRLAALGDTAWD	X4852	JEV-E-KE-093	405	22aa	mRNA_30cpc_Th	1
-----KAFTTTLKGAQRLAALGDTAWD	X4852	JEV-E-SA14-5-3	405	22aa	mRNA_30cpc_Th	1

alignment	LUThrs	GeneName	start	structure	Group	Score
_____KAFTTTTLKGAQRLAALGDTAWD	X4852	JEV-E-ThCMAr4492	405	22aa	mRNA_30cpc_Th	1
_____KAFTTTTLKGAQRLAALGDTAWD	X4852	WNV-E-AZ10-918	406	22aa	mRNA_30cpc_Th	1
_____KAFTTTTLKGAQRLAALGDTAWD	X4852	WNV-E-ArD76104	402	22aa	mRNA_30cpc_Th	1
_____KAFTTTTLKGAQRLAALGDTAWD	X4852	WNV-E-H-442	406	22aa	mRNA_30cpc_Th	1
_____KAFTTTTLKGAQRLAALGDTAWD	X4852	JEV-E-BN19	405	22aa	mRNA_30cpc_Ctx	1
_____KAFTTTTLKGAQRLAALGDTAWD	X4852	JEV-E-KE-093	405	22aa	mRNA_30cpc_Ctx	1
_____KAFTTTTLKGAQRLAALGDTAWD	X4852	JEV-E-SA14-5-3	405	22aa	mRNA_30cpc_Ctx	1
_____KAFTTTTLKGAQRLAALGDTAWD	X4852	JEV-E-ThCMAr4492	405	22aa	mRNA_30cpc_Ctx	1
_____KAFTTTTLKGAQRLAALGDTAWD	X4852	WNV-E-AZ10-918	406	22aa	mRNA_30cpc_Ctx	1
_____KAFTTTTLKGAQRLAALGDTAWD	X4852	WNV-E-ArD76104	402	22aa	mRNA_30cpc_Ctx	1
_____KAFTTTTLKGAQRLAALGDTAWD	X4852	WNV-E-H-442	406	22aa	mRNA_30cpc_Ctx	1
_____LKGQRLAALGDTA__	X52696	JEV-E-BN19	411	14aaA5	mRNA_30cpc_SN	1
_____LKGQRLAALGDTA__	X52696	JEV-E-KE-093	411	14aaA5	mRNA_30cpc_SN	1
_____LKGQRLAALGDTA__	X52696	JEV-E-SA14-5-3	411	14aaA5	mRNA_30cpc_SN	1
_____LKGQRLAALGDTA__	X52696	JEV-E-ThCMAr4492	411	14aaA5	mRNA_30cpc_SN	1
_____LKGQRLAALGDTA__	X52696	WNV-E-AZ10-918	412	14aaA5	mRNA_30cpc_SN	1
_____LKGQRLAALGDTA__	X52696	WNV-E-ArD76104	408	14aaA5	mRNA_30cpc_SN	1
_____LKGQRLAALGDTA__	X52696	WNV-E-H-442	412	14aaA5	mRNA_30cpc_SN	1
_____LKGQRLVALGDTA__	X28723	JEV-E-BN19	411	14aa	mRNA_30cpc_SN	1
_____LKGQRLVALGDTA__	X28723	JEV-E-KE-093	411	14aa	mRNA_30cpc_SN	1
_____LKGQRLVALGDTA__	X28723	JEV-E-SA14-5-3	411	14aa	mRNA_30cpc_SN	1
_____LKGQRLVALGDTA__	X28723	JEV-E-ThCMAr4492	411	14aa	mRNA_30cpc_SN	1
_____LKGQRLVALGDTA__	X28723	WNV-E-AZ10-918	412	14aa	mRNA_30cpc_SN	1
_____LKGQRLVALGDTA__	X28723	JEV-E-BN19	411	14aa	mRNA_30cpc_Th	1
_____LKGQRLVALGDTA__	X28723	JEV-E-KE-093	411	14aa	mRNA_30cpc_Th	1
_____LKGQRLVALGDTA__	X28723	JEV-E-SA14-5-3	411	14aa	mRNA_30cpc_Th	1
_____LKGQRLVALGDTA__	X28723	JEV-E-ThCMAr4492	411	14aa	mRNA_30cpc_Th	1
_____LKGQRLVALGDTA__	X28723	WNV-E-AZ10-918	412	14aa	mRNA_30cpc_Th	1
_____LRGAQRLAALGDTA__	X30701	JEV-E-KE-093	411	14aa	mRNA_30cpc_Th_4wks	1
_____LRGAQRLAALGDTA__	X30701	JEV-E-SA14-5-3	411	14aa	mRNA_30cpc_Th_4wks	1
_____LRGAQRLAALGDTA__	X30701	JEV-E-ThCMAr4492	411	14aa	mRNA_30cpc_Th_4wks	1
_____LRGAQRLAALGDTA__	X30701	WNV-E-AZ10-918	412	14aa	mRNA_30cpc_Th_4wks	1
_____LRGAQRLAALGDTA__	X30701	WNV-E-ArD76104	408	14aa	mRNA_30cpc_Th_4wks	1
_____LRGAQRLAALGDTA__	X30701	WNV-E-H-442	412	14aa	mRNA_30cpc_Th_4wks	1
_____RGAQRLAALGDTAW_	X52373	JEV-E-KE-093	412	14aaA5	mRNA_30cpc_Th	1
_____RGAQRLAALGDTAW_	X52373	JEV-E-SA14-5-3	412	14aaA5	mRNA_30cpc_Th	1
_____RGAQRLAALGDTAW_	X52373	JEV-E-ThCMAr4492	412	14aaA5	mRNA_30cpc_Th	1
_____RGAQRLAALGDTAW_	X52373	WNV-E-AZ10-918	413	14aaA5	mRNA_30cpc_Th	1
_____RGAQRLAALGDTAW_	X52373	WNV-E-ArD76104	409	14aaA5	mRNA_30cpc_Th	1
_____RGAQRLAALGDTAW_	X52373	WNV-E-H-442	413	14aaA5	mRNA_30cpc_Th	1
_____RGAQRLAALGDTAW_	X52373	JEV-E-KE-093	412	14aaA5	mRNA_30cpc_Ctx	2
_____RGAQRLAALGDTAW_	X52373	JEV-E-SA14-5-3	412	14aaA5	mRNA_30cpc_Ctx	2
_____RGAQRLAALGDTAW_	X52373	JEV-E-ThCMAr4492	412	14aaA5	mRNA_30cpc_Ctx	2
_____RGAQRLAALGDTAW_	X52373	WNV-E-AZ10-918	413	14aaA5	mRNA_30cpc_Ctx	2
_____RGAQRLAALGDTAW_	X52373	WNV-E-ArD76104	409	14aaA5	mRNA_30cpc_Ctx	2
_____RGAQRLAALGDTAW_	X52373	WNV-E-H-442	413	14aaA5	mRNA_30cpc_Ctx	2
_____RGLYKSLKGACRLK_____	X83658	RV-G-B19	213	14aaG4S	mRNA_30cpc_SN	1

alignment	LUThrs	GeneName	start	structure	Group	Score
_____RGLYKSLKGACRLK_____	X83658	RV-G-B2c	213	14aaG4S	mRNA_30cpc_SN	1
_____RGLYKSLKGACRLK_____	X83658	RV-G-N2c	232	14aaG4S	mRNA_30cpc_SN	1
_____RGLYKSLKGACRLK_____	X83658	RV-G-PV	213	14aaG4S	mRNA_30cpc_SN	1
SGSSIGKAFTTTLRGAQRLAAL_____	X13144	WNV-E-AZ10-918	400	22aa	mRNA_30cpc_Organoid_MD114	1
SGSSIGKAFTTTLRGAQRLAAL_____	X13144	WNV-E-ArD76104	396	22aa	mRNA_30cpc_Organoid_MD114	1
SGSSIGKAFTTTLRGAQRLAAL_____	X13144	WNV-E-H-442	400	22aa	mRNA_30cpc_Organoid_MD114	1
_____TTLKGAQRLVALGD_____	X6060	JEV-E-BN19	409	14aa	mRNA_30cpc_Th	1
_____TTLKGAQRLVALGD_____	X6060	JEV-E-KE-093	409	14aa	mRNA_30cpc_Th	1
_____TTLKGAQRLVALGD_____	X6060	JEV-E-SA14-5-3	409	14aa	mRNA_30cpc_Th	1
_____TTLKGAQRLVALGD_____	X6060	JEV-E-ThCMAr4492	409	14aa	mRNA_30cpc_Th	1
_____TTLKGAQRLVALGD_____	X6060	WNV-E-AZ10-918	410	14aa	mRNA_30cpc_Th	1
_____TTLKGAQRLVALGD_____	X6060	JEV-E-BN19	409	14aa	mRNA_30cpc_Ctx	1
_____TTLKGAQRLVALGD_____	X6060	JEV-E-KE-093	409	14aa	mRNA_30cpc_Ctx	1
_____TTLKGAQRLVALGD_____	X6060	JEV-E-SA14-5-3	409	14aa	mRNA_30cpc_Ctx	1
_____TTLKGAQRLVALGD_____	X6060	JEV-E-ThCMAr4492	409	14aa	mRNA_30cpc_Ctx	1
_____TTLKGAQRLVALGD_____	X6060	WNV-E-AZ10-918	410	14aa	mRNA_30cpc_Ctx	1
_____TTTLRGAQRLAALG_____	X5938	JEV-E-KE-093	408	14aa	mRNA_3cpc_Th	1
_____TTTLRGAQRLAALG_____	X5938	JEV-E-SA14-5-3	408	14aa	mRNA_3cpc_Th	1
_____TTTLRGAQRLAALG_____	X5938	JEV-E-ThCMAr4492	408	14aa	mRNA_3cpc_Th	1
_____TTTLRGAQRLAALG_____	X5938	WNV-E-AZ10-918	409	14aa	mRNA_3cpc_Th	1
_____TTTLRGAQRLAALG_____	X5938	WNV-E-ArD76104	405	14aa	mRNA_3cpc_Th	1
_____TTTLRGAQRLAALG_____	X5938	WNV-E-H-442	409	14aa	mRNA_3cpc_Th	1

Peptide TEGDSLYGAASLND from PV1-VP1 with cluster number 8573

Peptide TEGDSLYGAASLND from PV1-VP1 with cluster number 8573



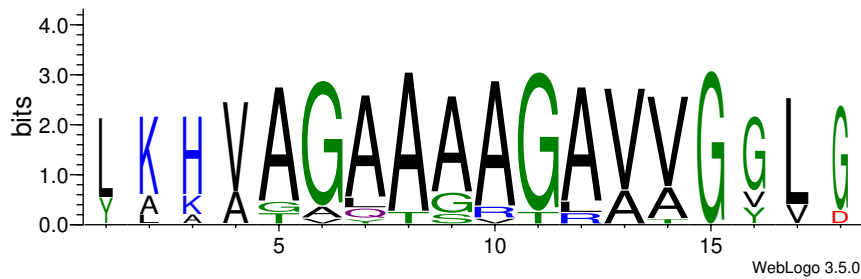
cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
8573	TEGDSLYGAASLND	24	4	8	3	4	2	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8573	TEGDSLYGAASLND	___TEGDSLYGAASLND_____	6	1	3	1
8573	DSLYGAASLNDFGS	_____DSLYGAASLNDFGS_	5	1	2	1
8573	ASTEGDSLYGAASL	_ASTEGDSLYGAASL_____	4	1	1	1
8573	QSAALGDSLYGAAS	QSAALGDSLYGAAS_____	3	1	1	0
8573	DSLYGAASLNDFGSLAVRVVND	_____DSLYGAASLNDFGSLAVRVVND	2	0	0	0
8573	STEGDSLYGAASLN	__STEGDSLYGAASLN_____	1	0	0	0
8573	SAALGDSLYGAASL	_SAALGDSLYGAASL_____	1	0	1	0
8573	QASTEGDSLYGAAS	QASTEGDSLYGAAS_____	1	0	0	0
8573	ALGDSLYGAASLND	___ALGDSLYGAASLND_____	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
___ALGDSLYGAASLND_____	X42697	PV1-VP1	223	14aa	mRNA_30cpc_Th_4wks	1
___ALGDSLYGAASLND_____	X42697	PV2-VP1	223	14aa	mRNA_30cpc_Th_4wks	1
_ASTEGDSLYGAASL_____	X40576	PV2-VP1	221	14aa	mRNA_30cpc_SN	1
_ASTEGDSLYGAASL_____	X40576	PV2-VP1	221	14aa	mRNA_30cpc_Th	1
_ASTEGDSLYGAASL_____	X40576	PV2-VP1	221	14aa	mRNA_30cpc_Ctx	1
_ASTEGDSLYGAASL_____	X40576	PV2-VP1	221	14aa	mRNA_3cpc_Th	1
_____DSLYGAASLNDFGS_____	X54181	PV1-VP1	226	14aaA5	mRNA_30cpc_SN	1
_____DSLYGAASLNDFGS_____	X54181	PV2-VP1	226	14aaA5	mRNA_30cpc_SN	1
_____DSLYGAASLNDFGS_____	X54181	PV1-VP1	226	14aaA5	mRNA_30cpc_Th	2
_____DSLYGAASLNDFGS_____	X54181	PV2-VP1	226	14aaA5	mRNA_30cpc_Th	2
_____DSLYGAASLNDFGS_____	X54181	PV1-VP1	226	14aaA5	mRNA_30cpc_Ctx	1
_____DSLYGAASLNDFGS_____	X54181	PV2-VP1	226	14aaA5	mRNA_30cpc_Ctx	1
_____DSLYGAASLNDFGS_____	X54181	PV1-VP1	226	14aaA5	mRNA_3cpc_Th	1
_____DSLYGAASLNDFGS_____	X54181	PV2-VP1	226	14aaA5	mRNA_3cpc_Th	1
_____DSLYGAASLNDFGSLAVRVVND	X34338	PV1-VP1	226	22aa	mRNA_30cpc_Th_4wks	1
_____DSLYGAASLNDFGSLAVRVVND	X34338	PV2-VP1	226	22aa	mRNA_30cpc_Th_4wks	1
_____DSLYGAASLNDFGSLAVRVVND	X34338	PV1-VP1	226	22aa	mRNA_30cpc_Ctx_4wks	1
_____DSLYGAASLNDFGSLAVRVVND	X34338	PV2-VP1	226	22aa	mRNA_30cpc_Ctx_4wks	1
QASTEGDSLYGAAS_____	X19836	PV2-VP1	220	14aa	mRNA_3cpc_Th	1
QSAALGDSLYGAAS_____	X81431	PV1-VP1	220	14aaG4S	mRNA_30cpc_Th	1
QSAALGDSLYGAAS_____	X81431	PV1-VP1	220	14aaG4S	mRNA_30cpc_Ctx	1
QSAALGDSLYGAAS_____	X18832	PV1-VP1	220	14aa	mRNA_30cpc_Organoid_MD114	1
_SAALGDSLYGAASL_____	X13020	PV1-VP1	221	14aa	mRNA_30cpc_Th	1
__STEGDSLYGAASLN_____	X10442	PV2-VP1	222	14aa	mRNA_30cpc_Organoid_MD114	1
___TEGDSLYGAASLND_____	X78705	PV1-VP1	223	14aaG4S	mRNA_30cpc_SN	1
___TEGDSLYGAASLND_____	X78705	PV2-VP1	223	14aaG4S	mRNA_30cpc_SN	1
___TEGDSLYGAASLND_____	X8350	PV1-VP1	223	14aa	mRNA_30cpc_Th	2
___TEGDSLYGAASLND_____	X78705	PV1-VP1	223	14aaG4S	mRNA_30cpc_Th	1
___TEGDSLYGAASLND_____	X8350	PV2-VP1	223	14aa	mRNA_30cpc_Th	2
___TEGDSLYGAASLND_____	X78705	PV2-VP1	223	14aaG4S	mRNA_30cpc_Th	1
___TEGDSLYGAASLND_____	X78705	PV1-VP1	223	14aaG4S	mRNA_30cpc_Ctx	1
___TEGDSLYGAASLND_____	X78705	PV2-VP1	223	14aaG4S	mRNA_30cpc_Ctx	1
___TEGDSLYGAASLND_____	X78705	PV1-VP1	223	14aaG4S	mRNA_3cpc_Th	1
___TEGDSLYGAASLND_____	X78705	PV2-VP1	223	14aaG4S	mRNA_3cpc_Th	1

Peptide AGAAAAGAVVGGLG from PrPc with cluster number 8447

Peptide AGAAAAGAVVGGLG from PrPc with cluster number 8447



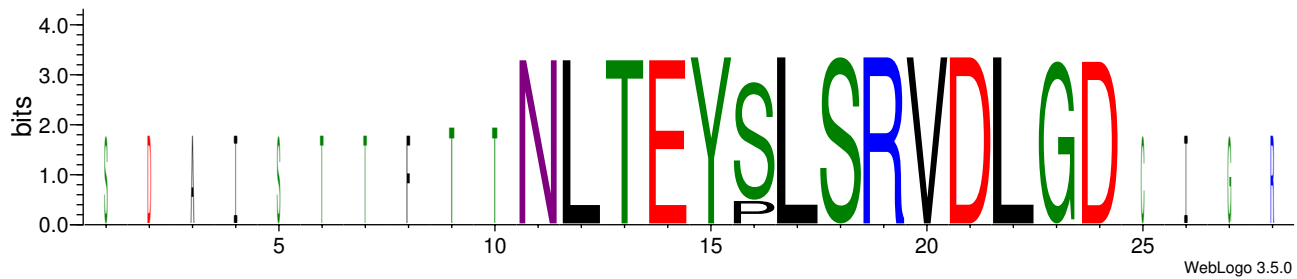
cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
8447	AGAAAAGAVVGGLG	24	5	5	7	4	2	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8447	AGAAAAGAVVGGLG	___AGAAAAGAVVGGLG	8	3	2	2
8447	LKHVAGAAAAGAVV	LKHVAGAAAAGAVV___	5	1	1	2
8447	KHVAGAAAAGAVVG	_KHVAGAAAAGAVVG__	3	0	1	2
8447	YAKATGQTGAGAAA	YAKATGQTGAGAAA___	2	0	0	0
8447	VGALAGAGLAAGVV	__VGALAGAGLAAGVV_	2	0	0	0
8447	VAGAAAAGAVVGGL	___VAGAAAAGAVVGGL_	1	0	0	0
8447	LLAAAVYAAVGAVT	LLAAAVYAAVGAVT___	1	0	0	1
8447	AGAASRTRAAGYLD	___AGAASRTRAAGYLD	1	1	0	0
8447	AAGAASRTRAAGYL	___AAGAASRTRAAGYL_	1	0	1	0

alignment	LUThrs	GeneName	start	structure	Group	Score
___AAGAASRTRAAGYL_	X87899	HSV-1-pUL21	505	14aaG4S	mRNA_30cpc_Th	1
___AGAAAAGAVVGGLG	X44210	PrPc	113	14aa	mRNA_30cpc_SN	2
___AGAAAAGAVVGGLG	X44210	PrPc	113	14aa	mRNA_30cpc_Th	2
___AGAAAAGAVVGGLG	X44210	PrPc	113	14aa	mRNA_30cpc_Ctx	3
___AGAAAAGAVVGGLG	X44210	PrPc	113	14aa	mRNA_3cpc_Th	1
___AGAASRTRAAGYLD	X44205	HSV-1-pUL21	506	14aa	mRNA_30cpc_Ctx	1
_KHVAGAAAAGAVVG__	X3816	PrPc	110	14aa	mRNA_30cpc_SN	2
_KHVAGAAAAGAVVG__	X3816	PrPc	110	14aa	mRNA_30cpc_Th	1
LKHVAGAAAAGAVV___	X28611	PrPc	109	14aa	mRNA_30cpc_SN	2
LKHVAGAAAAGAVV___	X28611	PrPc	109	14aa	mRNA_30cpc_Th	1
LKHVAGAAAAGAVV___	X28611	PrPc	109	14aa	mRNA_30cpc_Ctx	1
LKHVAGAAAAGAVV___	X28611	PrPc	109	14aa	mRNA_30cpc_Organoid_MD114	1
LLAAAVYAAVGAVT___	X31085	HSV-1-pUL10	102	14aa	mRNA_30cpc_SN	1
LLAAAVYAAVGAVT___	X31085	HSV-2-pUL10	102	14aa	mRNA_30cpc_SN	1
___VAGAAAAGAVVGGL_	X68799	PrPc	112	14aa	mRNA_30cpc_Organoid_MD114	1
___VGALAGAGLAAGVV_	X69138	BV-G	345	14aa	mRNA_3cpc_Th	2
YAKATGQTGAGAAA___	X71446	HSV-1-pUL36	1878	14aa	mRNA_3cpc_SN	1
YAKATGQTGAGAAA___	X71446	HSV-1-pUL36	1878	14aa	mRNA_3cpc_Th	1

Peptide NLTEYSLSRVDLGD from HSV-1-pUL27 with cluster number 7937

Peptide NLTEYSLSRVDLGD from HSV-1-pUL27 with cluster number 7937



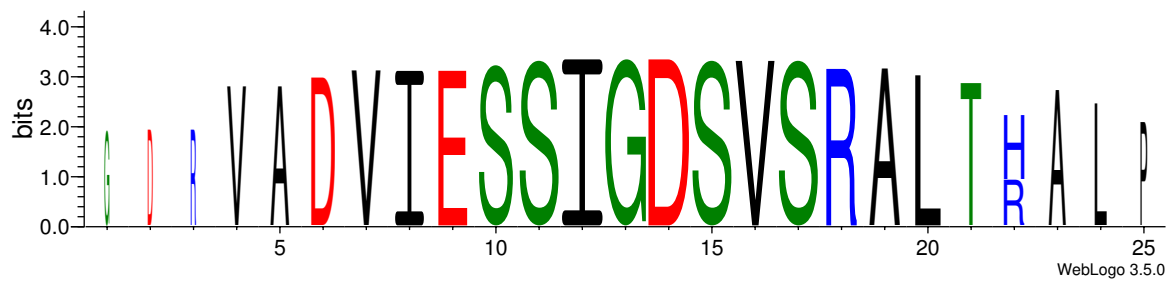
cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
7937	NLTEYSLSRVDLGD	24	5	5	4	3	2	1

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7937	NLTEYSLSRVDLGD	-----NLTEYSLSRVDLGD-----	17	4	4	4
7937	YLSRVLDGDCIGR	-----YLSRVLDGDCIGR-----	2	1	1	0
7937	SDAISTTFTTNLTEYPLSRVDL	SDAISTTFTTNLTEYPLSRVDL-----	2	0	0	0
7937	NLTEYPLSRVDLGD	-----NLTEYPLSRVDLGD-----	2	0	0	0
7937	TTNLTEYSLSRVDL	-----TTNLTEYSLSRVDL-----	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
-----NLTEYPLSRVDLGD-----	X1575	HSV-1-pUL27	398	14aa	mRNA_30cpc_Organoid_MD114	1
-----NLTEYPLSRVDLGD-----	X1575	HSV-2-pUL27	393	14aa	mRNA_30cpc_Organoid_MD114	1
-----NLTEYPLSRVDLGD-----	X1575	HSV-1-pUL27	398	14aa	mRNA_3000cpc_Organoid_MD101	1
-----NLTEYPLSRVDLGD-----	X1575	HSV-2-pUL27	393	14aa	mRNA_3000cpc_Organoid_MD101	1
-----NLTEYSLSRVDLGD-----	X1574	HSV-1-pUL27	398	14aa	mRNA_30cpc_SN	4
-----NLTEYSLSRVDLGD-----	X1574	HSV-2-pUL27	393	14aa	mRNA_30cpc_SN	4
-----NLTEYSLSRVDLGD-----	X1574	HSV-1-pUL27	398	14aa	mRNA_30cpc_Th	4
-----NLTEYSLSRVDLGD-----	X1574	HSV-2-pUL27	393	14aa	mRNA_30cpc_Th	4
-----NLTEYSLSRVDLGD-----	X1574	HSV-1-pUL27	398	14aa	mRNA_30cpc_Ctx	4
-----NLTEYSLSRVDLGD-----	X1574	HSV-2-pUL27	393	14aa	mRNA_30cpc_Ctx	4
-----NLTEYSLSRVDLGD-----	X1574	HSV-1-pUL27	398	14aa	mRNA_3cpc_SN	1
-----NLTEYSLSRVDLGD-----	X1574	HSV-2-pUL27	393	14aa	mRNA_3cpc_SN	1
-----NLTEYSLSRVDLGD-----	X1574	HSV-1-pUL27	398	14aa	mRNA_3cpc_Th	3
-----NLTEYSLSRVDLGD-----	X1574	HSV-2-pUL27	393	14aa	mRNA_3cpc_Th	3
-----NLTEYSLSRVDLGD-----	X1574	HSV-1-pUL27	398	14aa	mRNA_3cpc_Ctx	1
-----NLTEYSLSRVDLGD-----	X1574	HSV-2-pUL27	393	14aa	mRNA_3cpc_Ctx	1
SDAISTTFTTNLTEYPLSRVDL-----	X12537	HSV-1-pUL27	388	22aa	mRNA_30cpc_Organoid_MD114	1
SDAISTTFTTNLTEYPLSRVDL-----	X12537	HSV-2-pUL27	383	22aa	mRNA_30cpc_Organoid_MD114	1
SDAISTTFTTNLTEYPLSRVDL-----	X12537	HSV-1-pUL27	388	22aa	mRNA_3000cpc_Organoid_MD101	1
SDAISTTFTTNLTEYPLSRVDL-----	X12537	HSV-2-pUL27	383	22aa	mRNA_3000cpc_Organoid_MD101	1
-----TTNLTEYSLSRVDL-----	X5884	HSV-1-pUL27	396	14aa	mRNA_3000cpc_Organoid_MD101	1
-----TTNLTEYSLSRVDL-----	X5884	HSV-2-pUL27	391	14aa	mRNA_3000cpc_Organoid_MD101	1
-----YLSRVLDGDCIGR-----	X90770	HSV-1-pUL27	402	14aaG4S	mRNA_30cpc_Th	1
-----YLSRVLDGDCIGR-----	X90770	HSV-2-pUL27	397	14aaG4S	mRNA_30cpc_Th	1
-----YLSRVLDGDCIGR-----	X90770	HSV-1-pUL27	402	14aaG4S	mRNA_30cpc_Ctx	1
-----YLSRVLDGDCIGR-----	X90770	HSV-2-pUL27	397	14aaG4S	mRNA_30cpc_Ctx	1

Peptide VADVIESSIGDSVS from EV71-VP1-1095-Japan-97 with cluster number 7667

Peptide VADVIESSIGDSVS from EV71-VP1-1095-Japan-97 with cluster number 76



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
7667	VADVIESSIGDSVS	24	6	5	3	6	1	0

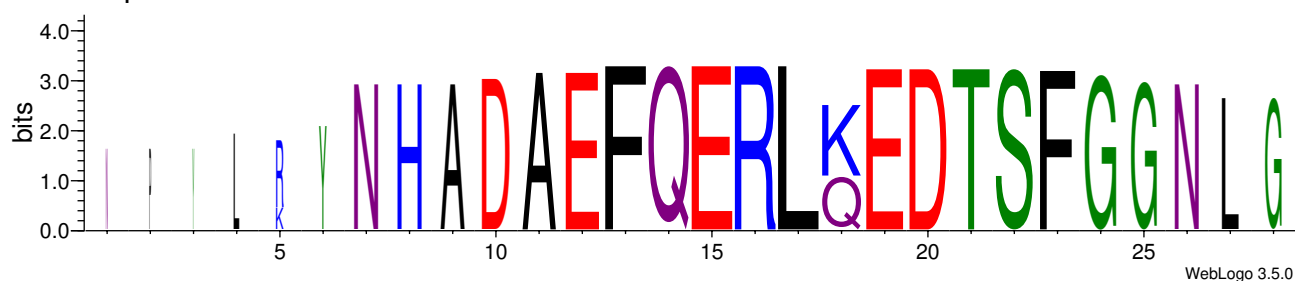
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7667	VADVIESSIGDSVS	___VADVIESSIGDSVS_____	5	2	2	0
7667	VIIESSIGDSVSRAL	_____VIIESSIGDSVSRAL_____	3	1	1	0
7667	VADVIESSIGDSVSRALTRALP	___VADVIESSIGDSVSRALTRALP	3	0	0	0
7667	SSIGDSVSRALTHA	_____SSIGDSVSRALTHA__	3	1	1	1
7667	DVIESSIGDSVSRA	_____DVIESSIGDSVSRA_____	3	1	0	0
7667	SIGDSVSRALTRAL	_____SIGDSVSRALTRAL_	2	1	0	0
7667	GDRVADVIESSIGDSVSRALTH	GDRVADVIESSIGDSVSRALTH__	2	0	0	1
7667	SIGDSVSRALTHAL	_____SIGDSVSRALTHAL_	1	0	0	0
7667	IGDSVSRALTHALP	_____IGDSVSRALTHALP	1	0	0	1
7667	GDRVADVIESSIGD	GDRVADVIESSIGD_____	1	0	1	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_____DVI ESSIGDSVSRA_____	X36256	EV71-VP1-1095-Japan-97	6	14aa	mRNA_30cpc_Ctx	1
_____DVI ESSIGDSVSRA_____	X36256	EV71-VP1-FY23	6	14aa	mRNA_30cpc_Ctx	1
_____DVI ESSIGDSVSRA_____	X36256	EV71-VP1-cx2011-016	6	14aa	mRNA_30cpc_Ctx	1
_____DVI ESSIGDSVSRA_____	X36256	EV71-VP1-1095-Japan-97	6	14aa	mRNA_3cpc_Th	1
_____DVI ESSIGDSVSRA_____	X36256	EV71-VP1-FY23	6	14aa	mRNA_3cpc_Th	1
_____DVI ESSIGDSVSRA_____	X36256	EV71-VP1-cx2011-016	6	14aa	mRNA_3cpc_Th	1
_____DVI ESSIGDSVSRA_____	X36256	EV71-VP1-1095-Japan-97	6	14aa	mRNA_3000cpc_Organoid_MD101	1
_____DVI ESSIGDSVSRA_____	X36256	EV71-VP1-FY23	6	14aa	mRNA_3000cpc_Organoid_MD101	1
_____DVI ESSIGDSVSRA_____	X36256	EV71-VP1-cx2011-016	6	14aa	mRNA_3000cpc_Organoid_MD101	1
GDRVADVI ESSIGD_____	X57634	EV71-VP1-1095-Japan-97	1	14aaA5	mRNA_30cpc_Th	1
GDRVADVI ESSIGD_____	X57634	EV71-VP1-FY23	1	14aaA5	mRNA_30cpc_Th	1
GDRVADVI ESSIGD_____	X57634	EV71-VP1-cx2011-016	1	14aaA5	mRNA_30cpc_Th	1
GDRVADVI ESSIGDSVSRALTH___	X63610	EV71-VP1-1095-Japan-97	1	22aa	mRNA_30cpc_SN	1
GDRVADVI ESSIGDSVSRALTH___	X63610	EV71-VP1-FY23	1	22aa	mRNA_30cpc_SN	1
GDRVADVI ESSIGDSVSRALTH___	X63610	EV71-VP1-cx2011-016	1	22aa	mRNA_30cpc_SN	1
GDRVADVI ESSIGDSVSRALTH___	X63610	EV71-VP1-1095-Japan-97	1	22aa	mRNA_3000cpc_Organoid_MD101	1
GDRVADVI ESSIGDSVSRALTH___	X63610	EV71-VP1-FY23	1	22aa	mRNA_3000cpc_Organoid_MD101	1
GDRVADVI ESSIGDSVSRALTH___	X63610	EV71-VP1-cx2011-016	1	22aa	mRNA_3000cpc_Organoid_MD101	1
_____IGDSVSRALTHALP_____	X16500	EV71-VP1-1095-Japan-97	12	14aa	mRNA_30cpc_SN	1
_____IGDSVSRALTHALP_____	X16500	EV71-VP1-FY23	12	14aa	mRNA_30cpc_SN	1
_____IGDSVSRALTHALP_____	X16500	EV71-VP1-cx2011-016	12	14aa	mRNA_30cpc_SN	1
_____SIGDSVSRALTHAL_____	X11113	EV71-VP1-1095-Japan-97	11	14aa	mRNA_3cpc_Th	1
_____SIGDSVSRALTHAL_____	X11113	EV71-VP1-FY23	11	14aa	mRNA_3cpc_Th	1
_____SIGDSVSRALTHAL_____	X11113	EV71-VP1-cx2011-016	11	14aa	mRNA_3cpc_Th	1
_____SIGDSVSRALTRAL_____	X11114	EV71-VP1-1095-Japan-97	11	14aa	mRNA_30cpc_Ctx	1
_____SIGDSVSRALTRAL_____	X11114	EV71-VP1-FY23	11	14aa	mRNA_30cpc_Ctx	1
_____SIGDSVSRALTRAL_____	X11114	EV71-VP1-cx2011-016	11	14aa	mRNA_30cpc_Ctx	1
_____SIGDSVSRALTRAL_____	X11114	EV71-VP1-1095-Japan-97	11	14aa	mRNA_30cpc_Organoid_MD114	1
_____SIGDSVSRALTRAL_____	X11114	EV71-VP1-FY23	11	14aa	mRNA_30cpc_Organoid_MD114	1
_____SIGDSVSRALTRAL_____	X11114	EV71-VP1-cx2011-016	11	14aa	mRNA_30cpc_Organoid_MD114	1
_____SSIGDSVSRALTHA_____	X10679	EV71-VP1-1095-Japan-97	10	14aa	mRNA_30cpc_SN	1
_____SSIGDSVSRALTHA_____	X10679	EV71-VP1-FY23	10	14aa	mRNA_30cpc_SN	1
_____SSIGDSVSRALTHA_____	X10679	EV71-VP1-cx2011-016	10	14aa	mRNA_30cpc_SN	1
_____SSIGDSVSRALTHA_____	X10679	EV71-VP1-1095-Japan-97	10	14aa	mRNA_30cpc_Th	1
_____SSIGDSVSRALTHA_____	X10679	EV71-VP1-FY23	10	14aa	mRNA_30cpc_Th	1
_____SSIGDSVSRALTHA_____	X10679	EV71-VP1-cx2011-016	10	14aa	mRNA_30cpc_Th	1
_____SSIGDSVSRALTHA_____	X10679	EV71-VP1-1095-Japan-97	10	14aa	mRNA_30cpc_Ctx	1
_____SSIGDSVSRALTHA_____	X10679	EV71-VP1-FY23	10	14aa	mRNA_30cpc_Ctx	1
_____SSIGDSVSRALTHA_____	X10679	EV71-VP1-cx2011-016	10	14aa	mRNA_30cpc_Ctx	1
___VADVI ESSIGDSVS_____	X68717	EV71-VP1-1095-Japan-97	4	14aa	mRNA_30cpc_Th	2
___VADVI ESSIGDSVS_____	X68717	EV71-VP1-FY23	4	14aa	mRNA_30cpc_Th	2
___VADVI ESSIGDSVS_____	X68717	EV71-VP1-cx2011-016	4	14aa	mRNA_30cpc_Th	2
___VADVI ESSIGDSVS_____	X68717	EV71-VP1-1095-Japan-97	4	14aa	mRNA_30cpc_Ctx	2
___VADVI ESSIGDSVS_____	X68717	EV71-VP1-FY23	4	14aa	mRNA_30cpc_Ctx	2
___VADVI ESSIGDSVS_____	X68717	EV71-VP1-cx2011-016	4	14aa	mRNA_30cpc_Ctx	2
___VADVI ESSIGDSVS_____	X68717	EV71-VP1-1095-Japan-97	4	14aa	mRNA_3cpc_Th	1
___VADVI ESSIGDSVS_____	X68717	EV71-VP1-FY23	4	14aa	mRNA_3cpc_Th	1

alignment	LUThrs	GeneName	start	structure	Group	Score
___VADVIESSIGDSVS_____	X68717	EV71-VP1-cx2011-016	4	14aa	mRNA_3cpc_Th	1
___VADVIESSIGDSVSRALTRALP	X68716	EV71-VP1-1095-Japan-97	4	22aa	mRNA_3cpc_SN	1
___VADVIESSIGDSVSRALTRALP	X68716	EV71-VP1-FY23	4	22aa	mRNA_3cpc_SN	1
___VADVIESSIGDSVSRALTRALP	X68716	EV71-VP1-cx2011-016	4	22aa	mRNA_3cpc_SN	1
___VADVIESSIGDSVSRALTRALP	X68716	EV71-VP1-1095-Japan-97	4	22aa	mRNA_3cpc_Th	2
___VADVIESSIGDSVSRALTRALP	X68716	EV71-VP1-FY23	4	22aa	mRNA_3cpc_Th	2
___VADVIESSIGDSVSRALTRALP	X68716	EV71-VP1-cx2011-016	4	22aa	mRNA_3cpc_Th	2
_______VIESSIGDSVSRAL_____	X58464	EV71-VP1-1095-Japan-97	7	14aaA5	mRNA_30cpc_Th	1
_______VIESSIGDSVSRAL_____	X58464	EV71-VP1-FY23	7	14aaA5	mRNA_30cpc_Th	1
_______VIESSIGDSVSRAL_____	X58464	EV71-VP1-cx2011-016	7	14aaA5	mRNA_30cpc_Th	1
_______VIESSIGDSVSRAL_____	X58464	EV71-VP1-1095-Japan-97	7	14aaA5	mRNA_30cpc_Ctx	1
_______VIESSIGDSVSRAL_____	X58464	EV71-VP1-FY23	7	14aaA5	mRNA_30cpc_Ctx	1
_______VIESSIGDSVSRAL_____	X58464	EV71-VP1-cx2011-016	7	14aaA5	mRNA_30cpc_Ctx	1
_______VIESSIGDSVSRAL_____	X66707	EV71-VP1-1095-Japan-97	7	14aa	mRNA_3cpc_Th	1
_______VIESSIGDSVSRAL_____	X66707	EV71-VP1-FY23	7	14aa	mRNA_3cpc_Th	1
_______VIESSIGDSVSRAL_____	X66707	EV71-VP1-cx2011-016	7	14aa	mRNA_3cpc_Th	1

Peptide NHADAEFQERLKEDTSFGGNLG from AAV1-VP1 with cluster number 8714

Peptide NHADAEFQERLKEDTSFGGNLG from AAV1-VP1 with cluster number 8714



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
8714	NHADAEFQERLKEDTSFGGNLG	22	8	4	4	2	1	0

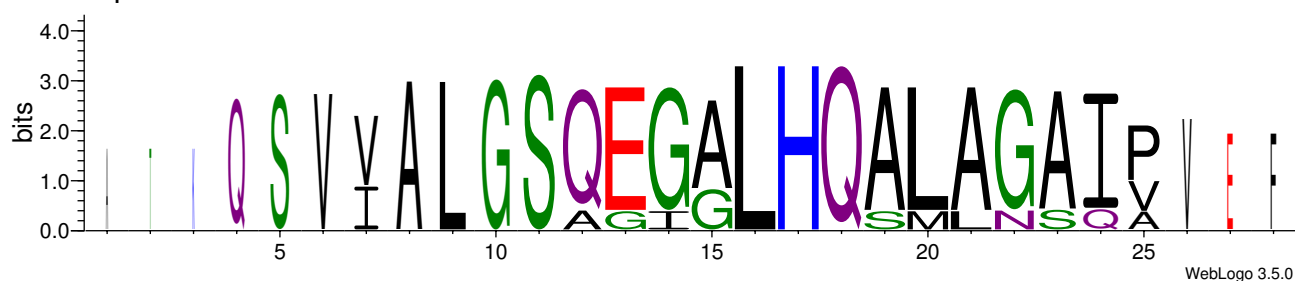
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8714	NHADAEFQERLKEDTSFGGNLG	-----NHADAEFQERLKEDTSFGGNLG	8	2	2	3
8714	FQERLQEDTSFGGN	-----FQERLQEDTSFGGN--	4	2	0	1
8714	AEFQERLKEDTSFG	-----AEFQERLKEDTSFG----	2	0	1	0
8714	RYNHADAEFQERLQ	----RYNHADAEFQERLQ-----	1	1	0	0
8714	NPYLRYNHADAEFQERLQEDTS	NPYLRYNHADAEFQERLQEDTS-----	1	0	0	0
8714	NHADAEFQERLQEDTSFGGNLG	-----NHADAEFQERLQEDTSFGGNLG	1	0	0	0
8714	LRYNHADAEFQERL	---LRYNHADAEFQERL-----	1	1	0	0
8714	LKYNHADAEFQERLKEDTSFGG	---LKYNHADAEFQERLKEDTSFGG---	1	0	1	0
8714	DAEFQERLQEDTSF	-----DAEFQERLQEDTSF-----	1	1	0	0
8714	DAEFQERLKEDTSF	-----DAEFQERLKEDTSF-----	1	1	0	0
8714	AEFQERLQEDTSFG	-----AEFQERLQEDTSFG----	1	0	0	0

alignment	LUTnrs	GeneName	start	structure	Group	Score
-----AEFQERLKEDTSFG-----	X43336	AAV1-VP1	98	14aa	mRNA_30cpc_Th	1
-----AEFQERLKEDTSFG-----	X43336	AAV6-VP1	98	14aa	mRNA_30cpc_Th	1
-----AEFQERLKEDTSFG-----	X43336	AAV8-VP1	98	14aa	mRNA_30cpc_Th	1
-----AEFQERLKEDTSFG-----	X43336	AAV9-VP1	98	14aa	mRNA_30cpc_Th	1
-----AEFQERLKEDTSFG-----	X43336	AAV1-VP1	98	14aa	mRNA_30cpc_Th_4wks	1
-----AEFQERLKEDTSFG-----	X43336	AAV6-VP1	98	14aa	mRNA_30cpc_Th_4wks	1
-----AEFQERLKEDTSFG-----	X43336	AAV8-VP1	98	14aa	mRNA_30cpc_Th_4wks	1
-----AEFQERLKEDTSFG-----	X43336	AAV9-VP1	98	14aa	mRNA_30cpc_Th_4wks	1
-----AEFQERLQEDTSFG-----	X43337	AAV1-VP1	98	14aa	mRNA_3000cpc_Organoid_MD101	1
-----AEFQERLQEDTSFG-----	X43337	AAV6-VP1	98	14aa	mRNA_3000cpc_Organoid_MD101	1
-----AEFQERLQEDTSFG-----	X43337	AAV8-VP1	98	14aa	mRNA_3000cpc_Organoid_MD101	1
-----AEFQERLQEDTSFG-----	X43337	AAV9-VP1	98	14aa	mRNA_3000cpc_Organoid_MD101	1
-----DAEFQERLKEDTSF-----	X35932	AAV1-VP1	97	14aa	mRNA_30cpc_Ctx	1
-----DAEFQERLKEDTSF-----	X35932	AAV6-VP1	97	14aa	mRNA_30cpc_Ctx	1
-----DAEFQERLKEDTSF-----	X35932	AAV8-VP1	97	14aa	mRNA_30cpc_Ctx	1
-----DAEFQERLKEDTSF-----	X35932	AAV9-VP1	97	14aa	mRNA_30cpc_Ctx	1
-----DAEFQERLQEDTSF-----	X35934	AAV1-VP1	97	14aa	mRNA_30cpc_Ctx	1
-----DAEFQERLQEDTSF-----	X35934	AAV6-VP1	97	14aa	mRNA_30cpc_Ctx	1
-----DAEFQERLQEDTSF-----	X35934	AAV8-VP1	97	14aa	mRNA_30cpc_Ctx	1
-----DAEFQERLQEDTSF-----	X35934	AAV9-VP1	97	14aa	mRNA_30cpc_Ctx	1
-----FQERLQEDTSFSGN-----	X75117	AAV1-VP1	100	14aa	mRNA_30cpc_SN	1
-----FQERLQEDTSFSGN-----	X75117	AAV6-VP1	100	14aa	mRNA_30cpc_SN	1
-----FQERLQEDTSFSGN-----	X75117	AAV8-VP1	100	14aa	mRNA_30cpc_SN	1
-----FQERLQEDTSFSGN-----	X75117	AAV9-VP1	100	14aa	mRNA_30cpc_SN	1
-----FQERLQEDTSFSGN-----	X75117	AAV1-VP1	100	14aa	mRNA_30cpc_Ctx	1
-----FQERLQEDTSFSGN-----	X60663	AAV1-VP1	100	14aaA5	mRNA_30cpc_Ctx	1
-----FQERLQEDTSFSGN-----	X75117	AAV6-VP1	100	14aa	mRNA_30cpc_Ctx	1
-----FQERLQEDTSFSGN-----	X60663	AAV6-VP1	100	14aaA5	mRNA_30cpc_Ctx	1
-----FQERLQEDTSFSGN-----	X75117	AAV8-VP1	100	14aa	mRNA_30cpc_Ctx	1
-----FQERLQEDTSFSGN-----	X60663	AAV8-VP1	100	14aaA5	mRNA_30cpc_Ctx	1
-----FQERLQEDTSFSGN-----	X75117	AAV9-VP1	100	14aa	mRNA_30cpc_Ctx	1
-----FQERLQEDTSFSGN-----	X60663	AAV9-VP1	100	14aaA5	mRNA_30cpc_Ctx	1
-----FQERLQEDTSFSGN-----	X75117	AAV1-VP1	100	14aa	mRNA_30cpc_SN_4wks	1
-----FQERLQEDTSFSGN-----	X75117	AAV6-VP1	100	14aa	mRNA_30cpc_SN_4wks	1
-----FQERLQEDTSFSGN-----	X75117	AAV8-VP1	100	14aa	mRNA_30cpc_SN_4wks	1
-----FQERLQEDTSFSGN-----	X75117	AAV9-VP1	100	14aa	mRNA_30cpc_SN_4wks	1
___LKYNHADAEFQERLKEDTSFGG___	X28745	AAV1-VP1	91	22aa	mRNA_30cpc_Th	1
___LKYNHADAEFQERLKEDTSFGG___	X28745	AAV6-VP1	91	22aa	mRNA_30cpc_Th	1
___LKYNHADAEFQERLKEDTSFGG___	X28745	AAV8-VP1	91	22aa	mRNA_30cpc_Th	1
___LKYNHADAEFQERLKEDTSFGG___	X28745	AAV9-VP1	91	22aa	mRNA_30cpc_Th	1
___LRYNHADAEFQERL-----	X53240	AAV1-VP1	91	14aaA5	mRNA_30cpc_Ctx	1
___LRYNHADAEFQERL-----	X53240	AAV6-VP1	91	14aaA5	mRNA_30cpc_Ctx	1
___LRYNHADAEFQERL-----	X53240	AAV8-VP1	91	14aaA5	mRNA_30cpc_Ctx	1
___LRYNHADAEFQERL-----	X53240	AAV9-VP1	91	14aaA5	mRNA_30cpc_Ctx	1
___NHADAEFQERLKEDTSFSGN___	X1081	AAV1-VP1	94	22aa	mRNA_30cpc_SN	3
___NHADAEFQERLKEDTSFSGN___	X1081	AAV6-VP1	94	22aa	mRNA_30cpc_SN	3
___NHADAEFQERLKEDTSFSGN___	X1081	AAV8-VP1	94	22aa	mRNA_30cpc_SN	3

alignment	LUTnrs	GeneName	start	structure	Group	Score
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV9-VP1	94	22aa	mRNA_30cpc_SN	3
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV1-VP1	94	22aa	mRNA_30cpc_Th	2
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV6-VP1	94	22aa	mRNA_30cpc_Th	2
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV8-VP1	94	22aa	mRNA_30cpc_Th	2
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV9-VP1	94	22aa	mRNA_30cpc_Th	2
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV1-VP1	94	22aa	mRNA_30cpc_Ctx	2
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV6-VP1	94	22aa	mRNA_30cpc_Ctx	2
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV8-VP1	94	22aa	mRNA_30cpc_Ctx	2
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV9-VP1	94	22aa	mRNA_30cpc_Ctx	2
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV1-VP1	94	22aa	mRNA_3cpc_Th	1
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV6-VP1	94	22aa	mRNA_3cpc_Th	1
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV8-VP1	94	22aa	mRNA_3cpc_Th	1
-----NHADAEFQERLKEDTSFGGNLG	X1081	AAV9-VP1	94	22aa	mRNA_3cpc_Th	1
-----NHADAEFQERLQEDTSFGGNLG	X1083	AAV1-VP1	94	22aa	mRNA_30cpc_Organoid_MD114	1
-----NHADAEFQERLQEDTSFGGNLG	X1083	AAV6-VP1	94	22aa	mRNA_30cpc_Organoid_MD114	1
-----NHADAEFQERLQEDTSFGGNLG	X1083	AAV8-VP1	94	22aa	mRNA_30cpc_Organoid_MD114	1
-----NHADAEFQERLQEDTSFGGNLG	X1083	AAV9-VP1	94	22aa	mRNA_30cpc_Organoid_MD114	1
NPYLRYNHADAEFQERLQEDTS-----	X1397	AAV1-VP1	88	22aa	mRNA_3cpc_Th	1
NPYLRYNHADAEFQERLQEDTS-----	X1397	AAV6-VP1	88	22aa	mRNA_3cpc_Th	1
NPYLRYNHADAEFQERLQEDTS-----	X1397	AAV8-VP1	88	22aa	mRNA_3cpc_Th	1
NPYLRYNHADAEFQERLQEDTS-----	X1397	AAV9-VP1	88	22aa	mRNA_3cpc_Th	1
----RYNHADAEFQERLQ-----	X27918	AAV1-VP1	92	14aa	mRNA_30cpc_Ctx	1
----RYNHADAEFQERLQ-----	X27918	AAV6-VP1	92	14aa	mRNA_30cpc_Ctx	1
----RYNHADAEFQERLQ-----	X27918	AAV8-VP1	92	14aa	mRNA_30cpc_Ctx	1
----RYNHADAEFQERLQ-----	X27918	AAV9-VP1	92	14aa	mRNA_30cpc_Ctx	1

Peptide QSVVALGSQEGGLHQALAGAIIV from JEV-E-BN19 with cluster number 8362

Peptide QSVVALGSQEGGLHQALAGAIIV from JEV-E-BN19 with cluster number 8362



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
8362	QSVVALGSQEGGLHQALAGAIIV	22	6	10	1	0	2	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8362	QSVVALGSQEGGLHQALAGAIIV	___QSVVALGSQEGGLHQALAGAIIV___	5	1	3	1
8362	AGIALHQSMLNSQA	-----AGIALHQSMLNSQA-----	3	1	2	0
8362	SQEGALHQALAGAI	-----SQEGALHQALAGAI-----	2	1	1	0
8362	QSVIALGSQEGALHQALAGAIIP	___QSVIALGSQEGALHQALAGAIIP___	2	1	1	0
8362	IALGSQEGALHQALAGAIIPVEF	-----IALGSQEGALHQALAGAIIPVEF	2	1	1	0
8362	VALGSQEGALHQALAGAIIPVEF	-----VALGSQEGALHQALAGAIIPVEF	1	0	1	0
8362	SVVALGSQEGALHQALAGAIIPV	___SVVALGSQEGALHQALAGAIIPV__	1	0	1	0
8362	QSVVALGSQEGALHQALAGAIIP	___QSVVALGSQEGALHQALAGAIIP___	1	0	0	0
8362	QEGALHQALAGAIIP	-----QEGALHQALAGAIIP-----	1	1	0	0
8362	GSQEGGLHQALAGA	-----GSQEGGLHQALAGA-----	1	0	0	0
8362	EGALHQALAGAIIPV	-----EGALHQALAGAIIPV-----	1	0	0	0
8362	ATKQSVIALGSQEGALHQALAG	ATKQSVIALGSQEGALHQALAG_____	1	0	0	0
8362	ALGSQEGGLHQALA	-----ALGSQEGGLHQALA-----	1	0	0	0

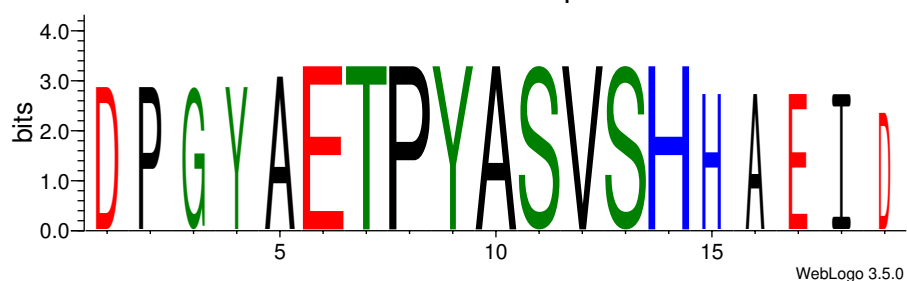
alignment	LUThrs	GeneName	start	structure	Group	Score
-----AGIALHQSM LNSQA-----	X56654	MV-F-CAM-70	136	14aaA5	mRNA_30cpc_Th	2
-----AGIALHQSM LNSQA-----	X56654	MV-F-Edmonston	136	14aaA5	mRNA_30cpc_Th	2
-----AGIALHQSM LNSQA-----	X56654	MV-F-Halle	136	14aaA5	mRNA_30cpc_Th	2
-----AGIALHQSM LNSQA-----	X56654	MV-F-CAM-70	136	14aaA5	mRNA_30cpc_Ctx	1
-----AGIALHQSM LNSQA-----	X56654	MV-F-Edmonston	136	14aaA5	mRNA_30cpc_Ctx	1
-----AGIALHQSM LNSQA-----	X56654	MV-F-Halle	136	14aaA5	mRNA_30cpc_Ctx	1
-----ALGSQEGGLHQAL A-----	X42673	JEV-E-BN19	254	14aa	mRNA_3000cpc_Organoid_MD101	1
-----ALGSQEGGLHQAL A-----	X42673	JEV-E-KE-093	254	14aa	mRNA_3000cpc_Organoid_MD101	1
-----ALGSQEGGLHQAL A-----	X42673	JEV-E-SA14-5-3	254	14aa	mRNA_3000cpc_Organoid_MD101	1
-----ALGSQEGGLHQAL A-----	X42673	JEV-E-ThCMAr4492	254	14aa	mRNA_3000cpc_Organoid_MD101	1
-----ALGSQEGGLHQAL A-----	X42673	WNV-E-AZ10-918	254	14aa	mRNA_3000cpc_Organoid_MD101	1
-----ALGSQEGGLHQAL A-----	X42673	WNV-E-ArD76104	250	14aa	mRNA_3000cpc_Organoid_MD101	1
-----ALGSQEGGLHQAL A-----	X42673	WNV-E-H-442	254	14aa	mRNA_3000cpc_Organoid_MD101	1
ATKQSVIALGSQEGALHQALAG-----	X40164	JEV-E-BN19	247	22aa	mRNA_30cpc_Organoid_MD114	1
ATKQSVIALGSQEGALHQALAG-----	X40164	JEV-E-KE-093	247	22aa	mRNA_30cpc_Organoid_MD114	1
ATKQSVIALGSQEGALHQALAG-----	X40164	JEV-E-SA14-5-3	247	22aa	mRNA_30cpc_Organoid_MD114	1
ATKQSVIALGSQEGALHQALAG-----	X40164	JEV-E-ThCMAr4492	247	22aa	mRNA_30cpc_Organoid_MD114	1
ATKQSVIALGSQEGALHQALAG-----	X40164	WNV-E-AZ10-918	247	22aa	mRNA_30cpc_Organoid_MD114	1
ATKQSVIALGSQEGALHQALAG-----	X40164	WNV-E-ArD76104	243	22aa	mRNA_30cpc_Organoid_MD114	1
ATKQSVIALGSQEGALHQALAG-----	X40164	WNV-E-H-442	247	22aa	mRNA_30cpc_Organoid_MD114	1
-----EGALHQALAGAI PV-----	X86680	JEV-E-BN19	259	14aaG4S	mRNA_30cpc_Organoid_MD114	1
-----EGALHQALAGAI PV-----	X86680	JEV-E-KE-093	259	14aaG4S	mRNA_30cpc_Organoid_MD114	1
-----EGALHQALAGAI PV-----	X86680	JEV-E-SA14-5-3	259	14aaG4S	mRNA_30cpc_Organoid_MD114	1
-----EGALHQALAGAI PV-----	X86680	JEV-E-ThCMAr4492	259	14aaG4S	mRNA_30cpc_Organoid_MD114	1
-----EGALHQALAGAI PV-----	X86680	WNV-E-AZ10-918	259	14aaG4S	mRNA_30cpc_Organoid_MD114	1
-----EGALHQALAGAI PV-----	X86680	WNV-E-ArD76104	255	14aaG4S	mRNA_30cpc_Organoid_MD114	1
-----EGALHQALAGAI PV-----	X86680	WNV-E-H-442	259	14aaG4S	mRNA_30cpc_Organoid_MD114	1
-----GSQEGGLHQALAG A-----	X61811	JEV-E-BN19	256	14aa	mRNA_3000cpc_Organoid_MD101	1
-----GSQEGGLHQALAG A-----	X61811	JEV-E-KE-093	256	14aa	mRNA_3000cpc_Organoid_MD101	1
-----GSQEGGLHQALAG A-----	X61811	JEV-E-SA14-5-3	256	14aa	mRNA_3000cpc_Organoid_MD101	1
-----GSQEGGLHQALAG A-----	X61811	JEV-E-ThCMAr4492	256	14aa	mRNA_3000cpc_Organoid_MD101	1
-----GSQEGGLHQALAG A-----	X61811	WNV-E-AZ10-918	256	14aa	mRNA_3000cpc_Organoid_MD101	1
-----GSQEGGLHQALAG A-----	X61811	WNV-E-ArD76104	252	14aa	mRNA_3000cpc_Organoid_MD101	1
-----GSQEGGLHQALAG A-----	X61811	WNV-E-H-442	256	14aa	mRNA_3000cpc_Organoid_MD101	1
-----IALGSQEGALHQALAGAI PV EF-----	X16287	WNV-E-AZ10-918	253	22aa	mRNA_30cpc_Th	1
-----IALGSQEGALHQALAGAI PV EF-----	X16287	WNV-E-ArD76104	249	22aa	mRNA_30cpc_Th	1
-----IALGSQEGALHQALAGAI PV EF-----	X16287	WNV-E-H-442	253	22aa	mRNA_30cpc_Th	1
-----IALGSQEGALHQALAGAI PV EF-----	X16287	WNV-E-AZ10-918	253	22aa	mRNA_30cpc_Ctx	1
-----IALGSQEGALHQALAGAI PV EF-----	X16287	WNV-E-ArD76104	249	22aa	mRNA_30cpc_Ctx	1
-----IALGSQEGALHQALAGAI PV EF-----	X16287	WNV-E-H-442	253	22aa	mRNA_30cpc_Ctx	1
-----QEGALHQALAGAI P-----	X19804	JEV-E-BN19	258	14aa	mRNA_30cpc_Ctx	1
-----QEGALHQALAGAI P-----	X19804	JEV-E-KE-093	258	14aa	mRNA_30cpc_Ctx	1
-----QEGALHQALAGAI P-----	X19804	JEV-E-SA14-5-3	258	14aa	mRNA_30cpc_Ctx	1
-----QEGALHQALAGAI P-----	X19804	JEV-E-ThCMAr4492	258	14aa	mRNA_30cpc_Ctx	1
-----QEGALHQALAGAI P-----	X19804	WNV-E-AZ10-918	258	14aa	mRNA_30cpc_Ctx	1
-----QEGALHQALAGAI P-----	X19804	WNV-E-ArD76104	254	14aa	mRNA_30cpc_Ctx	1
-----QEGALHQALAGAI P-----	X19804	WNV-E-H-442	258	14aa	mRNA_30cpc_Ctx	1

alignment	LUThrs	GeneName	start	structure	Group	Score
___QSVIALGSQEGALHQAALAGAI___	X18847	JEV-E-BN19	250	22aa	mRNA_30cpc_Th	1
___QSVIALGSQEGALHQAALAGAI___	X18847	JEV-E-KE-093	250	22aa	mRNA_30cpc_Th	1
___QSVIALGSQEGALHQAALAGAI___	X18847	JEV-E-SA14-5-3	250	22aa	mRNA_30cpc_Th	1
___QSVIALGSQEGALHQAALAGAI___	X18847	JEV-E-ThCMAr4492	250	22aa	mRNA_30cpc_Th	1
___QSVIALGSQEGALHQAALAGAI___	X18847	WNV-E-AZ10-918	250	22aa	mRNA_30cpc_Th	1
___QSVIALGSQEGALHQAALAGAI___	X18847	WNV-E-ArD76104	246	22aa	mRNA_30cpc_Th	1
___QSVIALGSQEGALHQAALAGAI___	X18847	WNV-E-H-442	250	22aa	mRNA_30cpc_Th	1
___QSVIALGSQEGALHQAALAGAI___	X18847	JEV-E-BN19	250	22aa	mRNA_30cpc_Ctx	1
___QSVIALGSQEGALHQAALAGAI___	X18847	JEV-E-KE-093	250	22aa	mRNA_30cpc_Ctx	1
___QSVIALGSQEGALHQAALAGAI___	X18847	JEV-E-SA14-5-3	250	22aa	mRNA_30cpc_Ctx	1
___QSVIALGSQEGALHQAALAGAI___	X18847	JEV-E-ThCMAr4492	250	22aa	mRNA_30cpc_Ctx	1
___QSVIALGSQEGALHQAALAGAI___	X18847	WNV-E-AZ10-918	250	22aa	mRNA_30cpc_Ctx	1
___QSVIALGSQEGALHQAALAGAI___	X18847	WNV-E-ArD76104	246	22aa	mRNA_30cpc_Ctx	1
___QSVIALGSQEGALHQAALAGAI___	X18847	WNV-E-H-442	250	22aa	mRNA_30cpc_Ctx	1
___QSVVALGSQEGALHQAALAGAI___	X18853	JEV-E-BN19	250	22aa	mRNA_3000cpc_Organoid_MD101	1
___QSVVALGSQEGALHQAALAGAI___	X18853	JEV-E-KE-093	250	22aa	mRNA_3000cpc_Organoid_MD101	1
___QSVVALGSQEGALHQAALAGAI___	X18853	JEV-E-SA14-5-3	250	22aa	mRNA_3000cpc_Organoid_MD101	1
___QSVVALGSQEGALHQAALAGAI___	X18853	JEV-E-ThCMAr4492	250	22aa	mRNA_3000cpc_Organoid_MD101	1
___QSVVALGSQEGALHQAALAGAI___	X18853	WNV-E-AZ10-918	250	22aa	mRNA_3000cpc_Organoid_MD101	1
___QSVVALGSQEGALHQAALAGAI___	X18853	WNV-E-ArD76104	246	22aa	mRNA_3000cpc_Organoid_MD101	1
___QSVVALGSQEGALHQAALAGAI___	X18853	WNV-E-H-442	250	22aa	mRNA_3000cpc_Organoid_MD101	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-BN19	250	22aa	mRNA_30cpc_SN	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-KE-093	250	22aa	mRNA_30cpc_SN	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-SA14-5-3	250	22aa	mRNA_30cpc_SN	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-ThCMAr4492	250	22aa	mRNA_30cpc_SN	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	WNV-E-AZ10-918	250	22aa	mRNA_30cpc_SN	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	WNV-E-ArD76104	246	22aa	mRNA_30cpc_SN	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	WNV-E-H-442	250	22aa	mRNA_30cpc_SN	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-BN19	250	22aa	mRNA_30cpc_Th	3
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-KE-093	250	22aa	mRNA_30cpc_Th	3
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-SA14-5-3	250	22aa	mRNA_30cpc_Th	3
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-ThCMAr4492	250	22aa	mRNA_30cpc_Th	3
___QSVVALGSQEGGLHQAALAGAI___	X18855	WNV-E-AZ10-918	250	22aa	mRNA_30cpc_Th	3
___QSVVALGSQEGGLHQAALAGAI___	X18855	WNV-E-ArD76104	246	22aa	mRNA_30cpc_Th	3
___QSVVALGSQEGGLHQAALAGAI___	X18855	WNV-E-H-442	250	22aa	mRNA_30cpc_Th	3
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-BN19	250	22aa	mRNA_30cpc_Ctx	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-KE-093	250	22aa	mRNA_30cpc_Ctx	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-SA14-5-3	250	22aa	mRNA_30cpc_Ctx	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	JEV-E-ThCMAr4492	250	22aa	mRNA_30cpc_Ctx	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	WNV-E-AZ10-918	250	22aa	mRNA_30cpc_Ctx	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	WNV-E-ArD76104	246	22aa	mRNA_30cpc_Ctx	1
___QSVVALGSQEGGLHQAALAGAI___	X18855	WNV-E-H-442	250	22aa	mRNA_30cpc_Ctx	1
_____SQEGALHQAALAGAI_____	X11410	JEV-E-BN19	257	14aa	mRNA_30cpc_Th	1
_____SQEGALHQAALAGAI_____	X11410	JEV-E-KE-093	257	14aa	mRNA_30cpc_Th	1
_____SQEGALHQAALAGAI_____	X11410	JEV-E-SA14-5-3	257	14aa	mRNA_30cpc_Th	1
_____SQEGALHQAALAGAI_____	X11410	JEV-E-ThCMAr4492	257	14aa	mRNA_30cpc_Th	1
_____SQEGALHQAALAGAI_____	X11410	WNV-E-AZ10-918	257	14aa	mRNA_30cpc_Th	1

alignment	LUThrs	GeneName	start	structure	Group	Score
-----SQEGALHQALAGAI----	X11410	WNV-E-ArD76104	253	14aa	mRNA_30cpc_Th	1
-----SQEGALHQALAGAI----	X11410	WNV-E-H-442	257	14aa	mRNA_30cpc_Th	1
-----SQEGALHQALAGAI----	X11410	JEV-E-BN19	257	14aa	mRNA_30cpc_Ctx	1
-----SQEGALHQALAGAI----	X11410	JEV-E-KE-093	257	14aa	mRNA_30cpc_Ctx	1
-----SQEGALHQALAGAI----	X11410	JEV-E-SA14-5-3	257	14aa	mRNA_30cpc_Ctx	1
-----SQEGALHQALAGAI----	X11410	JEV-E-ThCMAr4492	257	14aa	mRNA_30cpc_Ctx	1
-----SQEGALHQALAGAI----	X11410	WNV-E-AZ10-918	257	14aa	mRNA_30cpc_Ctx	1
-----SQEGALHQALAGAI----	X11410	WNV-E-ArD76104	253	14aa	mRNA_30cpc_Ctx	1
-----SQEGALHQALAGAI----	X11410	WNV-E-H-442	257	14aa	mRNA_30cpc_Ctx	1
----SVVALGSQEGALHQALAGAIPV--	X13674	JEV-E-BN19	251	22aa	mRNA_30cpc_Th	1
----SVVALGSQEGALHQALAGAIPV--	X13674	JEV-E-KE-093	251	22aa	mRNA_30cpc_Th	1
----SVVALGSQEGALHQALAGAIPV--	X13674	JEV-E-SA14-5-3	251	22aa	mRNA_30cpc_Th	1
----SVVALGSQEGALHQALAGAIPV--	X13674	JEV-E-ThCMAr4492	251	22aa	mRNA_30cpc_Th	1
----SVVALGSQEGALHQALAGAIPV--	X13674	WNV-E-AZ10-918	251	22aa	mRNA_30cpc_Th	1
----SVVALGSQEGALHQALAGAIPV--	X13674	WNV-E-ArD76104	247	22aa	mRNA_30cpc_Th	1
----SVVALGSQEGALHQALAGAIPV--	X13674	WNV-E-H-442	251	22aa	mRNA_30cpc_Th	1
-----VALGSQEGALHQALAGAIPVEF	X68686	JEV-E-BN19	253	22aa	mRNA_30cpc_Th	1
-----VALGSQEGALHQALAGAIPVEF	X68686	JEV-E-KE-093	253	22aa	mRNA_30cpc_Th	1
-----VALGSQEGALHQALAGAIPVEF	X68686	JEV-E-SA14-5-3	253	22aa	mRNA_30cpc_Th	1
-----VALGSQEGALHQALAGAIPVEF	X68686	JEV-E-ThCMAr4492	253	22aa	mRNA_30cpc_Th	1
-----VALGSQEGALHQALAGAIPVEF	X68686	WNV-E-AZ10-918	253	22aa	mRNA_30cpc_Th	1
-----VALGSQEGALHQALAGAIPVEF	X68686	WNV-E-ArD76104	249	22aa	mRNA_30cpc_Th	1
-----VALGSQEGALHQALAGAIPVEF	X68686	WNV-E-H-442	253	22aa	mRNA_30cpc_Th	1

Peptide DPGYAETPYASVSH from HSV-2-pUL10 with cluster number 6735

Peptide DPGYAETPYASVSH from HSV-2-pUL10 with cluster number 6735



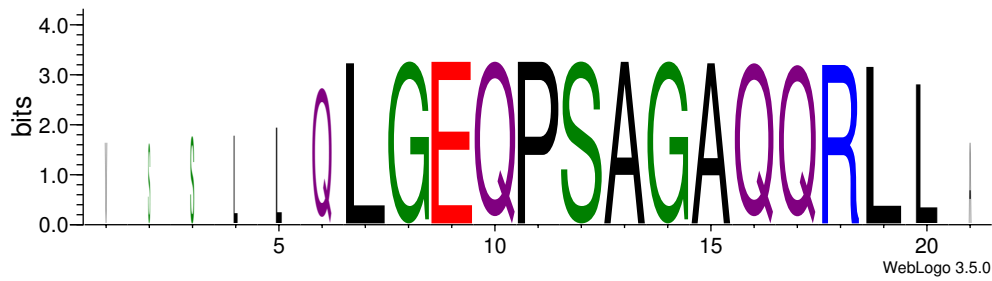
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6735	DPGYAETPYASVSH	22	5	5	4	6	0	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
6735	DPGYAETPYASVSH	DPGYAETPYASVSH_	12	4	3	3
6735	ETPYASVSHHAEID	____ETPYASVSHHAEID	6	1	2	1
6735	AETPYASVSHHAEI	____AETPYASVSHHAEI_	4	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
____AETPYASVSHHAEI_	X43117	HSV-2-pUL10	392	14aa	mRNA_3cpc_Th	3
____AETPYASVSHHAEI_	X43117	HSV-2-pUL10	392	14aa	mRNA_30cpc_Th_4wks	1
DPGYAETPYASVSH_	X35006	HSV-2-pUL10	388	14aa	mRNA_30cpc_SN	1
DPGYAETPYASVSH_	X54361	HSV-2-pUL10	388	14aaA5	mRNA_30cpc_SN	2
DPGYAETPYASVSH_	X35006	HSV-2-pUL10	388	14aa	mRNA_30cpc_Th	1
DPGYAETPYASVSH_	X54361	HSV-2-pUL10	388	14aaA5	mRNA_30cpc_Th	2
DPGYAETPYASVSH_	X35006	HSV-2-pUL10	388	14aa	mRNA_30cpc_Ctx	1
DPGYAETPYASVSH_	X54361	HSV-2-pUL10	388	14aaA5	mRNA_30cpc_Ctx	2
DPGYAETPYASVSH_	X85651	HSV-2-pUL10	388	14aaG4S	mRNA_30cpc_Ctx	1
DPGYAETPYASVSH_	X35006	HSV-2-pUL10	388	14aa	mRNA_3cpc_Th	1
DPGYAETPYASVSH_	X54361	HSV-2-pUL10	388	14aaA5	mRNA_3cpc_Th	1
____ETPYASVSHHAEID	X37111	HSV-2-pUL10	393	14aa	mRNA_30cpc_SN	1
____ETPYASVSHHAEID	X37111	HSV-2-pUL10	393	14aa	mRNA_30cpc_Th	2
____ETPYASVSHHAEID	X37111	HSV-2-pUL10	393	14aa	mRNA_30cpc_Ctx	1
____ETPYASVSHHAEID	X37111	HSV-2-pUL10	393	14aa	mRNA_3cpc_Th	1
____ETPYASVSHHAEID	X37111	HSV-2-pUL10	393	14aa	mRNA_30cpc_SN_4wks	1

Peptide LGEQPSAGAQQRLL from HSV-1-pUL37 with cluster number 8530

Peptide LGEQPSAGAQQRLL from HSV-1-pUL37 with cluster number 8530



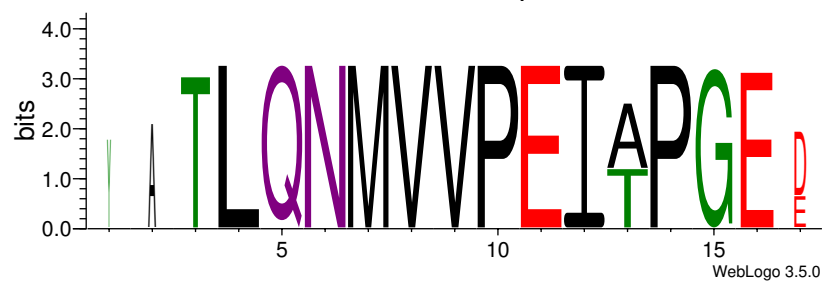
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8530	LGEQPSAGAQQRLL	21	5	2	4	6	0	2

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8530	LGEQPSAGAQQRLL	-----LGEQPSAGAQQRLL_	10	1	0	1
8530	QLGEQPSAGAQQRL	-----QLGEQPSAGAQQRL__	7	2	2	2
8530	VSSLLQLGEQPSAG	VSSLLQLGEQPSAG-----	1	1	0	0
8530	SLLQLGEQPSAGAQ	__SLLQLGEQPSAGAQ-----	1	0	0	1
8530	LQLGEQPSAGAQQR	----LQLGEQPSAGAQQR---	1	0	0	0
8530	GEQPSAGAQQRLLA	-----GEQPSAGAQQRLLA	1	1	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
-----GEQPSAGAQQRLLA	X63808	HSV-1-pUL37	380	14aa	mRNA_30cpc_Ctx	1
-----LGEQPSAGAQQRLL_	X32561	HSV-1-pUL37	379	14aa	mRNA_30cpc_SN	1
-----LGEQPSAGAQQRLL_	X32561	HSV-1-pUL37	379	14aa	mRNA_30cpc_Ctx	1
-----LGEQPSAGAQQRLL_	X32561	HSV-1-pUL37	379	14aa	mRNA_3cpc_Th	5
-----LGEQPSAGAQQRLL_	X32561	HSV-1-pUL37	379	14aa	mRNA_3cpc_Ctx	2
-----LGEQPSAGAQQRLL_	X32561	HSV-1-pUL37	379	14aa	mRNA_3000cpc_Organoid_MD101	1
----LQLGEQPSAGAQQR---	X30029	HSV-1-pUL37	377	14aa	mRNA_3000cpc_Organoid_MD101	1
-----QLGEQPSAGAQQRL__	X19616	HSV-1-pUL37	378	14aa	mRNA_30cpc_SN	2
-----QLGEQPSAGAQQRL__	X19616	HSV-1-pUL37	378	14aa	mRNA_30cpc_Th	2
-----QLGEQPSAGAQQRL__	X19616	HSV-1-pUL37	378	14aa	mRNA_30cpc_Ctx	2
-----QLGEQPSAGAQQRL__	X19616	HSV-1-pUL37	378	14aa	mRNA_3cpc_Th	1
__SLLQLGEQPSAGAQ-----	X12207	HSV-1-pUL37	375	14aa	mRNA_30cpc_SN	1
VSSLLQLGEQPSAG-----	X66331	HSV-1-pUL37	373	14aa	mRNA_30cpc_Ctx	1

Peptide TLQNMVVPEIAPGE from HSV-1-pUL19 with cluster number 7717

de TLQNMVVPEIAPGE from HSV-1-pUL19 with cluster num



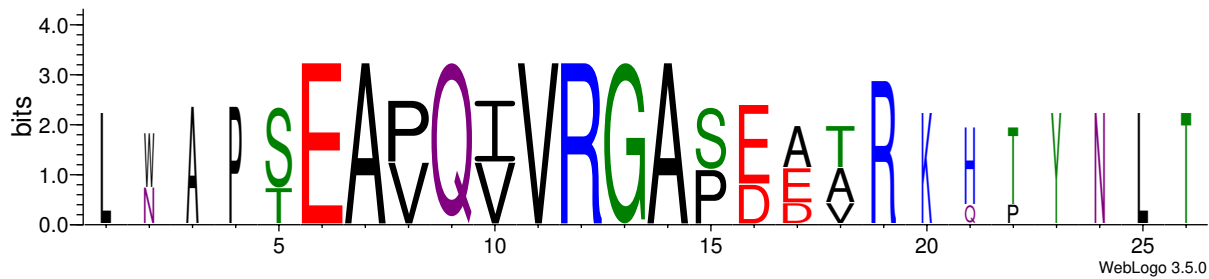
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7717	TLQNMVVPEIAPGE	21	1	3	2	3	6	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7717	TLQNMVVPEIAPGE	__TLQNMVVPEIAPGE_	7	0	1	1
7717	TLQNMVVPEITPGE	__TLQNMVVPEITPGE_	4	1	2	1
7717	LQNMVVPEITPGED	___LQNMVVPEITPGED	4	0	0	0
7717	YATLQNMVVPEITP	YATLQNMVVPEITP___	2	0	0	0
7717	LQNMVVPEIAPGEE	___LQNMVVPEIAPGEE	2	0	0	0
7717	ATLQNMVVPEIAPG	_ATLQNMVVPEIAPG__	2	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
ATLQNMVVPEIAPG	X40328	HSV-1-pUL19	837	14aa	mRNA_30cpc_Organoid_MD114	1
ATLQNMVVPEIAPG	X40328	HSV-2-pUL19	837	14aa	mRNA_30cpc_Organoid_MD114	1
ATLQNMVVPEIAPG	X40328	HSV-1-pUL19	837	14aa	mRNA_3000cpc_Organoid_MD101	1
ATLQNMVVPEIAPG	X40328	HSV-2-pUL19	837	14aa	mRNA_3000cpc_Organoid_MD101	1
___LQNMVVPEIAPGEE	X29938	HSV-1-pUL19	839	14aa	mRNA_30cpc_Organoid_MD114	2
___LQNMVVPEIAPGEE	X29938	HSV-2-pUL19	839	14aa	mRNA_30cpc_Organoid_MD114	2
___LQNMVVPEITPGED	X29937	HSV-1-pUL19	839	14aa	mRNA_3cpc_Th	2
___LQNMVVPEITPGED	X29937	HSV-2-pUL19	839	14aa	mRNA_3cpc_Th	2
___LQNMVVPEITPGED	X29937	HSV-1-pUL19	839	14aa	mRNA_30cpc_Organoid_MD114	1
___LQNMVVPEITPGED	X29937	HSV-2-pUL19	839	14aa	mRNA_30cpc_Organoid_MD114	1
___LQNMVVPEITPGED	X29937	HSV-1-pUL19	839	14aa	mRNA_3000cpc_Organoid_MD101	1
___LQNMVVPEITPGED	X29937	HSV-2-pUL19	839	14aa	mRNA_3000cpc_Organoid_MD101	1
__TLQNMVVPEIAPGE_	X7795	HSV-1-pUL19	838	14aa	mRNA_30cpc_SN	1
__TLQNMVVPEIAPGE_	X7795	HSV-2-pUL19	838	14aa	mRNA_30cpc_SN	1
__TLQNMVVPEIAPGE_	X7795	HSV-1-pUL19	838	14aa	mRNA_30cpc_Th	1
__TLQNMVVPEIAPGE_	X7795	HSV-2-pUL19	838	14aa	mRNA_30cpc_Th	1
__TLQNMVVPEIAPGE_	X7795	HSV-1-pUL19	838	14aa	mRNA_3cpc_Th	1
__TLQNMVVPEIAPGE_	X7795	HSV-2-pUL19	838	14aa	mRNA_3cpc_Th	1
__TLQNMVVPEIAPGE_	X7795	HSV-1-pUL19	838	14aa	mRNA_30cpc_Organoid_MD114	1
__TLQNMVVPEIAPGE_	X47264	HSV-1-pUL19	838	14aaA5	mRNA_30cpc_Organoid_MD114	1
__TLQNMVVPEIAPGE_	X7795	HSV-2-pUL19	838	14aa	mRNA_30cpc_Organoid_MD114	1
__TLQNMVVPEIAPGE_	X47264	HSV-2-pUL19	838	14aaA5	mRNA_30cpc_Organoid_MD114	1
__TLQNMVVPEIAPGE_	X7795	HSV-1-pUL19	838	14aa	mRNA_3000cpc_Organoid_MD101	1
__TLQNMVVPEIAPGE_	X47264	HSV-1-pUL19	838	14aaA5	mRNA_3000cpc_Organoid_MD101	1
__TLQNMVVPEIAPGE_	X7795	HSV-2-pUL19	838	14aa	mRNA_3000cpc_Organoid_MD101	1
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__TLQNMVVPEITPGE_	X47263	HSV-1-pUL19	838	14aaA5	mRNA_30cpc_SN	1
__TLQNMVVPEITPGE_	X47263	HSV-2-pUL19	838	14aaA5	mRNA_30cpc_SN	1
__TLQNMVVPEITPGE_	X47263	HSV-1-pUL19	838	14aaA5	mRNA_30cpc_Th	2
__TLQNMVVPEITPGE_	X47263	HSV-2-pUL19	838	14aaA5	mRNA_30cpc_Th	2
__TLQNMVVPEITPGE_	X47263	HSV-1-pUL19	838	14aaA5	mRNA_30cpc_Ctx	1
__TLQNMVVPEITPGE_	X47263	HSV-2-pUL19	838	14aaA5	mRNA_30cpc_Ctx	1
YATLQNMVVPEITP_	X71450	HSV-1-pUL19	836	14aa	mRNA_3000cpc_Organoid_MD101	2
YATLQNMVVPEITP_	X71450	HSV-2-pUL19	836	14aa	mRNA_3000cpc_Organoid_MD101	2

Peptide EAVQVVRGAPEATR from BV-G with cluster number 9359

Peptide EAVQVVRGAPEATR from BV-G with cluster number 9359



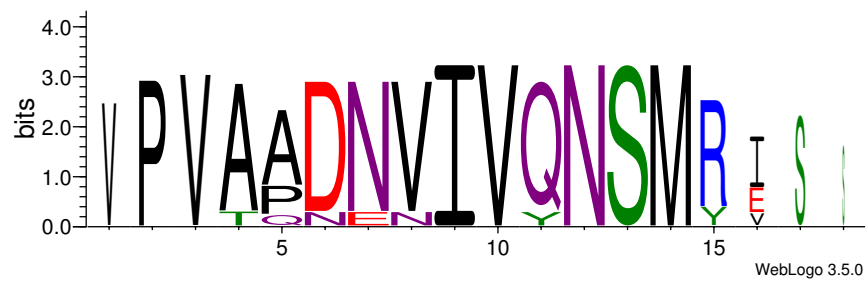
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9359	EAVQVVRGAPEATR	20	6	2	4	3	1	1

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
9359	EAVQVVRGAPEATR	_____EAVQVVRGAPEATR_____	6	1	0	1
9359	SEAPQIVRGASDEARKHTYNLT	____SEAPQIVRGASDEARKHTYNLT	4	2	1	0
9359	LWAPTEAVQVVRGA	LWAPTEAVQVVRGA_____	3	1	1	1
9359	SEAPQIVRGASEDV	____SEAPQIVRGASEDV_____	2	0	0	1
9359	LNAPSEAPQIVRGA	LNAPSEAPQIVRGA_____	2	1	0	1
9359	SEAPQIVRGASEDVRKQPYNLT	____SEAPQIVRGASEDVRKQPYNLT	1	1	0	0
9359	EAPQIVRGASDEAR	____EAPQIVRGASDEAR_____	1	0	0	0
9359	APTEAVQVVRGAPE	__APTEAVQVVRGAPE_____	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
__APTEAVQVVRGAPE_____	X41567	BV-G	97	14aa	mRNA_30cpc_Organoid_MD114	1
____EAPQIVRGASDEAR_____	X38813	HSV-1-pUS6	101	14aa	mRNA_3cpc_Th_4wks	1
____EAPQIVRGASDEAR_____	X38813	HSV-2-pUS6	101	14aa	mRNA_3cpc_Th_4wks	1
____EAVQVVRGAPEATR_____	X38953	BV-G	100	14aa	mRNA_30cpc_SN	1
____EAVQVVRGAPEATR_____	X38953	BV-G	100	14aa	mRNA_30cpc_Ctx	1
____EAVQVVRGAPEATR_____	X38953	BV-G	100	14aa	mRNA_3cpc_Th	3
____EAVQVVRGAPEATR_____	X38953	BV-G	100	14aa	mRNA_3cpc_Ctx	1
LNAPSEAPQIVRGA_____	X28462	HSV-1-pUS6	96	14aa	mRNA_30cpc_SN	1
LNAPSEAPQIVRGA_____	X28462	HSV-2-pUS6	96	14aa	mRNA_30cpc_SN	1
LNAPSEAPQIVRGA_____	X28462	HSV-1-pUS6	96	14aa	mRNA_30cpc_Ctx	1
LNAPSEAPQIVRGA_____	X28462	HSV-2-pUS6	96	14aa	mRNA_30cpc_Ctx	1
LWAPTEAVQVVRGA_____	X33474	BV-G	95	14aa	mRNA_30cpc_SN	1
LWAPTEAVQVVRGA_____	X33474	BV-G	95	14aa	mRNA_30cpc_Th	1
LWAPTEAVQVVRGA_____	X33474	BV-G	95	14aa	mRNA_30cpc_Ctx	1
____SEAPQIVRGASDEARKHTYNLT	X12720	HSV-1-pUS6	100	22aa	mRNA_30cpc_Th	1
____SEAPQIVRGASDEARKHTYNLT	X12720	HSV-2-pUS6	100	22aa	mRNA_30cpc_Th	1
____SEAPQIVRGASDEARKHTYNLT	X12720	HSV-1-pUS6	100	22aa	mRNA_30cpc_Ctx	2
____SEAPQIVRGASDEARKHTYNLT	X12720	HSV-2-pUS6	100	22aa	mRNA_30cpc_Ctx	2
____SEAPQIVRGASDEARKHTYNLT	X12720	HSV-1-pUS6	100	22aa	mRNA_3000cpc_Organoid_MD101	1
____SEAPQIVRGASDEARKHTYNLT	X12720	HSV-2-pUS6	100	22aa	mRNA_3000cpc_Organoid_MD101	1
____SEAPQIVRGASEDV_____	X12723	HSV-1-pUS6	100	14aa	mRNA_30cpc_SN	1
____SEAPQIVRGASEDV_____	X12723	HSV-2-pUS6	100	14aa	mRNA_30cpc_SN	1
____SEAPQIVRGASEDV_____	X12723	HSV-1-pUS6	100	14aa	mRNA_30cpc_SN_4wks	1
____SEAPQIVRGASEDV_____	X12723	HSV-2-pUS6	100	14aa	mRNA_30cpc_SN_4wks	1
____SEAPQIVRGASEDVRKQPYNLT	X12722	HSV-1-pUS6	100	22aa	mRNA_30cpc_Ctx	1
____SEAPQIVRGASEDVRKQPYNLT	X12722	HSV-2-pUS6	100	22aa	mRNA_30cpc_Ctx	1

Peptide PVAADNVIVQNSMR from HSV-1-pUL27 with cluster number 8794

ide PVAADNVIVQNSMR from HSV-1-pUL27 with cluster numb



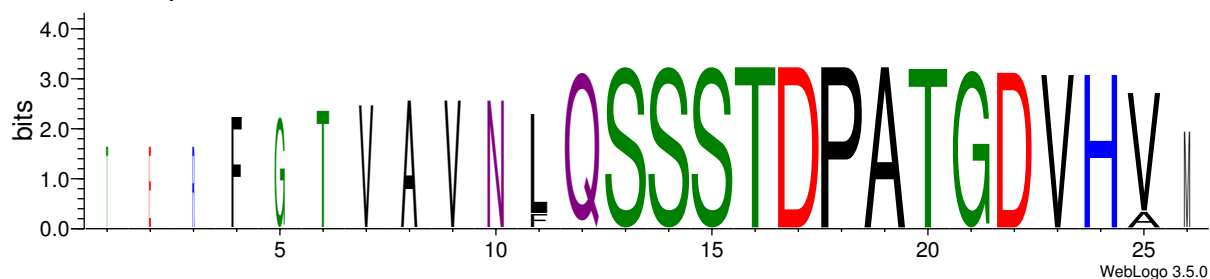
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8794	PVAADNVIVQNSMR	20	7	3	7	3	0	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8794	PVAADNVIVQNSMR	_PVAADNVIVQNSMR_	6	1	0	3
8794	VPVAPDNVIVQNSM	VPVAPDNVIVQNSM_	4	2	1	1
8794	VPVAADNVIVQNSM	VPVAADNVIVQNSM_	3	1	1	1
8794	AADNVIVQNSMRIS	__AADNVIVQNSMRIS_	3	1	0	1
8794	VTQENIVYNSMYE	__VTQENIVYNSMYE__	2	1	1	0
8794	APDNVIVQNSMRVS	___APDNVIVQNSMRVS_	1	1	0	0
8794	ADNVIVQNSMRISS	____ADNVIVQNSMRISS	1	0	0	1

alignment	LUThrs	GeneName	start	structure	Group	Score
___AADNVIVQNSMRIS_	X43663	HSV-1-pUL27	577	14aa	mRNA_30cpc_SN	1
___AADNVIVQNSMRIS_	X43663	HSV-2-pUL27	574	14aa	mRNA_30cpc_SN	1
___AADNVIVQNSMRIS_	X43663	HSV-1-pUL27	577	14aa	mRNA_30cpc_Ctx	1
___AADNVIVQNSMRIS_	X43663	HSV-2-pUL27	574	14aa	mRNA_30cpc_Ctx	1
___AADNVIVQNSMRIS_	X56566	HSV-1-pUL27	577	14aaA5	mRNA_3cpc_Th	1
___AADNVIVQNSMRIS_	X56566	HSV-2-pUL27	574	14aaA5	mRNA_3cpc_Th	1
___ADNVIVQNSMRISS	X42837	HSV-1-pUL27	578	14aa	mRNA_30cpc_SN	1
___ADNVIVQNSMRISS	X42837	HSV-2-pUL27	575	14aa	mRNA_30cpc_SN	1
___APDNVIVQNSMRVS_	X41804	HSV-1-pUL27	577	14aa	mRNA_30cpc_Ctx	1
___APDNVIVQNSMRVS_	X41804	HSV-2-pUL27	574	14aa	mRNA_30cpc_Ctx	1
PVAADNVIVQNSMR	X24296	HSV-1-pUL27	575	14aa	mRNA_30cpc_SN	3
PVAADNVIVQNSMR	X24296	HSV-2-pUL27	572	14aa	mRNA_30cpc_SN	3
PVAADNVIVQNSMR	X24296	HSV-1-pUL27	575	14aa	mRNA_30cpc_Ctx	1
PVAADNVIVQNSMR	X24296	HSV-2-pUL27	572	14aa	mRNA_30cpc_Ctx	1
PVAADNVIVQNSMR	X24296	HSV-1-pUL27	575	14aa	mRNA_3cpc_Th	2
PVAADNVIVQNSMR	X24296	HSV-2-pUL27	572	14aa	mRNA_3cpc_Th	2
VPVAADNVIVQNSM_	X67321	HSV-1-pUL27	574	14aa	mRNA_30cpc_SN	1
VPVAADNVIVQNSM_	X67321	HSV-2-pUL27	571	14aa	mRNA_30cpc_SN	1
VPVAADNVIVQNSM_	X67321	HSV-1-pUL27	574	14aa	mRNA_30cpc_Th	1
VPVAADNVIVQNSM_	X67321	HSV-2-pUL27	571	14aa	mRNA_30cpc_Th	1
VPVAADNVIVQNSM_	X67321	HSV-1-pUL27	574	14aa	mRNA_30cpc_Ctx	1
VPVAADNVIVQNSM_	X67321	HSV-2-pUL27	571	14aa	mRNA_30cpc_Ctx	1
VPVAPDNVIVQNSM_	X67319	HSV-1-pUL27	574	14aa	mRNA_30cpc_SN	1
VPVAPDNVIVQNSM_	X67319	HSV-2-pUL27	571	14aa	mRNA_30cpc_SN	1
VPVAPDNVIVQNSM_	X67319	HSV-1-pUL27	574	14aa	mRNA_30cpc_Th	1
VPVAPDNVIVQNSM_	X67319	HSV-2-pUL27	571	14aa	mRNA_30cpc_Th	1
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__VTQENIVYNSMYE__	X66040	BoNT-C-Hc	63	14aa	mRNA_30cpc_Th	1
__VTQENIVYNSMYE__	X66040	BoNT-C-Hc	63	14aa	mRNA_30cpc_Ctx	1

Peptide QSSSTDPATGDVHV from AAV1-VP1 with cluster number 8727

Peptide QSSSTDPATGDVHV from AAV1-VP1 with cluster number 8727



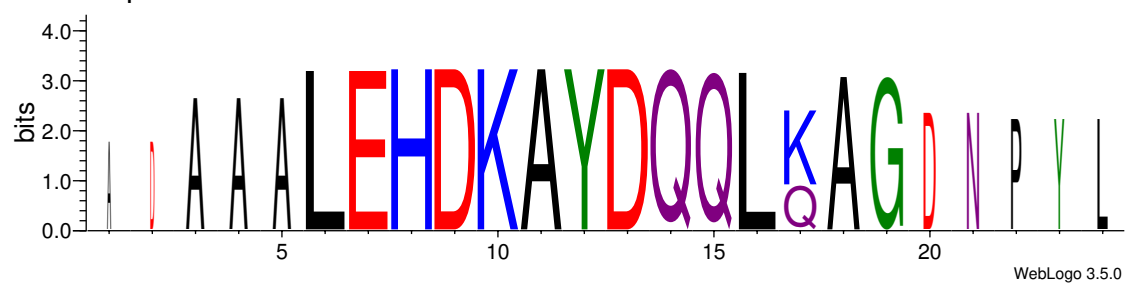
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8727	QSSSTDPATGDVHV	20	5	3	3	4	2	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8727	QSSSTDPATGDVHV	_____QSSSTDPATGDVHV_	9	2	2	1
8727	FGTVAVNLQSSSTDPATGDVHV	___FGTVAVNLQSSSTDPATGDVHV_	4	1	1	1
8727	SSSTDPATGDVHAM	_____SSSTDPATGDVHAM	2	1	0	1
8727	VAVNLQSSSTDPAT	_____VAVNLQSSSTDPAT_____	1	0	0	0
8727	TVAVNLQSSSTDPA	_____TVAVNLQSSSTDPA_____	1	1	0	0
8727	TERFGTVAVNFQSSSTDPATGD	TERFGTVAVNFQSSSTDPATGD_____	1	0	0	0
8727	SSSTDPATGDVHVM	_____SSSTDPATGDVHVM	1	0	0	0
8727	AVNLQSSSTDPATG	_____AVNLQSSSTDPATG_____	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_____AVNLQSSSTDPATG_____	X44332	AAV1-VP1	581	14aa	mRNA_30cpc_Organoid_MD114	1
_____AVNLQSSSTDPATG_____	X44332	AAV6-VP1	581	14aa	mRNA_30cpc_Organoid_MD114	1
___FGTVAVNLQSSSTDPATGDVHV_	X75911	AAV1-VP1	577	22aa	mRNA_30cpc_SN	1
___FGTVAVNLQSSSTDPATGDVHV_	X75911	AAV6-VP1	577	22aa	mRNA_30cpc_SN	1
___FGTVAVNLQSSSTDPATGDVHV_	X75911	AAV1-VP1	577	22aa	mRNA_30cpc_Th	1
___FGTVAVNLQSSSTDPATGDVHV_	X75911	AAV6-VP1	577	22aa	mRNA_30cpc_Th	1
___FGTVAVNLQSSSTDPATGDVHV_	X75911	AAV1-VP1	577	22aa	mRNA_30cpc_Ctx	1
___FGTVAVNLQSSSTDPATGDVHV_	X75911	AAV6-VP1	577	22aa	mRNA_30cpc_Ctx	1
___FGTVAVNLQSSSTDPATGDVHV_	X75911	AAV1-VP1	577	22aa	mRNA_30cpc_Th_4wks	1
___FGTVAVNLQSSSTDPATGDVHV_	X75911	AAV6-VP1	577	22aa	mRNA_30cpc_Th_4wks	1
_____QSSSTDPATGDVHV_	X18756	AAV1-VP1	585	14aa	mRNA_30cpc_SN	1
_____QSSSTDPATGDVHV_	X18756	AAV6-VP1	585	14aa	mRNA_30cpc_SN	1
_____QSSSTDPATGDVHV_	X18756	AAV1-VP1	585	14aa	mRNA_30cpc_Th	2
_____QSSSTDPATGDVHV_	X18756	AAV6-VP1	585	14aa	mRNA_30cpc_Th	2
_____QSSSTDPATGDVHV_	X18756	AAV1-VP1	585	14aa	mRNA_30cpc_Ctx	2
_____QSSSTDPATGDVHV_	X18756	AAV6-VP1	585	14aa	mRNA_30cpc_Ctx	2
_____QSSSTDPATGDVHV_	X18756	AAV1-VP1	585	14aa	mRNA_3cpc_Th	3
_____QSSSTDPATGDVHV_	X18756	AAV6-VP1	585	14aa	mRNA_3cpc_Th	3
_____QSSSTDPATGDVHV_	X18756	AAV1-VP1	585	14aa	mRNA_3cpc_Th_4wks	1
_____QSSSTDPATGDVHV_	X18756	AAV6-VP1	585	14aa	mRNA_3cpc_Th_4wks	1
_____SSSTDPATGDVHAM	X10626	AAV1-VP1	586	14aa	mRNA_30cpc_SN	1
_____SSSTDPATGDVHAM	X10626	AAV6-VP1	586	14aa	mRNA_30cpc_SN	1
_____SSSTDPATGDVHAM	X10626	AAV1-VP1	586	14aa	mRNA_30cpc_Ctx	1
_____SSSTDPATGDVHAM	X10626	AAV6-VP1	586	14aa	mRNA_30cpc_Ctx	1
_____SSSTDPATGDVHVM	X10628	AAV1-VP1	586	14aa	mRNA_3000cpc_Organoid_MD101	1
_____SSSTDPATGDVHVM	X10628	AAV6-VP1	586	14aa	mRNA_3000cpc_Organoid_MD101	1
TERFGTVAVNFQSSSTDPATGD_____	X8301	AAV1-VP1	574	22aa	mRNA_30cpc_Organoid_MD114	1
TERFGTVAVNFQSSSTDPATGD_____	X8301	AAV6-VP1	574	22aa	mRNA_30cpc_Organoid_MD114	1
_____TVAVNLQSSSTDPA_____	X9258	AAV1-VP1	579	14aa	mRNA_30cpc_Ctx	1
_____TVAVNLQSSSTDPA_____	X9258	AAV6-VP1	579	14aa	mRNA_30cpc_Ctx	1
_____VAVNLQSSSTDPAT_____	X59016	AAV1-VP1	580	14aaA5	mRNA_3cpc_Th	1
_____VAVNLQSSSTDPAT_____	X59016	AAV6-VP1	580	14aaA5	mRNA_3cpc_Th	1

Peptide LEHDKAYDQQLKAG from AAV1-VP1 with cluster number 8712

Peptide LEHDKAYDQQLKAG from AAV1-VP1 with cluster number 8712



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
8712	LEHDKAYDQQLKAG	20	4	7	3	4	2	0

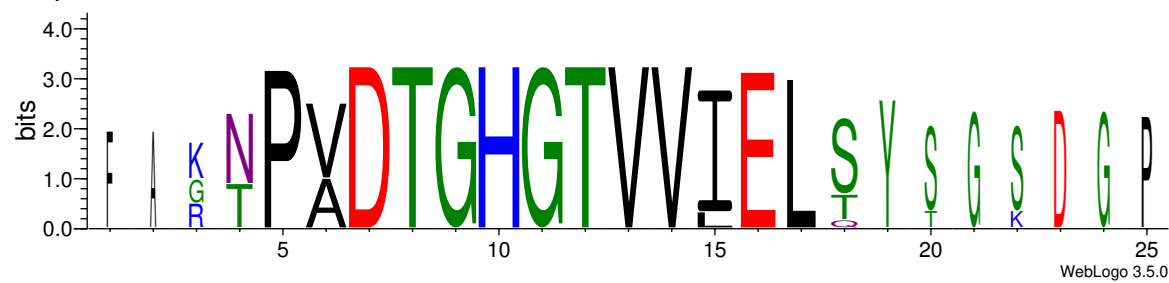
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8712	LEHDKAYDQQLKAG	_____LEHDKAYDQQLKAG_____	8	2	2	2
8712	AAALEHDKAYDQQLQAGDNPYL	__AAALEHDKAYDQQLQAGDNPYL	3	1	2	0
8712	LEHDKAYDQQLQAG	_____LEHDKAYDQQLQAG_____	2	1	1	0
8712	ADAAALEHDKAYDQ	ADAAALEHDKAYDQ_____	2	0	0	0
8712	AAALEHDKAYDQQLKAGDNPYL	__AAALEHDKAYDQQLKAGDNPYL	2	0	1	1
8712	AAALEHDKAYDQQL	__AAALEHDKAYDQQL_____	2	0	1	0
8712	HDKAYDQQLQAGDN	_____HDKAYDQQLQAGDN___	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
__AAALEHDKAYDQQL_____	X43760	AAV1-VP1	70	14aa	mRNA_30cpc_Th	1
__AAALEHDKAYDQQL_____	X43760	AAV6-VP1	70	14aa	mRNA_30cpc_Th	1
__AAALEHDKAYDQQL_____	X43760	AAV8-VP1	70	14aa	mRNA_30cpc_Th	1
__AAALEHDKAYDQQL_____	X43760	AAV9-VP1	70	14aa	mRNA_30cpc_Th	1
__AAALEHDKAYDQQL_____	X43760	AAV1-VP1	70	14aa	mRNA_3cpc_Th	1
__AAALEHDKAYDQQL_____	X43760	AAV6-VP1	70	14aa	mRNA_3cpc_Th	1
__AAALEHDKAYDQQL_____	X43760	AAV8-VP1	70	14aa	mRNA_3cpc_Th	1
__AAALEHDKAYDQQL_____	X43760	AAV9-VP1	70	14aa	mRNA_3cpc_Th	1
__AAALEHDKAYDQQLKAGDNPYL	X43758	AAV1-VP1	70	22aa	mRNA_30cpc_SN	1
__AAALEHDKAYDQQLKAGDNPYL	X43758	AAV6-VP1	70	22aa	mRNA_30cpc_SN	1
__AAALEHDKAYDQQLKAGDNPYL	X43758	AAV8-VP1	70	22aa	mRNA_30cpc_SN	1
__AAALEHDKAYDQQLKAGDNPYL	X43758	AAV9-VP1	70	22aa	mRNA_30cpc_SN	1
__AAALEHDKAYDQQLKAGDNPYL	X43758	AAV1-VP1	70	22aa	mRNA_30cpc_Th	1
__AAALEHDKAYDQQLKAGDNPYL	X43758	AAV6-VP1	70	22aa	mRNA_30cpc_Th	1
__AAALEHDKAYDQQLKAGDNPYL	X43758	AAV8-VP1	70	22aa	mRNA_30cpc_Th	1
__AAALEHDKAYDQQLKAGDNPYL	X43758	AAV9-VP1	70	22aa	mRNA_30cpc_Th	1
__AAALEHDKAYDQQLQAGDNPYL	X43759	AAV1-VP1	70	22aa	mRNA_30cpc_Th	2
__AAALEHDKAYDQQLQAGDNPYL	X43759	AAV6-VP1	70	22aa	mRNA_30cpc_Th	2
__AAALEHDKAYDQQLQAGDNPYL	X43759	AAV8-VP1	70	22aa	mRNA_30cpc_Th	2
__AAALEHDKAYDQQLQAGDNPYL	X43759	AAV9-VP1	70	22aa	mRNA_30cpc_Th	2
__AAALEHDKAYDQQLQAGDNPYL	X43759	AAV1-VP1	70	22aa	mRNA_30cpc_Ctx	1
__AAALEHDKAYDQQLQAGDNPYL	X43759	AAV6-VP1	70	22aa	mRNA_30cpc_Ctx	1
__AAALEHDKAYDQQLQAGDNPYL	X43759	AAV8-VP1	70	22aa	mRNA_30cpc_Ctx	1
__AAALEHDKAYDQQLQAGDNPYL	X43759	AAV9-VP1	70	22aa	mRNA_30cpc_Ctx	1
ADAAALEHDKAYDQ_____	X43045	AAV1-VP1	68	14aa	mRNA_3cpc_Th	1
ADAAALEHDKAYDQ_____	X43045	AAV6-VP1	68	14aa	mRNA_3cpc_Th	1
ADAAALEHDKAYDQ_____	X43045	AAV8-VP1	68	14aa	mRNA_3cpc_Th	1
ADAAALEHDKAYDQ_____	X43045	AAV9-VP1	68	14aa	mRNA_3cpc_Th	1
ADAAALEHDKAYDQ_____	X43045	AAV1-VP1	68	14aa	mRNA_30cpc_Organoid_MD114	1
ADAAALEHDKAYDQ_____	X43045	AAV6-VP1	68	14aa	mRNA_30cpc_Organoid_MD114	1
ADAAALEHDKAYDQ_____	X43045	AAV8-VP1	68	14aa	mRNA_30cpc_Organoid_MD114	1
ADAAALEHDKAYDQ_____	X43045	AAV9-VP1	68	14aa	mRNA_30cpc_Organoid_MD114	1
_____HDKAYDQQLQAGDN__	X17841	AAV1-VP1	75	14aa	mRNA_3cpc_Th	1
_____HDKAYDQQLQAGDN__	X17841	AAV6-VP1	75	14aa	mRNA_3cpc_Th	1
_____HDKAYDQQLQAGDN__	X17841	AAV8-VP1	75	14aa	mRNA_3cpc_Th	1
_____HDKAYDQQLQAGDN__	X17841	AAV9-VP1	75	14aa	mRNA_3cpc_Th	1
_____LEHDKAYDQQLKAG____	X31578	AAV1-VP1	73	14aa	mRNA_30cpc_SN	1
_____LEHDKAYDQQLKAG____	X84751	AAV1-VP1	73	14aaG4S	mRNA_30cpc_SN	1
_____LEHDKAYDQQLKAG____	X31578	AAV6-VP1	73	14aa	mRNA_30cpc_SN	1
_____LEHDKAYDQQLKAG____	X84751	AAV6-VP1	73	14aaG4S	mRNA_30cpc_SN	1
_____LEHDKAYDQQLKAG____	X31578	AAV8-VP1	73	14aa	mRNA_30cpc_SN	1
_____LEHDKAYDQQLKAG____	X84751	AAV8-VP1	73	14aaG4S	mRNA_30cpc_SN	1
_____LEHDKAYDQQLKAG____	X31578	AAV9-VP1	73	14aa	mRNA_30cpc_SN	1
_____LEHDKAYDQQLKAG____	X84751	AAV9-VP1	73	14aaG4S	mRNA_30cpc_SN	1
_____LEHDKAYDQQLKAG____	X31578	AAV1-VP1	73	14aa	mRNA_30cpc_Th	1
_____LEHDKAYDQQLKAG____	X84751	AAV1-VP1	73	14aaG4S	mRNA_30cpc_Th	1
_____LEHDKAYDQQLKAG____	X31578	AAV6-VP1	73	14aa	mRNA_30cpc_Th	1

alignment	LUThrs	GeneName	start	structure	Group	Score
-----LEHDKAYDQQLKAG-----	X84751	AAV6-VP1	73	14aaG4S	mRNA_30cpc_Th	1
-----LEHDKAYDQQLKAG-----	X31578	AAV8-VP1	73	14aa	mRNA_30cpc_Th	1
-----LEHDKAYDQQLKAG-----	X84751	AAV8-VP1	73	14aaG4S	mRNA_30cpc_Th	1
-----LEHDKAYDQQLKAG-----	X31578	AAV9-VP1	73	14aa	mRNA_30cpc_Th	1
-----LEHDKAYDQQLKAG-----	X84751	AAV9-VP1	73	14aaG4S	mRNA_30cpc_Th	1
-----LEHDKAYDQQLKAG-----	X84751	AAV1-VP1	73	14aaG4S	mRNA_30cpc_Ctx	2
-----LEHDKAYDQQLKAG-----	X84751	AAV6-VP1	73	14aaG4S	mRNA_30cpc_Ctx	2
-----LEHDKAYDQQLKAG-----	X84751	AAV8-VP1	73	14aaG4S	mRNA_30cpc_Ctx	2
-----LEHDKAYDQQLKAG-----	X84751	AAV9-VP1	73	14aaG4S	mRNA_30cpc_Ctx	2
-----LEHDKAYDQQLKAG-----	X84751	AAV1-VP1	73	14aaG4S	mRNA_3cpc_Th	1
-----LEHDKAYDQQLKAG-----	X84751	AAV6-VP1	73	14aaG4S	mRNA_3cpc_Th	1
-----LEHDKAYDQQLKAG-----	X84751	AAV8-VP1	73	14aaG4S	mRNA_3cpc_Th	1
-----LEHDKAYDQQLKAG-----	X84751	AAV9-VP1	73	14aaG4S	mRNA_3cpc_Th	1
-----LEHDKAYDQQLKAG-----	X31578	AAV1-VP1	73	14aa	mRNA_30cpc_Organoid_MD114	1
-----LEHDKAYDQQLKAG-----	X31578	AAV6-VP1	73	14aa	mRNA_30cpc_Organoid_MD114	1
-----LEHDKAYDQQLKAG-----	X31578	AAV8-VP1	73	14aa	mRNA_30cpc_Organoid_MD114	1
-----LEHDKAYDQQLKAG-----	X31578	AAV9-VP1	73	14aa	mRNA_30cpc_Organoid_MD114	1
-----LEHDKAYDQQLQAG-----	X53462	AAV1-VP1	73	14aaA5	mRNA_30cpc_Th	1
-----LEHDKAYDQQLQAG-----	X53462	AAV6-VP1	73	14aaA5	mRNA_30cpc_Th	1
-----LEHDKAYDQQLQAG-----	X53462	AAV8-VP1	73	14aaA5	mRNA_30cpc_Th	1
-----LEHDKAYDQQLQAG-----	X53462	AAV9-VP1	73	14aaA5	mRNA_30cpc_Th	1
-----LEHDKAYDQQLQAG-----	X53462	AAV1-VP1	73	14aaA5	mRNA_30cpc_Ctx	1
-----LEHDKAYDQQLQAG-----	X53462	AAV6-VP1	73	14aaA5	mRNA_30cpc_Ctx	1
-----LEHDKAYDQQLQAG-----	X53462	AAV8-VP1	73	14aaA5	mRNA_30cpc_Ctx	1
-----LEHDKAYDQQLQAG-----	X53462	AAV9-VP1	73	14aaA5	mRNA_30cpc_Ctx	1

Peptide NPVDTGHGTVVIELSYSGSDGP from JEV-E-BN19 with cluster number 8375

Peptide NPVDTGHGTVVIELSYSGSDGP from JEV-E-BN19 with cluster number 8375



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
8375	NPVDTGHGTVVIELSYSGSDGP	20	6	7	4	1	1	0

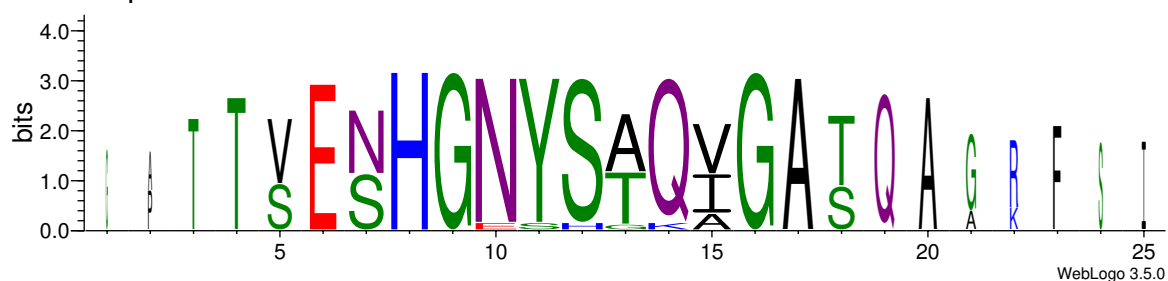
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8375	NPVDTGHGTVVIELSYSGSDGP	___NPVDTGHGTVVIELSYSGSDGP	5	2	1	1
8375	PVDTGHGTVVIELS	___PVDTGHGTVVIELS_____	4	1	1	1
8375	KNPVDTGHGTVVIE	_KNPVDTGHGTVVIE_____	3	1	1	1
8375	FARTPADTGHGTVV	FARTPADTGHGTVV_____	2	1	1	0
8375	ADTGHGTVVIELTY	_____ADTGHGTVVIELTY_____	2	1	1	0
8375	TPADTGHGTVVLEL	_____TPADTGHGTVVLEL_____	1	0	1	0
8375	PADTGHGTVVIELT	_____PADTGHGTVVIELT_____	1	0	0	1
8375	GTPADTGHGTVVLELQYTGKDG	_GTPADTGHGTVVLELQYTGKDG_	1	0	1	0
8375	FAGTPADTGHGTVV	FAGTPADTGHGTVV_____	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_____ADTGHGTVVIELTY_____	X42866	JEV-E-BN19	315	14aa	mRNA_30cpc_Th	1
_____ADTGHGTVVIELTY_____	X42866	JEV-E-KE-093	315	14aa	mRNA_30cpc_Th	1
_____ADTGHGTVVIELTY_____	X42866	JEV-E-SA14-5-3	315	14aa	mRNA_30cpc_Th	1
_____ADTGHGTVVIELTY_____	X42866	JEV-E-ThCMAr4492	315	14aa	mRNA_30cpc_Th	1
_____ADTGHGTVVIELTY_____	X42866	JEV-E-BN19	315	14aa	mRNA_30cpc_Ctx	1
_____ADTGHGTVVIELTY_____	X42866	JEV-E-KE-093	315	14aa	mRNA_30cpc_Ctx	1
_____ADTGHGTVVIELTY_____	X42866	JEV-E-SA14-5-3	315	14aa	mRNA_30cpc_Ctx	1
_____ADTGHGTVVIELTY_____	X42866	JEV-E-ThCMAr4492	315	14aa	mRNA_30cpc_Ctx	1
FAGTPADTGHGTVV_____	X75838	JEV-E-BN19	310	14aa	mRNA_3000cpc_Organoid_MD101	1
FAGTPADTGHGTVV_____	X75838	JEV-E-KE-093	310	14aa	mRNA_3000cpc_Organoid_MD101	1
FAGTPADTGHGTVV_____	X75838	JEV-E-ThCMAr4492	310	14aa	mRNA_3000cpc_Organoid_MD101	1
FAGTPADTGHGTVV_____	X75838	WNV-E-AZ10-918	311	14aa	mRNA_3000cpc_Organoid_MD101	1
FAGTPADTGHGTVV_____	X75838	WNV-E-ArD76104	307	14aa	mRNA_3000cpc_Organoid_MD101	1
FAGTPADTGHGTVV_____	X75838	WNV-E-H-442	311	14aa	mRNA_3000cpc_Organoid_MD101	1
FARTPADTGHGTVV_____	X75795	JEV-E-BN19	310	14aa	mRNA_30cpc_Th	1
FARTPADTGHGTVV_____	X75795	JEV-E-KE-093	310	14aa	mRNA_30cpc_Th	1
FARTPADTGHGTVV_____	X75795	JEV-E-ThCMAr4492	310	14aa	mRNA_30cpc_Th	1
FARTPADTGHGTVV_____	X75795	WNV-E-ArD76104	307	14aa	mRNA_30cpc_Th	1
FARTPADTGHGTVV_____	X75795	WNV-E-H-442	311	14aa	mRNA_30cpc_Th	1
FARTPADTGHGTVV_____	X75795	JEV-E-BN19	310	14aa	mRNA_30cpc_Ctx	1
FARTPADTGHGTVV_____	X75795	JEV-E-KE-093	310	14aa	mRNA_30cpc_Ctx	1
FARTPADTGHGTVV_____	X75795	JEV-E-ThCMAr4492	310	14aa	mRNA_30cpc_Ctx	1
FARTPADTGHGTVV_____	X75795	WNV-E-ArD76104	307	14aa	mRNA_30cpc_Ctx	1
FARTPADTGHGTVV_____	X75795	WNV-E-H-442	311	14aa	mRNA_30cpc_Ctx	1
__GTPADTGHGTVVLELQYTGKDG_	X61554	WNV-E-AZ10-918	313	22aa	mRNA_30cpc_Th	1
__GTPADTGHGTVVLELQYTGKDG_	X61554	WNV-E-ArD76104	309	22aa	mRNA_30cpc_Th	1
__GTPADTGHGTVVLELQYTGKDG_	X61554	WNV-E-H-442	313	22aa	mRNA_30cpc_Th	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-BN19	312	14aa	mRNA_30cpc_SN	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-KE-093	312	14aa	mRNA_30cpc_SN	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-SA14-5-3	312	14aa	mRNA_30cpc_SN	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-ThCMAr4492	312	14aa	mRNA_30cpc_SN	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-BN19	312	14aa	mRNA_30cpc_Th	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-KE-093	312	14aa	mRNA_30cpc_Th	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-SA14-5-3	312	14aa	mRNA_30cpc_Th	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-ThCMAr4492	312	14aa	mRNA_30cpc_Th	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-BN19	312	14aa	mRNA_30cpc_Ctx	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-KE-093	312	14aa	mRNA_30cpc_Ctx	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-SA14-5-3	312	14aa	mRNA_30cpc_Ctx	1
__KNPVDTGHGTVVIE_____	X3052	JEV-E-ThCMAr4492	312	14aa	mRNA_30cpc_Ctx	1
__NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-BN19	313	22aa	mRNA_30cpc_SN	1
__NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-KE-093	313	22aa	mRNA_30cpc_SN	1
__NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-SA14-5-3	313	22aa	mRNA_30cpc_SN	1
__NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-ThCMAr4492	313	22aa	mRNA_30cpc_SN	1
__NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-BN19	313	22aa	mRNA_30cpc_Th	1
__NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-KE-093	313	22aa	mRNA_30cpc_Th	1
__NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-SA14-5-3	313	22aa	mRNA_30cpc_Th	1
__NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-ThCMAr4492	313	22aa	mRNA_30cpc_Th	1

alignment	LUThrs	GeneName	start	structure	Group	Score
___NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-BN19	313	22aa	mRNA_30cpc_Ctx	2
___NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-KE-093	313	22aa	mRNA_30cpc_Ctx	2
___NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-SA14-5-3	313	22aa	mRNA_30cpc_Ctx	2
___NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-ThCMAr4492	313	22aa	mRNA_30cpc_Ctx	2
___NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-BN19	313	22aa	mRNA_3cpc_Th	1
___NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-KE-093	313	22aa	mRNA_3cpc_Th	1
___NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-SA14-5-3	313	22aa	mRNA_3cpc_Th	1
___NPVDTGHGTVVIELSYSGSDGP	X1377	JEV-E-ThCMAr4492	313	22aa	mRNA_3cpc_Th	1
___PADTGHGTVVIELT_____	X23538	JEV-E-BN19	314	14aa	mRNA_30cpc_SN	1
___PADTGHGTVVIELT_____	X23538	JEV-E-KE-093	314	14aa	mRNA_30cpc_SN	1
___PADTGHGTVVIELT_____	X23538	JEV-E-SA14-5-3	314	14aa	mRNA_30cpc_SN	1
___PADTGHGTVVIELT_____	X23538	JEV-E-ThCMAr4492	314	14aa	mRNA_30cpc_SN	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-BN19	314	14aa	mRNA_30cpc_SN	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-KE-093	314	14aa	mRNA_30cpc_SN	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-SA14-5-3	314	14aa	mRNA_30cpc_SN	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-ThCMAr4492	314	14aa	mRNA_30cpc_SN	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-BN19	314	14aa	mRNA_30cpc_Th	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-KE-093	314	14aa	mRNA_30cpc_Th	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-SA14-5-3	314	14aa	mRNA_30cpc_Th	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-ThCMAr4492	314	14aa	mRNA_30cpc_Th	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-BN19	314	14aa	mRNA_30cpc_Ctx	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-KE-093	314	14aa	mRNA_30cpc_Ctx	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-SA14-5-3	314	14aa	mRNA_30cpc_Ctx	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-ThCMAr4492	314	14aa	mRNA_30cpc_Ctx	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-BN19	314	14aa	mRNA_30cpc_Organoid_MD114	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-KE-093	314	14aa	mRNA_30cpc_Organoid_MD114	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-SA14-5-3	314	14aa	mRNA_30cpc_Organoid_MD114	1
___PVDTHGHTVVIELS_____	X24219	JEV-E-ThCMAr4492	314	14aa	mRNA_30cpc_Organoid_MD114	1
___TPADTGHGTVVLEL_____	X7384	JEV-E-BN19	313	14aa	mRNA_30cpc_Th	1
___TPADTGHGTVVLEL_____	X7384	JEV-E-KE-093	313	14aa	mRNA_30cpc_Th	1
___TPADTGHGTVVLEL_____	X7384	JEV-E-ThCMAr4492	313	14aa	mRNA_30cpc_Th	1
___TPADTGHGTVVLEL_____	X7384	WNV-E-AZ10-918	314	14aa	mRNA_30cpc_Th	1
___TPADTGHGTVVLEL_____	X7384	WNV-E-ArD76104	310	14aa	mRNA_30cpc_Th	1
___TPADTGHGTVVLEL_____	X7384	WNV-E-H-442	314	14aa	mRNA_30cpc_Th	1

Peptide NHGNYSAQVGASQA from JEV-E-BN19 with cluster number 8354

Peptide NHGNYSAQVGASQA from JEV-E-BN19 with cluster number 8354



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
8354	NHGNYSAQVGASQA	20	5	1	4	2	3	1

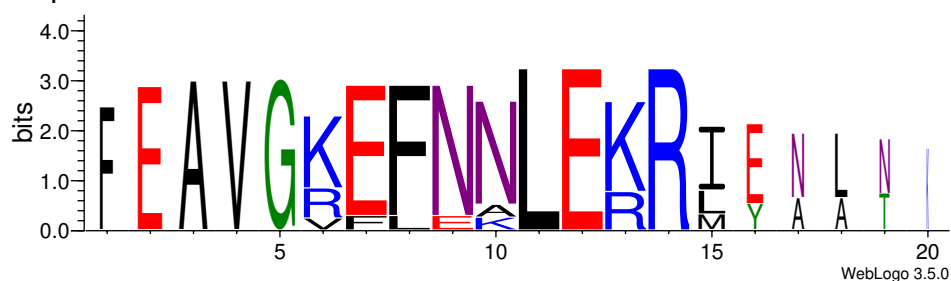
cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8354	NHGNYSAQVGASQA	-----NHGNYSAQVGASQA-----	4	1	1	1
8354	VESHGNYSTQIGAT	---VESHGNYSTQIGAT---	2	0	0	0
8354	TVESHGNYSTQIGATQAGRFSI	___TVESHGNYSTQIGATQAGRFSI	2	1	0	1
8354	TTSENHGNYSQVVG	__TTSENHGNYSQVVG__	2	1	0	1
8354	TSENHGNYSQVGA	___TSENHGNYSQVGA___	2	0	0	0
8354	VESHGNYSTQAGAT	---VESHGNYSTQAGAT---	1	0	0	0
8354	TTVESHGNYSTQAG	__TTVESHGNYSTQAG__	1	0	0	0
8354	PTTVESHGNYSTQA	_PTTVESHGNYSTQA_	1	1	0	0
8354	NYSAQVGASQAAKF	-----NYSAQVGASQAAKF--	1	0	0	1
8354	HGNYSTQIGATQAG	-----HGNYSTQIGATQAG---	1	0	0	0
8354	GATTSENHGNYSQA	GATTSENHGNYSQA_	1	1	0	0
8354	ESHGNYSTQIGATQ	-----ESHGNYSTQIGATQ-----	1	0	0	0
8354	ESHGKIGATQAGRF	-----ESHGKIGATQAGRF__	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_____ESHGKIGATQAGRF__	X37281	WNV-E-ArD76104	150	14aa	mRNA_30cpc_Organoid_MD114	1
_____ESHGNYSTQIGATQ_____	X37279	WNV-E-AZ10-918	150	14aa	mRNA_3000cpc_Organoid_MD101	1
_____ESHGNYSTQIGATQ_____	X37279	WNV-E-H-442	150	14aa	mRNA_3000cpc_Organoid_MD101	1
GATTSENHGNYSQAQ_____	X64010	JEV-E-BN19	145	14aa	mRNA_30cpc_Ctx	1
GATTSENHGNYSQAQ_____	X64010	JEV-E-KE-093	145	14aa	mRNA_30cpc_Ctx	1
GATTSENHGNYSQAQ_____	X64010	JEV-E-SA14-5-3	145	14aa	mRNA_30cpc_Ctx	1
GATTSENHGNYSQAQ_____	X64010	JEV-E-ThCMAr4492	145	14aa	mRNA_30cpc_Ctx	1
_____HGNYSTQIGATQAG_____	X18087	WNV-E-AZ10-918	152	14aa	mRNA_30cpc_Organoid_MD114	1
_____HGNYSTQIGATQAG_____	X18087	WNV-E-H-442	152	14aa	mRNA_30cpc_Organoid_MD114	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-BN19	151	14aa	mRNA_30cpc_SN	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-KE-093	151	14aa	mRNA_30cpc_SN	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-SA14-5-3	151	14aa	mRNA_30cpc_SN	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-ThCMAr4492	151	14aa	mRNA_30cpc_SN	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-BN19	151	14aa	mRNA_30cpc_Th	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-KE-093	151	14aa	mRNA_30cpc_Th	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-SA14-5-3	151	14aa	mRNA_30cpc_Th	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-ThCMAr4492	151	14aa	mRNA_30cpc_Th	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-BN19	151	14aa	mRNA_30cpc_Ctx	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-KE-093	151	14aa	mRNA_30cpc_Ctx	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-SA14-5-3	151	14aa	mRNA_30cpc_Ctx	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-ThCMAr4492	151	14aa	mRNA_30cpc_Ctx	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-BN19	151	14aa	mRNA_3cpc_Th	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-KE-093	151	14aa	mRNA_3cpc_Th	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-SA14-5-3	151	14aa	mRNA_3cpc_Th	1
_____NHGNYSAQVGASQA_____	X1088	JEV-E-ThCMAr4492	151	14aa	mRNA_3cpc_Th	1
_____NYSQAQVGASQAQAF_____	X2678	JEV-E-BN19	154	14aa	mRNA_30cpc_SN	1
_____NYSQAQVGASQAQAF_____	X2678	JEV-E-KE-093	154	14aa	mRNA_30cpc_SN	1
_____NYSQAQVGASQAQAF_____	X2678	JEV-E-SA14-5-3	154	14aa	mRNA_30cpc_SN	1
_____NYSQAQVGASQAQAF_____	X2678	JEV-E-ThCMAr4492	154	14aa	mRNA_30cpc_SN	1
PTTVESHGNYSTQA_____	X20830	WNV-E-AZ10-918	146	14aa	mRNA_30cpc_Ctx	1
PTTVESHGNYSTQA_____	X20830	WNV-E-H-442	146	14aa	mRNA_30cpc_Ctx	1
___TSENHGNYSQAQVGA_____	X6404	JEV-E-BN19	148	14aa	mRNA_3cpc_Th	1
___TSENHGNYSQAQVGA_____	X6404	JEV-E-KE-093	148	14aa	mRNA_3cpc_Th	1
___TSENHGNYSQAQVGA_____	X6404	JEV-E-SA14-5-3	148	14aa	mRNA_3cpc_Th	1
___TSENHGNYSQAQVGA_____	X6404	JEV-E-ThCMAr4492	148	14aa	mRNA_3cpc_Th	1
___TSENHGNYSQAQVGA_____	X6404	JEV-E-BN19	148	14aa	mRNA_3cpc_Ctx	1
___TSENHGNYSQAQVGA_____	X6404	JEV-E-KE-093	148	14aa	mRNA_3cpc_Ctx	1
___TSENHGNYSQAQVGA_____	X6404	JEV-E-SA14-5-3	148	14aa	mRNA_3cpc_Ctx	1
___TSENHGNYSQAQVGA_____	X6404	JEV-E-ThCMAr4492	148	14aa	mRNA_3cpc_Ctx	1
___TTSENHGNYSQAQVG_____	X5967	JEV-E-BN19	147	14aa	mRNA_30cpc_SN	1
___TTSENHGNYSQAQVG_____	X5967	JEV-E-KE-093	147	14aa	mRNA_30cpc_SN	1
___TTSENHGNYSQAQVG_____	X5967	JEV-E-SA14-5-3	147	14aa	mRNA_30cpc_SN	1
___TTSENHGNYSQAQVG_____	X5967	JEV-E-ThCMAr4492	147	14aa	mRNA_30cpc_SN	1
___TTSENHGNYSQAQVG_____	X5967	JEV-E-BN19	147	14aa	mRNA_30cpc_Ctx	1
___TTSENHGNYSQAQVG_____	X5967	JEV-E-KE-093	147	14aa	mRNA_30cpc_Ctx	1
___TTSENHGNYSQAQVG_____	X5967	JEV-E-SA14-5-3	147	14aa	mRNA_30cpc_Ctx	1
___TTSENHGNYSQAQVG_____	X5967	JEV-E-ThCMAr4492	147	14aa	mRNA_30cpc_Ctx	1

alignment	LUThrs	GeneName	start	structure	Group	Score
__TTVESHGNYSTQAG_____	X6160	WNV-E-AZ10-918	147	14aa	mRNA_30cpc_Organoid_MD114	1
__TTVESHGNYSTQAG_____	X6160	WNV-E-H-442	147	14aa	mRNA_30cpc_Organoid_MD114	1
___TVESHGNYSTQIGATQAGRFSI	X9210	WNV-E-AZ10-918	148	22aa	mRNA_30cpc_SN	1
___TVESHGNYSTQIGATQAGRFSI	X9210	WNV-E-H-442	148	22aa	mRNA_30cpc_SN	1
___TVESHGNYSTQIGATQAGRFSI	X9210	WNV-E-AZ10-918	148	22aa	mRNA_30cpc_Ctx	1
___TVESHGNYSTQIGATQAGRFSI	X9210	WNV-E-H-442	148	22aa	mRNA_30cpc_Ctx	1
____VESHGNYSTQAGAT_____	X68262	WNV-E-AZ10-918	149	14aa	mRNA_3000cpc_Organoid_MD101	1
____VESHGNYSTQAGAT_____	X68262	WNV-E-H-442	149	14aa	mRNA_3000cpc_Organoid_MD101	1
____VESHGNYSTQIGAT_____	X68261	WNV-E-AZ10-918	149	14aa	mRNA_3000cpc_Organoid_MD101	2
____VESHGNYSTQIGAT_____	X68261	WNV-E-H-442	149	14aa	mRNA_3000cpc_Organoid_MD101	2

Peptide FEAVGKEFNNLEKR from H1N1-HA with cluster number 8324

Peptide FEAVGKEFNNLEKR from H1N1-HA with cluster number 8324



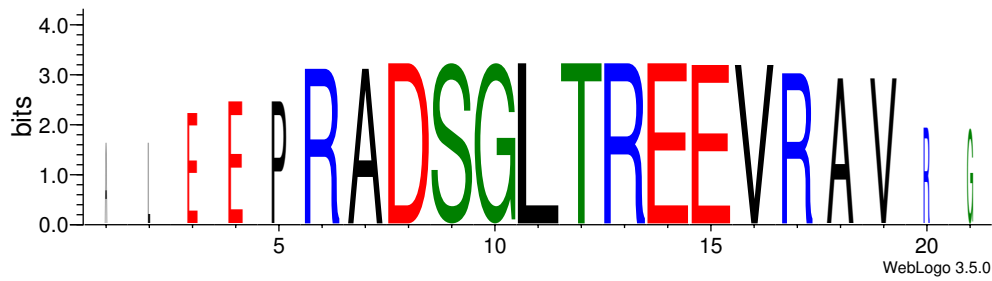
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8324	FEAVGKEFNNLEKR	20	4	3	6	4	2	1

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8324	FEAVGKEFNNLEKR	FEAVGKEFNNLEKR_	7	2	1	3
8324	EAVGREFNNLERRI	_EAVGREFNNLERRI_	3	1	1	1
8324	VFLEALEKRIYAAT	____VFLEALEKRIYAAT_	2	0	1	1
8324	REFNNLERRIENLN	____REFNNLERRIENLN_	2	0	0	0
8324	EAVGKEFNNLEKRL	_EAVGKEFNNLEKRL_	2	1	0	0
8324	GKEFNKLEKRMENL	____GKEFNKLEKRMENL_	1	0	0	0
8324	EFNNLERRIENLNK	____EFNNLERRIENLNK	1	0	0	0
8324	AVGKEFNNLEKRLE	_AVGKEFNNLEKRLE_	1	0	0	0
8324	AVGKEFNKLEKRME	_AVGKEFNKLEKRME_	1	0	0	1

alignment	LUThrs	GeneName	start	structure	Group	Score
AVGKEFNKLEKRME	X44625	H1N1-HA	408	14aa	mRNA_30cpc_SN	1
AVGKEFNKLEKRME	X44625	H2N2-HA	405	14aa	mRNA_30cpc_SN	1
AVGKEFNNLEKRLE	X44624	H1N1-HA	408	14aa	mRNA_3cpc_Th	1
AVGKEFNNLEKRLE	X44624	H2N2-HA	405	14aa	mRNA_3cpc_Th	1
EAVGKEFNNLEKRL	X38959	H2N2-HA	404	14aa	mRNA_30cpc_Ctx	1
EAVGKEFNNLEKRL	X38959	H2N2-HA	404	14aa	mRNA_30cpc_Organoid_MD114	1
EAVGREFNNLERRI	X38961	H5N1-HA	406	14aa	mRNA_30cpc_SN	1
EAVGREFNNLERRI	X38961	H5N1-HA	406	14aa	mRNA_30cpc_Th	1
EAVGREFNNLERRI	X38961	H5N1-HA	406	14aa	mRNA_30cpc_Ctx	1
____EFNNLERRIENLNK	X39636	H5N1-HA	411	14aa	mRNA_3cpc_Th	1
FEAVGKEFNNLEKR_	X75725	H1N1-HA	406	14aa	mRNA_30cpc_SN	2
FEAVGKEFNNLEKR_	X92115	H1N1-HA	406	14aaG4S	mRNA_30cpc_SN	1
FEAVGKEFNNLEKR_	X75725	H2N2-HA	403	14aa	mRNA_30cpc_SN	2
FEAVGKEFNNLEKR_	X92115	H2N2-HA	403	14aaG4S	mRNA_30cpc_SN	1
FEAVGKEFNNLEKR_	X75725	H1N1-HA	406	14aa	mRNA_30cpc_Th	1
FEAVGKEFNNLEKR_	X75725	H2N2-HA	403	14aa	mRNA_30cpc_Th	1
FEAVGKEFNNLEKR_	X75725	H1N1-HA	406	14aa	mRNA_30cpc_Ctx	2
FEAVGKEFNNLEKR_	X75725	H2N2-HA	403	14aa	mRNA_30cpc_Ctx	2
FEAVGKEFNNLEKR_	X75725	H1N1-HA	406	14aa	mRNA_3cpc_Th	1
FEAVGKEFNNLEKR_	X75725	H2N2-HA	403	14aa	mRNA_3cpc_Th	1
____GKEFNKLEKRMENL_	X61367	H1N1-HA	410	14aa	mRNA_30cpc_Organoid_MD114	1
____REFNNLERRIENLN	X27005	H5N1-HA	410	14aa	mRNA_3cpc_Th	1
____REFNNLERRIENLN	X27005	H5N1-HA	410	14aa	mRNA_3cpc_Ctx	1
____VFLEALEKRIYAAT_	X69964	HSV-1-pUL19	375	14aa	mRNA_30cpc_SN	1
____VFLEALEKRIYAAT_	X69964	HSV-2-pUL19	375	14aa	mRNA_30cpc_SN	1
____VFLEALEKRIYAAT_	X69964	HSV-1-pUL19	375	14aa	mRNA_30cpc_Th	1
____VFLEALEKRIYAAT_	X69964	HSV-2-pUL19	375	14aa	mRNA_30cpc_Th	1

Peptide RADSGLTREEVRVAV from HSV-1-pUL21 with cluster number 7985

Peptide RADSGLTREEVRVAV from HSV-1-pUL21 with cluster number 7985



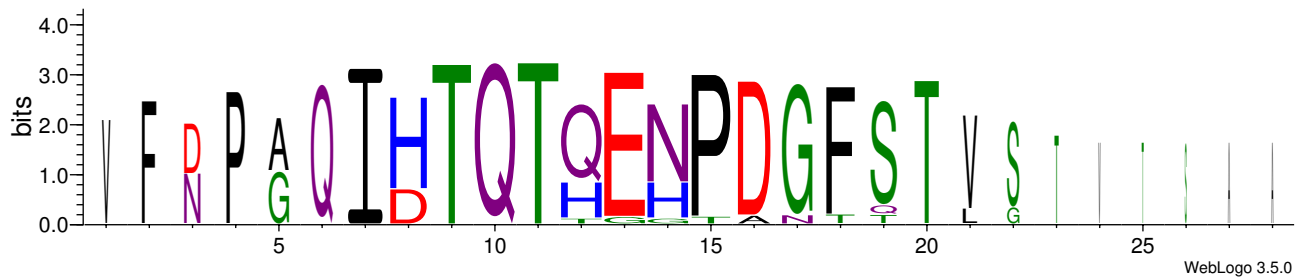
cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
7985	RADSGLTREEVRVAV	20	7	6	5	2	0	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7985	RADSGLTREEVRVAV	____RADSGLTREEVRVAV__	10	3	2	4
7985	EEPRADSGLTREEV	__EEPRADSGLTREEV_____	4	1	2	0
7985	DSGLTREEVRAVRG	_______DSGLTREEVRAVRG	3	2	1	0
7985	EPRADSGLTREEVR	___EPRADSGLTREEVR_____	2	0	1	1
7985	ALEEPRADSGLTRE	ALEEPRADSGLTRE_____	1	1	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
ALEEPRADSGLTRE_____	X42589	HSV-1-pUL21	297	14aa	mRNA_30cpc_Ctx	1
_______DSGLTREEVRAVRG	X54198	HSV-1-pUL21	304	14aaA5	mRNA_30cpc_Th	1
_______DSGLTREEVRAVRG	X54198	HSV-1-pUL21	304	14aaA5	mRNA_30cpc_Ctx	2
__EEPRADSGLTREEV_____	X38554	HSV-1-pUL21	299	14aa	mRNA_30cpc_Th	2
__EEPRADSGLTREEV_____	X38554	HSV-1-pUL21	299	14aa	mRNA_30cpc_Ctx	1
__EEPRADSGLTREEV_____	X38554	HSV-1-pUL21	299	14aa	mRNA_3cpc_Th	1
___EPRADSGLTREEVR_____	X37827	HSV-1-pUL21	300	14aa	mRNA_30cpc_SN	1
___EPRADSGLTREEVR_____	X37827	HSV-1-pUL21	300	14aa	mRNA_30cpc_Th	1
____RADSGLTREEVRVAV__	X27207	HSV-1-pUL21	302	14aa	mRNA_30cpc_SN	4
____RADSGLTREEVRVAV__	X27207	HSV-1-pUL21	302	14aa	mRNA_30cpc_Th	2
____RADSGLTREEVRVAV__	X27207	HSV-1-pUL21	302	14aa	mRNA_30cpc_Ctx	3
____RADSGLTREEVRVAV__	X27207	HSV-1-pUL21	302	14aa	mRNA_3cpc_Th	1

Peptide IHTQTQENPDGFST from HSV-2-pUL44 with cluster number 7771

Peptide IHTQTQENPDGFST from HSV-2-pUL44 with cluster number 7771



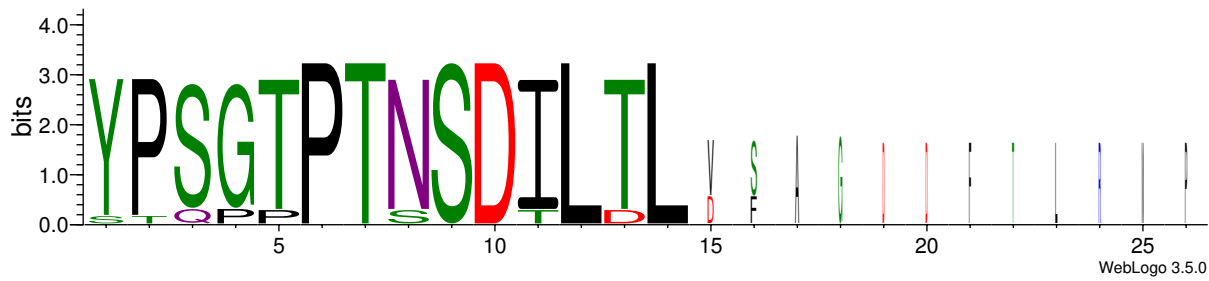
cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
7771	IHTQTQENPDGFST	20	4	4	2	3	0	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7771	IHTQTQENPDGFST	_____IHTQTQENPDGFST_____	5	1	1	1
7771	VFDPAQIHTQTQENPDGFSTVS	VFDPAQIHTQTQENPDGFSTVS_____	3	0	0	0
7771	FNPGQIDTQTHEHP	_FNPGQIDTQTHEHP_____	3	1	1	1
7771	VFDPAQIHTQTQEN	VFDPAQIHTQTQEN_____	1	1	0	0
7771	TQTTGGTANTQTLG	_____TQTTGGTANTQTLG_____	1	0	1	0
7771	QTHEHPDGFTTVST	_____QTHEHPDGFTTVST_____	1	0	0	0
7771	QIHTQTQENPDGFS	_____QIHTQTQENPDGFS_____	1	1	0	0
7771	PAQIHTQTQENPDG	____PAQIHTQTQENPDG_____	1	0	0	0
7771	NPGQIDTQTHEHPD	__NPGQIDTQTHEHPD_____	1	0	1	0
7771	IHTQTQENPDGFSTVSTVSAA	_____IHTQTQENPDGFSTVSTVSAA_____	1	0	0	0
7771	HTQTQENPDGFSTV	_____HTQTQENPDGFSTV_____	1	0	0	0
7771	GQIDTQTHEHPDGF	____GQIDTQTHEHPDGF_____	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
_FNPGQIDTQTHEHP_____	X74420	HSV-1-pUL44	309	14aa	mRNA_30cpc_SN	1
_FNPGQIDTQTHEHP_____	X74420	HSV-1-pUL44	309	14aa	mRNA_30cpc_Th	1
_FNPGQIDTQTHEHP_____	X74420	HSV-1-pUL44	309	14aa	mRNA_30cpc_Ctx	1
___GQIDTQTHEHPDGF_____	X62404	HSV-1-pUL44	312	14aa	mRNA_3cpc_Th_4wks	1
_____HTQTQENPDGFSTV_____	X17123	HSV-2-pUL44	284	14aa	mRNA_3cpc_Th	1
_____IHTQTQENPDGFST_____	X15159	HSV-2-pUL44	283	14aa	mRNA_30cpc_SN	1
_____IHTQTQENPDGFST_____	X15159	HSV-2-pUL44	283	14aa	mRNA_30cpc_Th	1
_____IHTQTQENPDGFST_____	X15159	HSV-2-pUL44	283	14aa	mRNA_30cpc_Ctx	1
_____IHTQTQENPDGFST_____	X15159	HSV-2-pUL44	283	14aa	mRNA_3cpc_Th	1
_____IHTQTQENPDGFST_____	X15159	HSV-2-pUL44	283	14aa	mRNA_3000cpc_Organoid_MD101	1
_____IHTQTQENPDGFSTVSTVSAA_____	X15160	HSV-1-pUL44	314	22aa	mRNA_3cpc_Th	1
_____IHTQTQENPDGFSTVSTVSAA_____	X15160	HSV-2-pUL44	283	22aa	mRNA_3cpc_Th	1
__NPGQIDTQTHEHPD_____	X45594	HSV-1-pUL44	310	14aaA5	mRNA_30cpc_Th	1
___PAQIHTQTQENPDG_____	X23399	HSV-2-pUL44	280	14aa	mRNA_30cpc_SN_4wks	1
_____QIHTQTQENPDGFS_____	X18925	HSV-2-pUL44	282	14aa	mRNA_30cpc_Ctx	1
_____QTHEHPDGFTTVST_____	X18630	HSV-1-pUL44	317	14aa	mRNA_30cpc_Th_4wks	1
_____TQTTGGTANTQTLG_____	X78335	AAV8-VP1	451	14aaG4S	mRNA_30cpc_Th	1
VFDPAQIHTQTQEN_____	X59329	HSV-2-pUL44	277	14aaA5	mRNA_30cpc_Ctx	1
VFDPAQIHTQTQENPDGFSTVS_____	X69975	HSV-2-pUL44	277	22aa	mRNA_30cpc_Th_4wks	2
VFDPAQIHTQTQENPDGFSTVS_____	X69975	HSV-2-pUL44	277	22aa	mRNA_3000cpc_Organoid_MD101	1

Peptide YPSGTPTNSDILTL from TMEV-VP3 with cluster number 7507

Peptide YPSGTPTNSDILTL from TMEV-VP3 with cluster number 7507

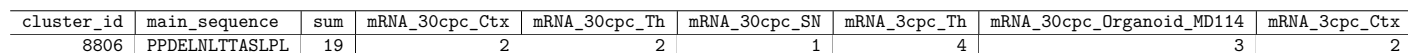


cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
7507	YPSGTPTNSDILTL	20	3	5	3	4	1	2

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7507	YPSGTPTNSDILTL	YPSGTPTNSDILTL_____	16	3	2	3
7507	TPTNSDILTLVSAGDDFTLRMP	____TPTNSDILTLVSAGDDFTLRMP	1	0	1	0
7507	TPTNSDILTLVSAG	____TPTNSDILTLVSAG_____	1	0	1	0
7507	STQPPPTSSDTLDL	STQPPPTSSDTLDL_____	1	0	0	0
7507	QPPPTSSDTLDLDF	__QPPPTSSDTLDLDF_____	1	0	1	0

alignment	LUThrs	GeneName	start	structure	Group	Score
__QPPPTSSDTLDLDF_____	X19243	NGF	74	14aa	mRNA_30cpc_Th	1
STQPPPTSSDTLDL_____	X10321	NGF	72	14aa	mRNA_30cpc_Organoid_MD114	1
____TPTNSDILTLVSAG_____	X7163	TMEV-VP3	202	14aa	mRNA_30cpc_Th	1
____TPTNSDILTLVSAGDDFTLRMP	X7162	TMEV-VP3	202	22aa	mRNA_30cpc_Th	1
YPSGTPTNSDILTL_____	X70871	TMEV-VP3	198	14aa	mRNA_30cpc_SN	3
YPSGTPTNSDILTL_____	X70871	TMEV-VP3	198	14aa	mRNA_30cpc_Th	2
YPSGTPTNSDILTL_____	X70871	TMEV-VP3	198	14aa	mRNA_30cpc_Ctx	3
YPSGTPTNSDILTL_____	X70871	TMEV-VP3	198	14aa	mRNA_3cpc_SN	1
YPSGTPTNSDILTL_____	X70871	TMEV-VP3	198	14aa	mRNA_3cpc_Th	4
YPSGTPTNSDILTL_____	X70871	TMEV-VP3	198	14aa	mRNA_3cpc_Ctx	2
YPSGTPTNSDILTL_____	X70871	TMEV-VP3	198	14aa	mRNA_3000cpc_Organoid_MD101	1

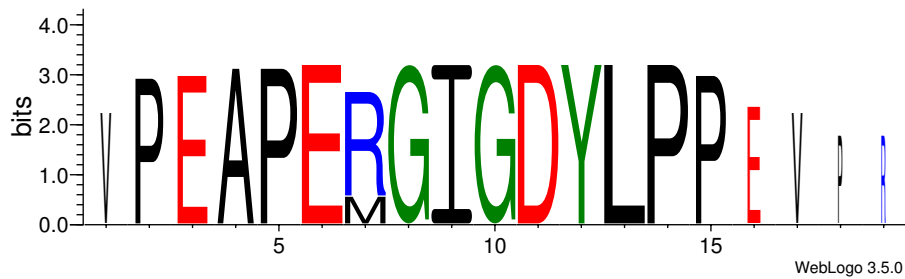
Peptide PPDELNLTTASLPL from HSV-1-pUL22 with cluster number 8



alignment	LUThrs	GeneName	start	structure	Group	Score
APPDELNLTTASLP	X41723	HSV-1-pUL22	67	14aa	mRNA_30cpc_Ctx	1
APPDELNLTTASLP	X41723	HSV-2-pUL22	67	14aa	mRNA_30cpc_Ctx	1
APPDELNLTTASLP	X41723	HSV-1-pUL22	67	14aa	mRNA_3000cpc_Organoid_MD101	1
APPDELNLTTASLP	X41723	HSV-2-pUL22	67	14aa	mRNA_3000cpc_Organoid_MD101	1
APPGELNLTTASVP	X56090	HSV-1-pUL22	67	14aaA5	mRNA_30cpc_Organoid_MD114	1
APPGELNLTTASVP	X56090	HSV-2-pUL22	67	14aaA5	mRNA_30cpc_Organoid_MD114	1
APPGELNLTTASVP	X41744	HSV-1-pUL22	67	14aa	mRNA_3000cpc_Organoid_MD101	1
APPGELNLTTASVP	X41744	HSV-2-pUL22	67	14aa	mRNA_3000cpc_Organoid_MD101	1
LAPPDELNLTTASL_	X31924	HSV-1-pUL22	66	14aa	mRNA_30cpc_Th	1
LAPPDELNLTTASL_	X31924	HSV-2-pUL22	66	14aa	mRNA_30cpc_Th	1
_____LNLTTASLP LLRWY	X28419	HSV-1-pUL22	72	14aa	mRNA_30cpc_Organoid_MD114	1
_____LNLTTASLP LLRWY	X28419	HSV-2-pUL22	72	14aa	mRNA_30cpc_Organoid_MD114	1
___PDELNLTTASLP LL___	X22994	HSV-1-pUL22	69	14aa	mRNA_3000cpc_Organoid_MD101	1
___PDELNLTTASLP LL___	X22994	HSV-2-pUL22	69	14aa	mRNA_3000cpc_Organoid_MD101	1
__PPDELNLTTASLP L_____	X22100	HSV-1-pUL22	68	14aa	mRNA_30cpc_SN	1
__PPDELNLTTASLP L_____	X22100	HSV-2-pUL22	68	14aa	mRNA_30cpc_SN	1
__PPDELNLTTASLP L_____	X22100	HSV-1-pUL22	68	14aa	mRNA_30cpc_Th	1
__PPDELNLTTASLP L_____	X22100	HSV-2-pUL22	68	14aa	mRNA_30cpc_Th	1
__PPDELNLTTASLP L_____	X22100	HSV-1-pUL22	68	14aa	mRNA_30cpc_Ctx	1
__PPDELNLTTASLP L_____	X22100	HSV-2-pUL22	68	14aa	mRNA_30cpc_Ctx	1
__PPDELNLTTASLP L_____	X22100	HSV-1-pUL22	68	14aa	mRNA_3cpc_SN	1
__PPDELNLTTASLP L_____	X22100	HSV-2-pUL22	68	14aa	mRNA_3cpc_SN	1
__PPDELNLTTASLP L_____	X22100	HSV-1-pUL22	68	14aa	mRNA_3cpc_Th	4
__PPDELNLTTASLP L_____	X22100	HSV-2-pUL22	68	14aa	mRNA_3cpc_Th	4
__PPDELNLTTASLP L_____	X22100	HSV-1-pUL22	68	14aa	mRNA_3cpc_Ctx	2
__PPDELNLTTASLP L_____	X22100	HSV-2-pUL22	68	14aa	mRNA_3cpc_Ctx	2
__PPDELNLTTASLP L_____	X22100	HSV-1-pUL22	68	14aa	mRNA_3000cpc_Organoid_MD101	1
__PPDELNLTTASLP L_____	X22100	HSV-2-pUL22	68	14aa	mRNA_3000cpc_Organoid_MD101	1
___SYLNHTTISLPAVH___	X13793	BDV-CRNP5	60	14aa	mRNA_30cpc_Organoid_MD114	1
___SYLNHTTISLPAVH___	X13793	BDV-G	60	14aa	mRNA_30cpc_Organoid_MD114	1
___SYLNHTTISLPAVH___	X13793	BDV-No-98	60	14aa	mRNA_30cpc_Organoid_MD114	1

Peptide PEAPERGIGDYLPP from PRV-Becker-gE with cluster number 8454

Peptide PEAPERGIGDYLPP from PRV-Becker-gE with cluster number 8454



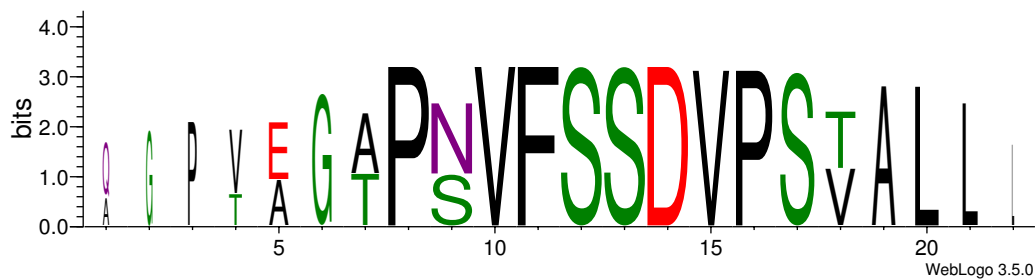
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8454	PEAPERGIGDYLPP	19	7	3	3	1	0	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8454	PEAPERGIGDYLPP	_PEAPERGIGDYLPP_	7	3	1	2
8454	VPEAPERGIGDYLP	VPEAPERGIGDYLP	5	3	0	1
8454	APEMGIGDYLPPEV	___APEMGIGDYLPPEV__	2	1	0	0
8454	PEAPEMGIGDYLPP	_PEAPEMGIGDYLPP_	1	0	0	0
8454	ERGIGDYLPPEVPR	_____ERGIGDYLPPEVPR	1	0	1	0
8454	EMGIGDYLPPEVPR	_____EMGIGDYLPPEVPR	1	0	0	0
8454	EAPERGIGDYLPPE	__EAPERGIGDYLPPE__	1	0	0	0
8454	APERGIGDYLPPEV	___APERGIGDYLPPEV__	1	0	1	0

alignment	LUThrs	GeneName	start	structure	Group	Score
___APEMGIGDYLPPEV__	X41834	PRV-Becker-gE	145	14aa	mRNA_30cpc_Ctx	1
___APEMGIGDYLPPEV__	X41834	PRV-TJ-gE	146	14aa	mRNA_30cpc_Ctx	1
___APEMGIGDYLPPEV__	X41834	PRV-Becker-gE	145	14aa	mRNA_30cpc_Th_4wks	1
___APEMGIGDYLPPEV__	X41834	PRV-TJ-gE	146	14aa	mRNA_30cpc_Th_4wks	1
___APERGIGDYLPPEV__	X41837	PRV-Becker-gE	145	14aa	mRNA_30cpc_Th	1
___APERGIGDYLPPEV__	X41837	PRV-TJ-gE	146	14aa	mRNA_30cpc_Th	1
__EAPERGIGDYLPPE__	X38825	PRV-Becker-gE	144	14aa	mRNA_3000cpc_Organoid_MD101	1
__EAPERGIGDYLPPE__	X38825	PRV-TJ-gE	145	14aa	mRNA_3000cpc_Organoid_MD101	1
_____EMGIGDYLPPEVPR	X54992	PRV-Becker-gE	147	14aaA5	mRNA_30cpc_Th_4wks	1
_____EMGIGDYLPPEVPR	X54992	PRV-TJ-gE	148	14aaA5	mRNA_30cpc_Th_4wks	1
_____ERGIGDYLPPEVPR	X38034	PRV-Becker-gE	147	14aa	mRNA_30cpc_Th	1
_____ERGIGDYLPPEVPR	X38034	PRV-TJ-gE	148	14aa	mRNA_30cpc_Th	1
PEAPEMGIGDYLPPP	X23214	PRV-Becker-gE	143	14aa	mRNA_3000cpc_Organoid_MD101	1
PEAPEMGIGDYLPPP	X23214	PRV-TJ-gE	144	14aa	mRNA_3000cpc_Organoid_MD101	1
PEAPERGIGDYLPPP	X23215	PRV-Becker-gE	143	14aa	mRNA_30cpc_SN	2
PEAPERGIGDYLPPP	X23215	PRV-TJ-gE	144	14aa	mRNA_30cpc_SN	2
PEAPERGIGDYLPPP	X23215	PRV-Becker-gE	143	14aa	mRNA_30cpc_Th	1
PEAPERGIGDYLPPP	X23215	PRV-TJ-gE	144	14aa	mRNA_30cpc_Th	1
PEAPERGIGDYLPPP	X23215	PRV-Becker-gE	143	14aa	mRNA_30cpc_Ctx	3
PEAPERGIGDYLPPP	X23215	PRV-TJ-gE	144	14aa	mRNA_30cpc_Ctx	3
PEAPERGIGDYLPPP	X23215	PRV-Becker-gE	143	14aa	mRNA_3cpc_Th	1
PEAPERGIGDYLPPP	X23215	PRV-TJ-gE	144	14aa	mRNA_3cpc_Th	1
VPEAPERGIGDYLP	X58599	PRV-Becker-gE	142	14aaA5	mRNA_30cpc_SN	1
VPEAPERGIGDYLP	X58599	PRV-TJ-gE	143	14aaA5	mRNA_30cpc_SN	1
VPEAPERGIGDYLP	X58599	PRV-Becker-gE	142	14aaA5	mRNA_30cpc_Ctx	3
VPEAPERGIGDYLP	X58599	PRV-TJ-gE	143	14aaA5	mRNA_30cpc_Ctx	3
VPEAPERGIGDYLP	X89889	PRV-Becker-gE	142	14aaG4S	mRNA_30cpc_Th_4wks	1
VPEAPERGIGDYLP	X89889	PRV-TJ-gE	143	14aaG4S	mRNA_30cpc_Th_4wks	1

Peptide PNVFSSDVPSVALL from HSV-1-pUL22 with cluster number 7890

Peptide PNVFSSDVPSVALL from HSV-1-pUL22 with cluster number 789



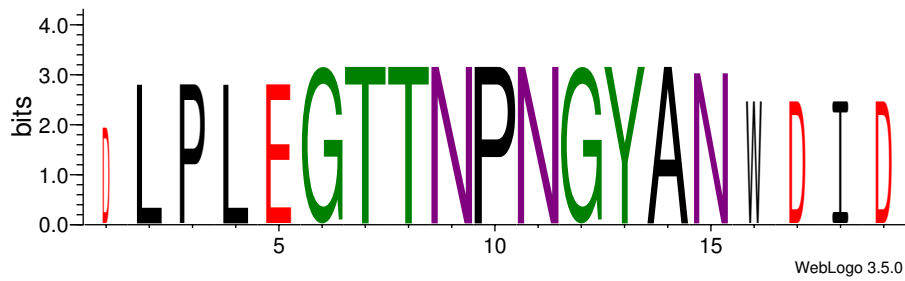
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7890	PNVFSSDVPSVALL	19	3	4	2	4	3	1

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
7890	PNVFSSDVPSVALL	_____PNVFSSDVPSVALL_	5	0	1	0
7890	EGAPSVFSSDVPST	____EGAPSVFSSDVPST____	3	0	2	0
7890	TPNVFSSDVPSVAL	_____TPNVFSSDVPSVAL__	2	1	1	0
7890	QGPVAGTPNVFSSD	QGPVAGTPNVFSSD_____	2	0	0	0
7890	APSVFSSDVPSTAL	____APSVFSSDVPSTAL__	2	1	0	0
7890	VAGTPNVFSSDVPS	___VAGTPNVFSSDVPS_____	1	0	0	1
7890	TEGAPSVFSSDVPS	___TEGAPSVFSSDVPS_____	1	1	0	0
7890	PVAGTPNVFSSDVP	__PVAGTPNVFSSDVP_____	1	0	0	0
7890	PSVFSSDVPSTALL	____PSVFSSDVPSTALL__	1	0	0	1
7890	AGPTEGAPSVFSSDVPSTALLL	AGPTEGAPSVFSSDVPSTALLL	1	0	0	0

alignment	LUTnrs	GeneName	start	structure	Group	Score
AGPTEGAPSVFSSDVPSTALLL	X44043	HSV-1-pUL22	760	22aa	mRNA_30cpc_Organoid_MD114	1
____APSVFSSDVPSTAL__	X41625	HSV-1-pUL22	766	14aa	mRNA_30cpc_Ctx	1
____APSVFSSDVPSTAL__	X41625	HSV-1-pUL22	766	14aa	mRNA_3cpc_Th	1
____EGAPSVFSSDVPST____	X39115	HSV-1-pUL22	764	14aa	mRNA_30cpc_Th	2
____EGAPSVFSSDVPST____	X39115	HSV-1-pUL22	764	14aa	mRNA_3cpc_Th	1
____PNVFSSDVPSVALL_	X20600	HSV-1-pUL22	767	14aa	mRNA_30cpc_Th	1
____PNVFSSDVPSVALL_	X20600	HSV-2-pUL22	767	14aa	mRNA_30cpc_Th	1
____PNVFSSDVPSVALL_	X20600	HSV-1-pUL22	767	14aa	mRNA_3cpc_Th	2
____PNVFSSDVPSVALL_	X20600	HSV-2-pUL22	767	14aa	mRNA_3cpc_Th	2
____PNVFSSDVPSVALL_	X20600	HSV-1-pUL22	767	14aa	mRNA_3cpc_Ctx	1
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____PNVFSSDVPSVALL_	X20600	HSV-2-pUL22	767	14aa	mRNA_30cpc_Organoid_MD114	1
____PSVFSSDVPSTALL_	X21349	HSV-1-pUL22	767	14aa	mRNA_30cpc_SN	1
____PSVFSSDVPSTALL_	X21349	HSV-2-pUL22	767	14aa	mRNA_30cpc_SN	1
__PVAGTPNVFSSDVP_____	X24297	HSV-2-pUL22	762	14aa	mRNA_3000cpc_Organoid_MD101	1
QGPVAGTPNVFSSD_____	X50456	HSV-2-pUL22	760	14aaA5	mRNA_30cpc_Organoid_MD114	1
QGPVAGTPNVFSSD_____	X50456	HSV-2-pUL22	760	14aaA5	mRNA_3000cpc_Organoid_MD101	1
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____TPNVFSSDVPSVAL__	X7148	HSV-2-pUL22	766	14aa	mRNA_30cpc_Th	1
____TPNVFSSDVPSVAL__	X7148	HSV-2-pUL22	766	14aa	mRNA_30cpc_Ctx	1
___VAGTPNVFSSDVPS_____	X90297	HSV-2-pUL22	763	14aaG4S	mRNA_30cpc_SN	1

Peptide LPLEGGTTNPNGYAN from EV71-VP1-1095-Japan-97 with cluster number 5928

.PLEGGTTNPNGYAN from EV71-VP1-1095-Japan-97 with cluster n



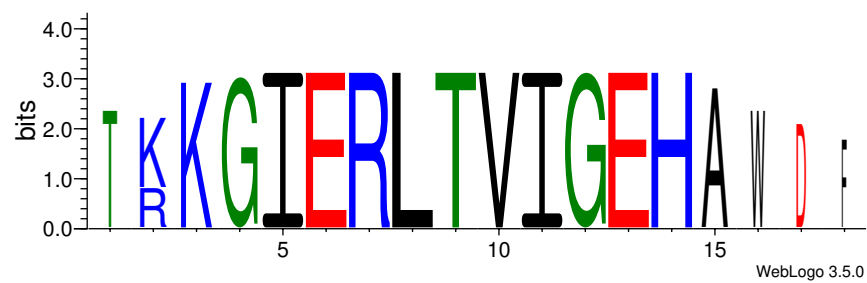
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5928	LPLEGGTTNPNGYAN	18	4	3	6	3	0	1

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
5928	LPLEGGTTNPNGYAN	_LPLEGGTTNPNGYAN_	8	2	2	3
5928	GTTNPNGYANWDID	____GTTNPNGYANWDID	7	1	1	3
5928	DLPLEGGTTNPNGYA	DLPLEGGTTNPNGYA_	3	1	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
DLPLEGGTTNPNGYA_	X35295	EV71-VP1-1095-Japan-97	94	14aa	mRNA_30cpc_Ctx	1
DLPLEGGTTNPNGYA_	X35295	EV71-VP1-FY23	94	14aa	mRNA_30cpc_Ctx	1
DLPLEGGTTNPNGYA_	X35295	EV71-VP1-cx2011-016	94	14aa	mRNA_30cpc_Ctx	1
DLPLEGGTTNPNGYA_	X35295	EV71-VP1-1095-Japan-97	94	14aa	mRNA_3cpc_Th	1
DLPLEGGTTNPNGYA_	X35295	EV71-VP1-FY23	94	14aa	mRNA_3cpc_Th	1
DLPLEGGTTNPNGYA_	X35295	EV71-VP1-cx2011-016	94	14aa	mRNA_3cpc_Th	1
DLPLEGGTTNPNGYA_	X54427	EV71-VP1-1095-Japan-97	94	14aaA5	mRNA_3cpc_Ctx	1
DLPLEGGTTNPNGYA_	X54427	EV71-VP1-FY23	94	14aaA5	mRNA_3cpc_Ctx	1
DLPLEGGTTNPNGYA_	X54427	EV71-VP1-cx2011-016	94	14aaA5	mRNA_3cpc_Ctx	1
____GTTNPNGYANWDID	X61485	EV71-VP1-1095-Japan-97	99	14aa	mRNA_30cpc_SN	3
____GTTNPNGYANWDID	X61485	EV71-VP1-FY23	99	14aa	mRNA_30cpc_SN	3
____GTTNPNGYANWDID	X61485	EV71-VP1-cx2011-016	99	14aa	mRNA_30cpc_SN	3
____GTTNPNGYANWDID	X61485	EV71-VP1-1095-Japan-97	99	14aa	mRNA_30cpc_Th	1
____GTTNPNGYANWDID	X61485	EV71-VP1-FY23	99	14aa	mRNA_30cpc_Th	1
____GTTNPNGYANWDID	X61485	EV71-VP1-cx2011-016	99	14aa	mRNA_30cpc_Th	1
____GTTNPNGYANWDID	X61485	EV71-VP1-1095-Japan-97	99	14aa	mRNA_30cpc_Ctx	1
____GTTNPNGYANWDID	X61485	EV71-VP1-FY23	99	14aa	mRNA_30cpc_Ctx	1
____GTTNPNGYANWDID	X61485	EV71-VP1-cx2011-016	99	14aa	mRNA_30cpc_Ctx	1
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LPLEGGTTNPNGYAN	X30268	EV71-VP1-FY23	95	14aa	mRNA_30cpc_SN	3
LPLEGGTTNPNGYAN	X30268	EV71-VP1-cx2011-016	95	14aa	mRNA_30cpc_SN	3
LPLEGGTTNPNGYAN	X30268	EV71-VP1-1095-Japan-97	95	14aa	mRNA_30cpc_Th	2
LPLEGGTTNPNGYAN	X30268	EV71-VP1-FY23	95	14aa	mRNA_30cpc_Th	2
LPLEGGTTNPNGYAN	X30268	EV71-VP1-cx2011-016	95	14aa	mRNA_30cpc_Th	2
LPLEGGTTNPNGYAN	X30268	EV71-VP1-1095-Japan-97	95	14aa	mRNA_30cpc_Ctx	2
LPLEGGTTNPNGYAN	X30268	EV71-VP1-FY23	95	14aa	mRNA_30cpc_Ctx	2
LPLEGGTTNPNGYAN	X30268	EV71-VP1-cx2011-016	95	14aa	mRNA_30cpc_Ctx	2
LPLEGGTTNPNGYAN	X30268	EV71-VP1-1095-Japan-97	95	14aa	mRNA_3cpc_Th	1
LPLEGGTTNPNGYAN	X30268	EV71-VP1-FY23	95	14aa	mRNA_3cpc_Th	1
LPLEGGTTNPNGYAN	X30268	EV71-VP1-cx2011-016	95	14aa	mRNA_3cpc_Th	1

Peptide TKKGIERTVIGEH from TBEV-E-4387-B7 with cluster number 8669

de TKKGIERTVIGEH from TBEV-E-4387-B7 with cluster numl



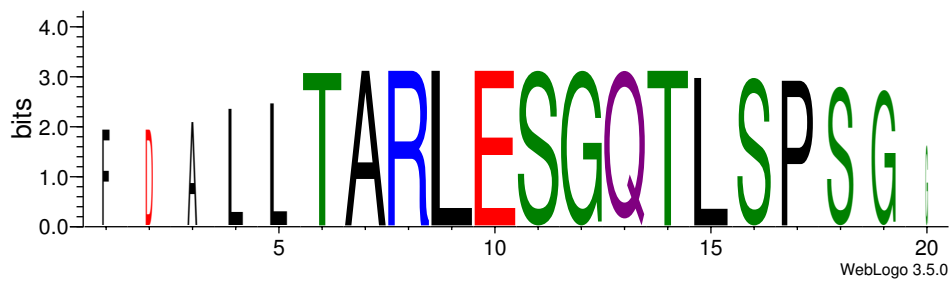
cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
8669	TKKGIERTVIGEH	17	4	4	4	3	0	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8669	TKKGIERTVIGEH	TKKGIERTVIGEH_---	6	2	1	2
8669	RKGIERTVIGEHA	_RKGIERTVIGEHA---	4	1	1	1
8669	KGIERTVIGEHAW	--KGIERTVIGEHAW--	2	0	1	1
8669	IERLTVIGEHAWDF	----IERLTVIGEHAWDF	2	1	1	0
8669	GIERLTVIGEHAWD	___GIERLTVIGEHAWD_	2	0	0	0
8669	KKGIERTVIGEHA	_KKGIERTVIGEHA---	1	0	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
___GIERLTVIGEHAWD_	X62129	TBEV-E-4387-B7	409	14aa	mRNA_3cpc_Th	1
___GIERLTVIGEHAWD_	X62129	TBEV-E-80	409	14aa	mRNA_3cpc_Th	1
___GIERLTVIGEHAWD_	X62129	TBEV-E-Simo-9	365	14aa	mRNA_3cpc_Th	1
___GIERLTVIGEHAWD_	X62129	TBEV-E-4387-B7	409	14aa	mRNA_30cpc_Th_4wks	1
___GIERLTVIGEHAWD_	X62129	TBEV-E-80	409	14aa	mRNA_30cpc_Th_4wks	1
___GIERLTVIGEHAWD_	X62129	TBEV-E-Simo-9	365	14aa	mRNA_30cpc_Th_4wks	1
___IERLTVIGEHAWDF	X16105	TBEV-E-4387-B7	410	14aa	mRNA_30cpc_Th	1
___IERLTVIGEHAWDF	X16105	TBEV-E-80	410	14aa	mRNA_30cpc_Th	1
___IERLTVIGEHAWDF	X16105	TBEV-E-Simo-9	366	14aa	mRNA_30cpc_Th	1
___IERLTVIGEHAWDF	X16105	TBEV-E-4387-B7	410	14aa	mRNA_30cpc_Ctx	1
___IERLTVIGEHAWDF	X16105	TBEV-E-80	410	14aa	mRNA_30cpc_Ctx	1
___IERLTVIGEHAWDF	X16105	TBEV-E-Simo-9	366	14aa	mRNA_30cpc_Ctx	1
__KGIERLTVIGEHAW__	X46510	TBEV-E-4387-B7	408	14aaA5	mRNA_30cpc_SN	1
__KGIERLTVIGEHAW__	X46510	TBEV-E-80	408	14aaA5	mRNA_30cpc_SN	1
__KGIERLTVIGEHAW__	X46510	TBEV-E-Simo-9	364	14aaA5	mRNA_30cpc_SN	1
__KGIERLTVIGEHAW__	X46510	TBEV-E-4387-B7	408	14aaA5	mRNA_30cpc_Th	1
__KGIERLTVIGEHAW__	X46510	TBEV-E-80	408	14aaA5	mRNA_30cpc_Th	1
__KGIERLTVIGEHAW__	X46510	TBEV-E-Simo-9	364	14aaA5	mRNA_30cpc_Th	1
_KKGIERLTVIGEHA___	X3227	TBEV-E-4387-B7	407	14aa	mRNA_30cpc_Th_4wks	1
_KKGIERLTVIGEHA___	X3227	TBEV-E-80	407	14aa	mRNA_30cpc_Th_4wks	1
_KKGIERLTVIGEHA___	X3227	TBEV-E-Simo-9	363	14aa	mRNA_30cpc_Th_4wks	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-4387-B7	407	14aa	mRNA_30cpc_SN	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-80	407	14aa	mRNA_30cpc_SN	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-Simo-9	363	14aa	mRNA_30cpc_SN	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-4387-B7	407	14aa	mRNA_30cpc_Th	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-80	407	14aa	mRNA_30cpc_Th	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-Simo-9	363	14aa	mRNA_30cpc_Th	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-4387-B7	407	14aa	mRNA_30cpc_Ctx	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-80	407	14aa	mRNA_30cpc_Ctx	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-Simo-9	363	14aa	mRNA_30cpc_Ctx	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-4387-B7	407	14aa	mRNA_3cpc_Th	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-80	407	14aa	mRNA_3cpc_Th	1
_RKGIERLTVIGEHA___	X24910	TBEV-E-Simo-9	363	14aa	mRNA_3cpc_Th	1
TKKGIERLTVIGEHA___	X5717	TBEV-E-4387-B7	406	14aa	mRNA_30cpc_SN	2
TKKGIERLTVIGEHA___	X5717	TBEV-E-80	406	14aa	mRNA_30cpc_SN	2
TKKGIERLTVIGEHA___	X5717	TBEV-E-Simo-9	362	14aa	mRNA_30cpc_SN	2
TKKGIERLTVIGEHA___	X5717	TBEV-E-4387-B7	406	14aa	mRNA_30cpc_Th	1
TKKGIERLTVIGEHA___	X5717	TBEV-E-80	406	14aa	mRNA_30cpc_Th	1
TKKGIERLTVIGEHA___	X5717	TBEV-E-Simo-9	362	14aa	mRNA_30cpc_Th	1
TKKGIERLTVIGEHA___	X5717	TBEV-E-4387-B7	406	14aa	mRNA_30cpc_Ctx	2
TKKGIERLTVIGEHA___	X5717	TBEV-E-80	406	14aa	mRNA_30cpc_Ctx	2
TKKGIERLTVIGEHA___	X5717	TBEV-E-Simo-9	362	14aa	mRNA_30cpc_Ctx	2
TKKGIERLTVIGEHA___	X5717	TBEV-E-4387-B7	406	14aa	mRNA_3cpc_Th	1
TKKGIERLTVIGEHA___	X5717	TBEV-E-80	406	14aa	mRNA_3cpc_Th	1
TKKGIERLTVIGEHA___	X5717	TBEV-E-Simo-9	362	14aa	mRNA_3cpc_Th	1

Peptide TARLESGQTLSPSG from HSV-1-pUL36 with cluster number 8079

peptide TARLESGQTLSPSG from HSV-1-pUL36 with cluster number 8079



cluster_id	main_sequence	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN	mRNA_3cpc_Th	mRNA_30cpc_Organoid_MD114	mRNA_3cpc_Ctx
8079	TARLESGQTLSPSG	17	4	3	2	6	1	0

cluster_id	sequence	alignment	sum	mRNA_30cpc_Ctx	mRNA_30cpc_Th	mRNA_30cpc_SN
8079	TARLESGQTLSPSG	_____TARLESGQTLSPSG_	9	2	2	2
8079	FDALLTARLESGQT	FDALLTARLESGQT_____	3	1	1	0
8079	LLTARLESGQTLSP	___LLTARLESGQTLSP___	2	0	0	0
8079	LTARLESGQTLSPS	____LTARLESGQTLSPS__	1	0	0	0
8079	ARLESGQTLSPSGG	_______ARLESGQTLSPSGG	1	0	0	0
8079	ALLTARLESGQTLS	__ALLTARLESGQTLS____	1	1	0	0

alignment	LUThrs	GeneName	start	structure	Group	Score
__ALLTARLESGQTLS____	X42486	HSV-1-pUL36	2256	14aa	mRNA_30cpc_Ctx	1
_______ARLESGQTLSPSGG	X56189	HSV-1-pUL36	2260	14aaA5	mRNA_3cpc_Th	1
FDALLTARLESGQT_____	X60798	HSV-1-pUL36	2254	14aaA5	mRNA_30cpc_Th	1
FDALLTARLESGQT_____	X60798	HSV-1-pUL36	2254	14aaA5	mRNA_30cpc_Ctx	1
FDALLTARLESGQT_____	X60798	HSV-1-pUL36	2254	14aaA5	mRNA_3cpc_Th	1
___LLTARLESGQTLSP___	X30811	HSV-1-pUL36	2257	14aa	mRNA_3cpc_Th	1
___LLTARLESGQTLSP___	X30811	HSV-1-pUL36	2257	14aa	mRNA_30cpc_Th_4wks	1
____LTARLESGQTLSPS__	X29015	HSV-1-pUL36	2258	14aa	mRNA_30cpc_Organoid_MD114	1
_______TARLESGQTLSPSG_	X8527	HSV-1-pUL36	2259	14aa	mRNA_30cpc_SN	2
_______TARLESGQTLSPSG_	X8527	HSV-1-pUL36	2259	14aa	mRNA_30cpc_Th	2
_______TARLESGQTLSPSG_	X8527	HSV-1-pUL36	2259	14aa	mRNA_30cpc_Ctx	2
_______TARLESGQTLSPSG_	X8527	HSV-1-pUL36	2259	14aa	mRNA_3cpc_Th	3


```
# setkey(select.samples.trsp,Peptide) select.samples.trsp.select <-
# select.samples.trsp[J(c('PPDELNLTTASLPL'))]
```

```
print("Total analysis time:")
```

```
[1] "Total analysis time:"
```

```
print(Sys.time() - strt1)
```

```
Time difference of 2.62491 mins
```

```
devtools::session_info()
```

```
Session info -----
```

```
setting  value
version  R version 3.4.2 (2017-09-28)
system   x86_64, linux-gnu
ui        X11
language (EN)
collate   en_US.UTF-8
tz        UTC
date      2020-11-09
```

```
Packages -----
```

package	* version	date	source
ade4	1.7-8	2017-08-09	CRAN (R 3.4.2)
backports	1.1.1	2017-09-25	CRAN (R 3.4.2)
base	* 3.4.2	2017-10-06	local
compiler	3.4.2	2017-10-06	local
data.table	* 1.10.4-2	2017-10-12	url
datasets	* 3.4.2	2017-10-06	local
devtools	* 1.13.3	2017-08-02	CRAN (R 3.4.2)
digest	0.6.12	2017-01-27	CRAN (R 3.4.2)
evaluate	0.10.1	2017-06-24	CRAN (R 3.4.2)
formatR	1.5	2017-04-25	CRAN (R 3.4.2)
graphics	* 3.4.2	2017-10-06	local
grDevices	* 3.4.2	2017-10-06	local
highr	0.6	2016-05-09	CRAN (R 3.4.2)
hms	0.3	2016-11-22	CRAN (R 3.4.2)
htmltools	0.3.6	2017-04-28	CRAN (R 3.4.2)
httr	1.3.1	2017-08-20	CRAN (R 3.4.2)
kableExtra	* 0.5.2	2017-09-15	url
knitr	* 1.17	2017-08-10	CRAN (R 3.4.2)
magrittr	1.5	2014-11-22	CRAN (R 3.4.2)
memoise	1.1.0	2017-04-21	CRAN (R 3.4.2)
methods	3.4.2	2017-10-06	local
parallel	* 3.4.2	2017-10-06	local
plyr	1.8.4	2016-06-08	CRAN (R 3.4.2)
R6	2.2.2	2017-06-17	CRAN (R 3.4.2)
Rcpp	0.12.13	2017-09-28	url
readr	1.1.1	2017-05-16	CRAN (R 3.4.2)
reshape2	* 1.4.2	2016-10-22	CRAN (R 3.4.2)
rlang	0.1.2	2017-08-09	CRAN (R 3.4.2)
rmarkdown	1.6	2017-06-15	url
rprojroot	1.2	2017-01-16	CRAN (R 3.4.2)
rvest	0.3.2	2016-06-17	CRAN (R 3.4.2)
seqinr	* 3.4-5	2017-08-01	CRAN (R 3.4.2)

stats	* 3.4.2	2017-10-06	local
stringi	1.1.5	2017-04-07	url
stringr	1.2.0	2017-02-18	CRAN (R 3.4.2)
tibble	1.3.4	2017-08-22	CRAN (R 3.4.2)
tools	3.4.2	2017-10-06	local
utils	* 3.4.2	2017-10-06	local
withr	2.0.0	2017-07-28	url
xml2	1.1.1	2017-01-24	CRAN (R 3.4.2)
yaml	2.1.14	2016-11-12	CRAN (R 3.4.2)