



Pathway Analysis Report

This report contains the pathway analysis results for the submitted sample ". Analysis was performed against Reactome version 83 on 22/03/2023. The web link to these results is:

<https://reactome.org/PathwayBrowser/#/ANALYSIS=MjAyMzAzMjIwODA5MTVfMTA3NzE%3D>

Please keep in mind that analysis results are temporarily stored on our server. The storage period depends on usage of the service but is at least 7 days. As a result, please note that this URL is only valid for a limited time period and it might have expired.

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1. Introduction

Reactome is a curated database of pathways and reactions in human biology. Reactions can be considered as pathway 'steps'. Reactome defines a 'reaction' as any event in biology that changes the state of a biological molecule. Binding, activation, translocation, degradation and classical biochemical events involving a catalyst are all reactions. Information in the database is authored by expert biologists, entered and maintained by Reactome's team of curators and editorial staff. Reactome content frequently cross-references other resources e.g. NCBI, Ensembl, UniProt, KEGG (Gene and Compound), ChEBI, PubMed and GO. Orthologous reactions inferred from annotation for *Homo sapiens* are available for 17 non-human species including mouse, rat, chicken, puffer fish, worm, fly, yeast, rice, and *Arabidopsis*. Pathways are represented by simple diagrams following an SBGN-like format.

Reactome's annotated data describe reactions possible if all annotated proteins and small molecules were present and active simultaneously in a cell. By overlaying an experimental dataset on these annotations, a user can perform a pathway over-representation analysis. By overlaying quantitative expression data or time series, a user can visualize the extent of change in affected pathways and its progression. A binomial test is used to calculate the probability shown for each result, and the p-values are corrected for the multiple testing (Benjamini–Hochberg procedure) that arises from evaluating the submitted list of identifiers against every pathway.

To learn more about our Pathway Analysis, please have a look at our relevant publications:

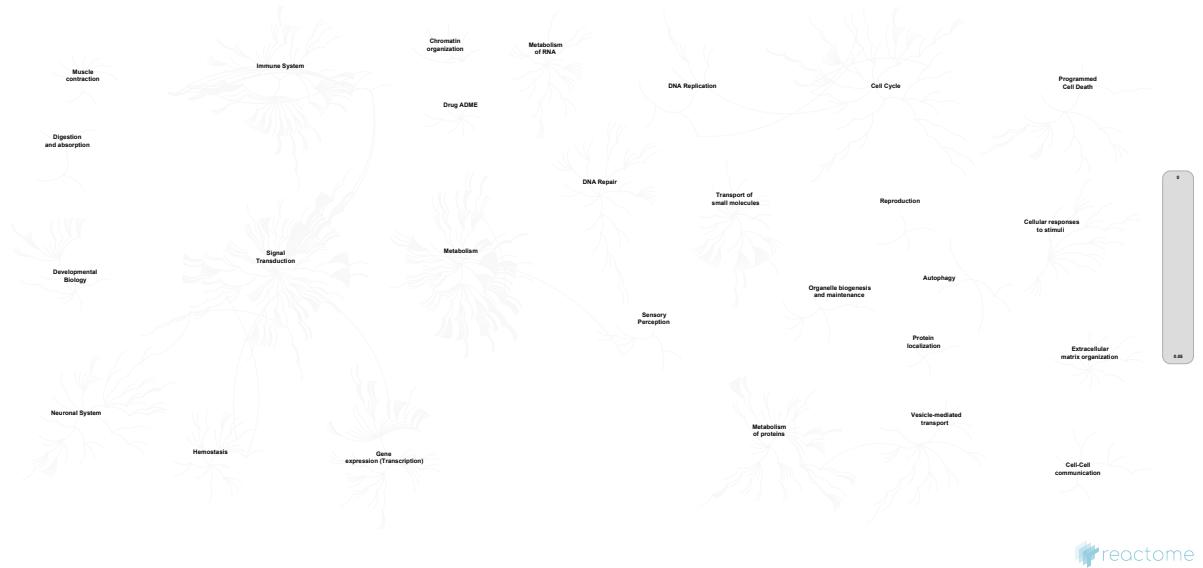
Fabregat A, Sidiropoulos K, Garapati P, Gillespie M, Hausmann K, Haw R, ... D'Eustachio P (2016). The reactome pathway knowledgebase. *Nucleic Acids Research*, 44(D1), D481–D487. <https://doi.org/10.1093/nar/gkv1351>.

Fabregat A, Sidiropoulos K, Viteri G, Forner O, Marin-Garcia P, Arnau V, ... Hermjakob H (2017). Reactome pathway analysis: a high-performance in-memory approach. *BMC Bioinformatics*, 18.

2. Properties

- This is an **overrepresentation** analysis: A statistical (hypergeometric distribution) test that determines whether certain Reactome pathways are over-represented (enriched) in the submitted data. It answers the question 'Does my list contain more proteins for pathway X than would be expected by chance?' This test produces a probability score, which is corrected for false discovery rate using the Benjamani-Hochberg method. ↗
- 820 out of 1328 identifiers in the sample were found in Reactome, where 7748 pathways were hit by at least one of them.
- This report is filtered to show only results for species 'Mus musculus' and resource 'all resources'.
- The unique ID for this analysis (token) is MjAyMzAzMjIwODA5MTVfMTA3NzE%3D. This ID is valid for at least 7 days in Reactome's server. Use it to access Reactome services with your data.

3. Genome-wide overview



This figure shows a genome-wide overview of the results of your pathway analysis. Reactome pathways are arranged in a hierarchy. The center of each of the circular "bursts" is the root of one top-level pathway, for example "DNA Repair". Each step away from the center represents the next level lower in the pathway hierarchy. The color code denotes over-representation of that pathway in your input dataset. Light grey signifies pathways which are not significantly over-represented.

4. Most significant pathways

The following table shows the 50 most relevant pathways sorted by p-value.

Pathway name	Entities				Reactions	
	found	ratio	p-value	FDR*	found	ratio
FasL/ CD95L signaling	3 / 4	3.69e-04	0.226	1	4 / 4	4.84e-04
CLEC7A/inflammasome pathway	3 / 4	3.69e-04	0.226	1	3 / 3	3.63e-04
TRIF-mediated programmed cell death	6 / 10	9.22e-04	0.229	1	3 / 3	3.63e-04
Interleukin-1 processing	6 / 11	0.001	0.297	1	5 / 5	6.05e-04
DEx/H-box helicases activate type I IFN and inflammatory cytokines production	4 / 7	6.45e-04	0.322	1	3 / 5	6.05e-04
TRAF6 mediated IRF7 activation in TLR7/8 or 9 signaling	1 / 1	9.22e-05	0.336	1	2 / 2	2.42e-04
Transfer of LPS from LBP carrier to CD14	2 / 3	2.77e-04	0.347	1	2 / 2	2.42e-04
Caspase activation via Death Receptors in the presence of ligand	7 / 16	0.001	0.48	1	8 / 8	9.67e-04
Trafficking and processing of endosomal TLR	6 / 14	0.001	0.509	1	6 / 6	7.26e-04
Interleukin-21 signaling	5 / 12	0.001	0.543	1	5 / 5	6.05e-04
Interleukin-10 signaling	3 / 7	6.45e-04	0.545	1	7 / 7	8.47e-04
Regulation of HMOX1 expression and activity	1 / 2	1.84e-04	0.559	1	3 / 3	3.63e-04
TICAM1-dependent activation of IRF3/IRF7	1 / 2	1.84e-04	0.559	1	2 / 2	2.42e-04
TP53 Regulates Transcription of Death Receptors and Ligands	1 / 2	1.84e-04	0.559	1	1 / 1	1.21e-04
The AIM2 inflammasome	1 / 2	1.84e-04	0.559	1	1 / 1	1.21e-04
TRAIL signaling	2 / 5	4.61e-04	0.606	1	2 / 5	6.05e-04
PD-1 signaling	10 / 26	0.002	0.619	1	5 / 5	6.05e-04
ER-Phagosome pathway	15 / 39	0.004	0.628	1	5 / 5	6.05e-04
Interleukin-4 and Interleukin-13 signaling	6 / 16	0.001	0.637	1	21 / 23	0.003
Interleukin-9 signaling	4 / 11	0.001	0.658	1	11 / 13	0.002
Dissolution of Fibrin Clot	5 / 14	0.001	0.677	1	10 / 21	0.003
Hydroxycarboxylic acid-binding receptors	2 / 6	5.53e-04	0.703	1	3 / 3	3.63e-04
Extrinsic Pathway of Fibrin Clot Formation	2 / 6	5.53e-04	0.703	1	7 / 8	9.67e-04
Activation of C3 and C5	2 / 6	5.53e-04	0.703	1	3 / 4	4.84e-04

Pathway name	Entities				Reactions	
	found	ratio	p-value	FDR*	found	ratio
PTK6 Activates STAT3	2 / 6	5.53e-04	0.703	1	3 / 5	6.05e-04
Interleukin-33 signaling	1 / 3	2.77e-04	0.707	1	2 / 2	2.42e-04
RUNX1 and FOXP3 control the development of regulatory T lymphocytes (Tregs)	1 / 3	2.77e-04	0.707	1	1 / 1	1.21e-04
RUNX1 regulates transcription of genes involved in interleukin signaling	1 / 3	2.77e-04	0.707	1	1 / 1	1.21e-04
SMAC(DIABLO)-mediated dissociation of IAP:caspase complexes	1 / 3	2.77e-04	0.707	1	1 / 1	1.21e-04
RUNX1 regulates transcription of genes involved in differentiation of myeloid cells	1 / 3	2.77e-04	0.707	1	1 / 1	1.21e-04
TFAP2 (AP-2) family regulates transcription of cell cycle factors	1 / 3	2.77e-04	0.707	1	1 / 1	1.21e-04
RUNX1 regulates transcription of genes involved in differentiation of keratinocytes	1 / 3	2.77e-04	0.707	1	1 / 2	2.42e-04
SMAC (DIABLO) binds to IAPs	1 / 3	2.77e-04	0.707	1	1 / 2	2.42e-04
Dectin-2 family	4 / 12	0.001	0.722	1	7 / 7	8.47e-04
Caspase-mediated cleavage of cytoskeletal proteins	4 / 12	0.001	0.722	1	6 / 10	0.001
Interleukin-15 signaling	5 / 15	0.001	0.733	1	11 / 11	0.001
Regulation by c-FLIP	3 / 10	9.22e-04	0.775	1	4 / 4	4.84e-04
Dimerization of procaspase-8	3 / 10	9.22e-04	0.775	1	3 / 3	3.63e-04
CASP8 activity is inhibited	3 / 10	9.22e-04	0.775	1	2 / 2	2.42e-04
Interleukin-6 signaling	4 / 13	0.001	0.777	1	19 / 19	0.002
Interleukin-2 signaling	4 / 13	0.001	0.777	1	15 / 15	0.002
Regulation of IFNG signaling	4 / 13	0.001	0.777	1	3 / 3	3.63e-04
G2/M DNA replication checkpoint	2 / 7	6.45e-04	0.78	1	2 / 2	2.42e-04
Activation of NIMA Kinases NEK9, NEK6, NEK7	2 / 7	6.45e-04	0.78	1	1 / 2	2.42e-04
Caspase activation via extrinsic apoptotic signalling pathway	7 / 22	0.002	0.793	1	8 / 12	0.001
TRAF6 mediated IRF7 activation	1 / 4	3.69e-04	0.805	1	4 / 4	4.84e-04
RUNX1 regulates transcription of genes involved in BCR signaling	1 / 4	3.69e-04	0.805	1	2 / 2	2.42e-04
RUNX1 regulates estrogen receptor mediated transcription	1 / 4	3.69e-04	0.805	1	1 / 1	1.21e-04
Drug-mediated inhibition of ERBB2 signaling	1 / 4	3.69e-04	0.805	1	1 / 1	1.21e-04

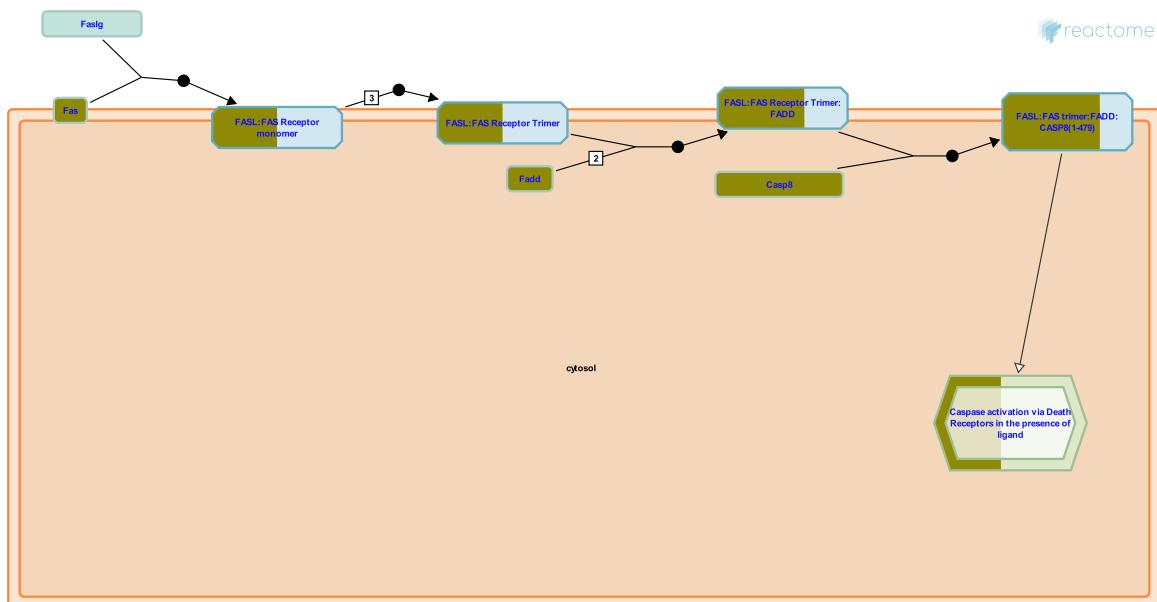
Pathway name	Entities				Reactions	
	found	ratio	p-value	FDR*	found	ratio
Tandem of pore domain in a weak inwardly rectifying K ⁺ channels (TWIK)	1 / 4	3.69e-04	0.805	1	1 / 1	1.21e-04

* False Discovery Rate

5. Pathways details

For every pathway of the most significant pathways, we present its diagram, as well as a short summary, its bibliography and the list of inputs found in it.

1. FasL/ CD95L signaling (R-MMU-75157)



Inferred from: FasL/ CD95L signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

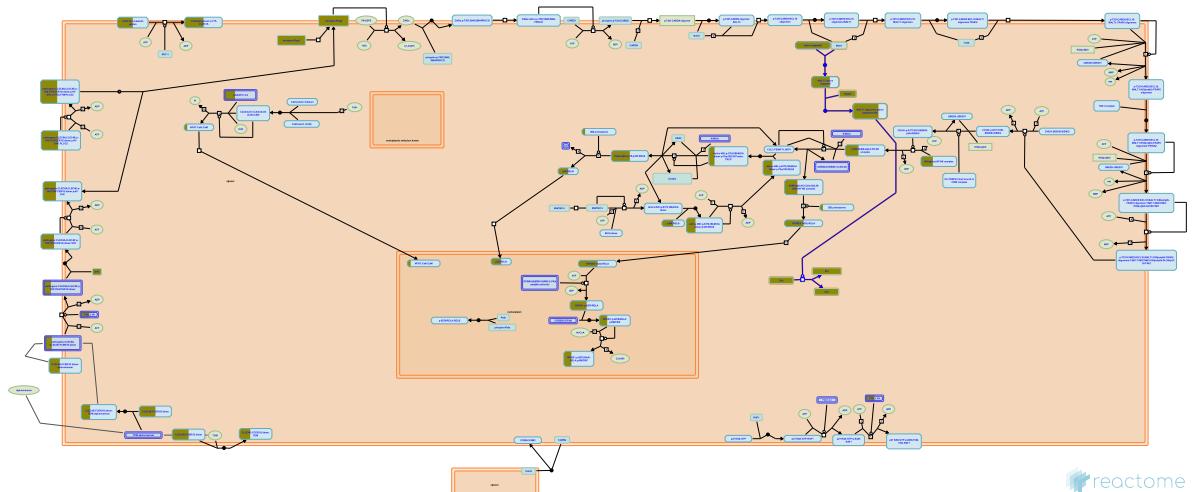
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

3 submitted entities found in this pathway, mapping to 3 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Casp8	O89110	Fadd	Q61160	Fas	P25446

2. CLEC7A/inflammasome pathway (R-MMU-5660668)



Cellular compartments: plasma membrane, cytosol.

Inferred from: CLEC7A/inflammasome pathway.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

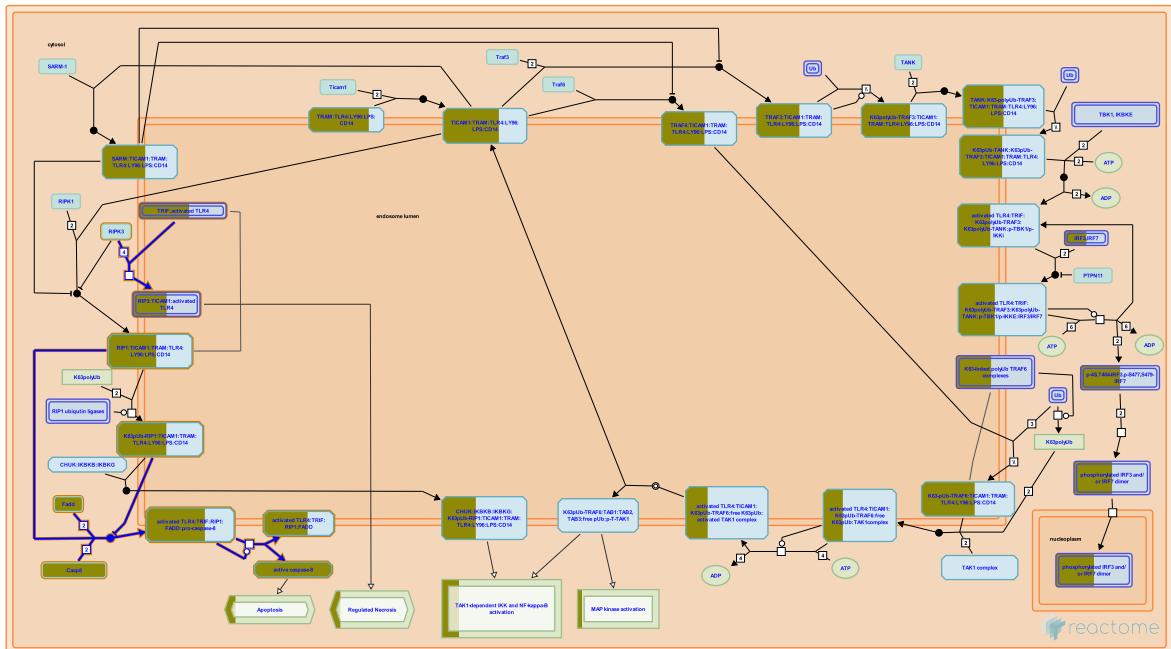
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

3 submitted entities found in this pathway, mapping to 3 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Casp8	O89110	Il1b	P10749	Pycard	Q9EPB4

3. TRIF-mediated programmed cell death (R-MMU-2562578)



Cellular compartments: endosome membrane, cytosol.

Inferred from: TRIF-mediated programmed cell death.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

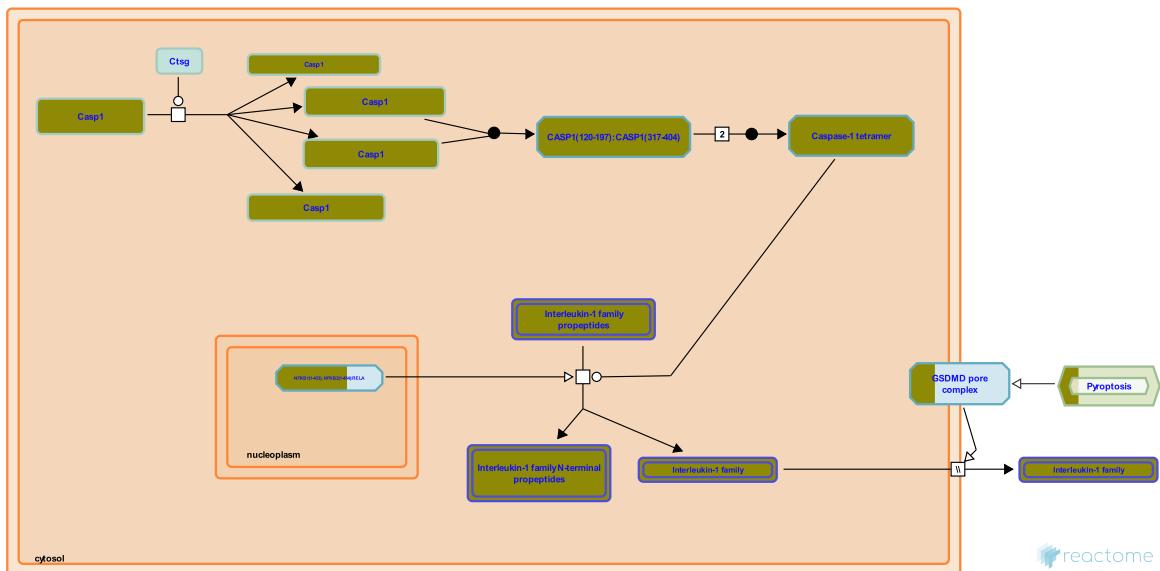
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

6 submitted entities found in this pathway, mapping to 6 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Casp8	O89110	Cd14	P10810	Fadd	Q61160
Ly96	Q9JHF9	Ticam2	Q8BJQ4	Tlr4	Q9QUK6

4. Interleukin-1 processing (R-MMU-448706)



Cellular compartments: cytosol.

Inferred from: Interleukin-1 processing.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

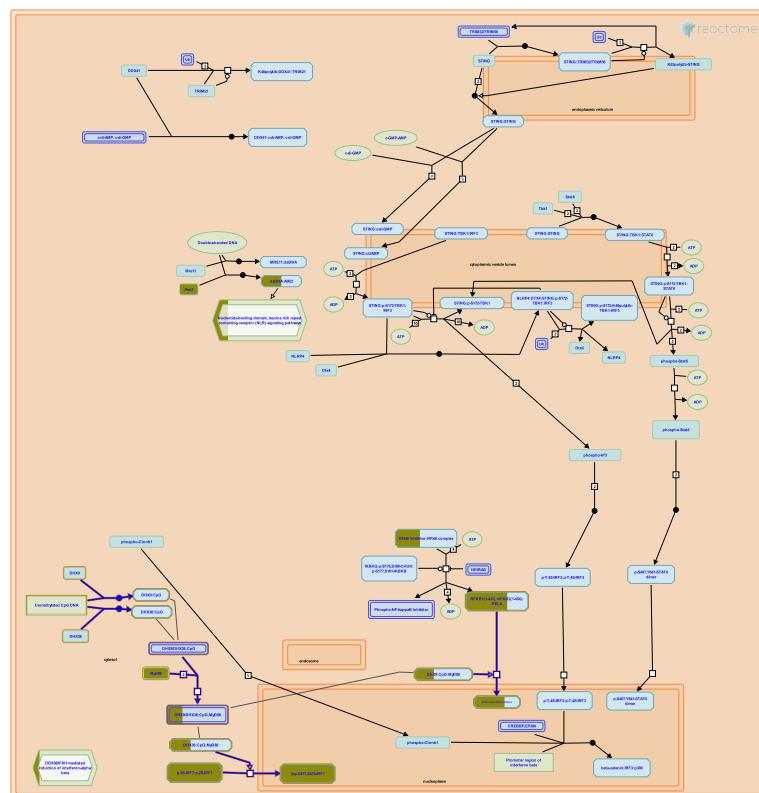
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

6 submitted entities found in this pathway, mapping to 6 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Casp1	P29452	Gsdmd	Q9D8T2	Il1a	P01582
Il1b	P10749	Nfkbp1	P25799	Nfkbp2	Q9WTK5

5. DEx/H-box helicases activate type I IFN and inflammatory cytokines production (R-MMU-3134963)



Inferred from: DEx/H-box helicases activate type I IFN and inflammatory cytokines production .

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

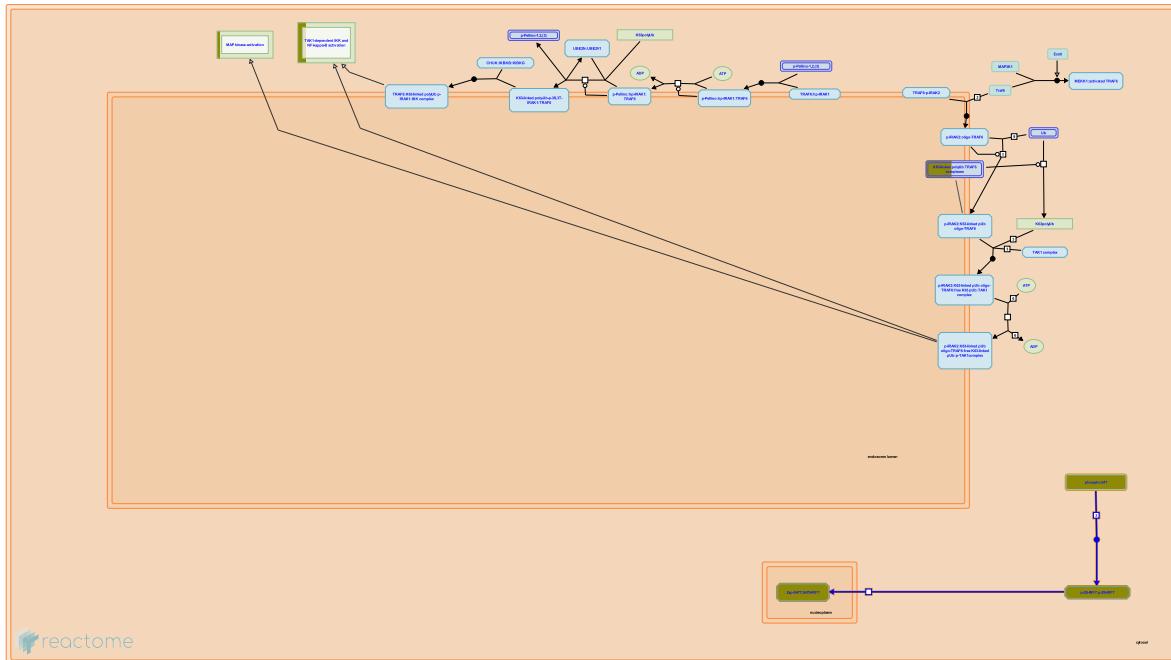
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

4 submitted entities found in this pathway, mapping to 4 Reactome entities

Input	UniProt Id	Input	UniProt Id
Irf7	P70434	Myd88	P22366
Nfkb1	P25799	Nfkb2	Q9WTK5

6. TRAF6 mediated IRF7 activation in TLR7/8 or 9 signaling (R-MMU-975110)



Cellular compartments: endosome membrane, cytosol.

Inferred from: TRAF6 mediated IRF7 activation in TLR7/8 or 9 signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

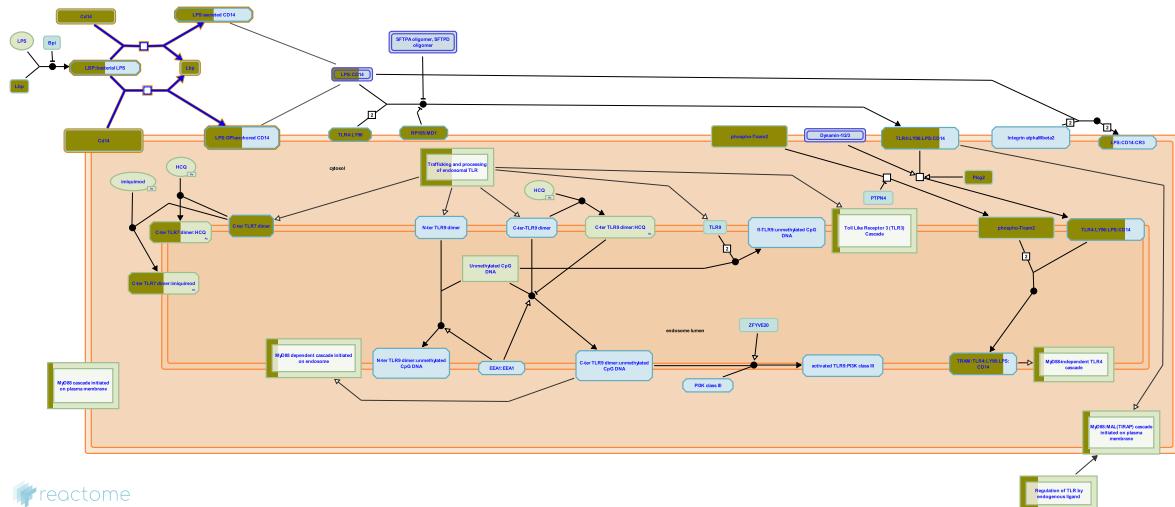
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Irf7	P70434

7. Transfer of LPS from LBP carrier to CD14 (R-MMU-166020)



Cellular compartments: plasma membrane, extracellular region.

Inferred from: Transfer of LPS from LBP carrier to CD14.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

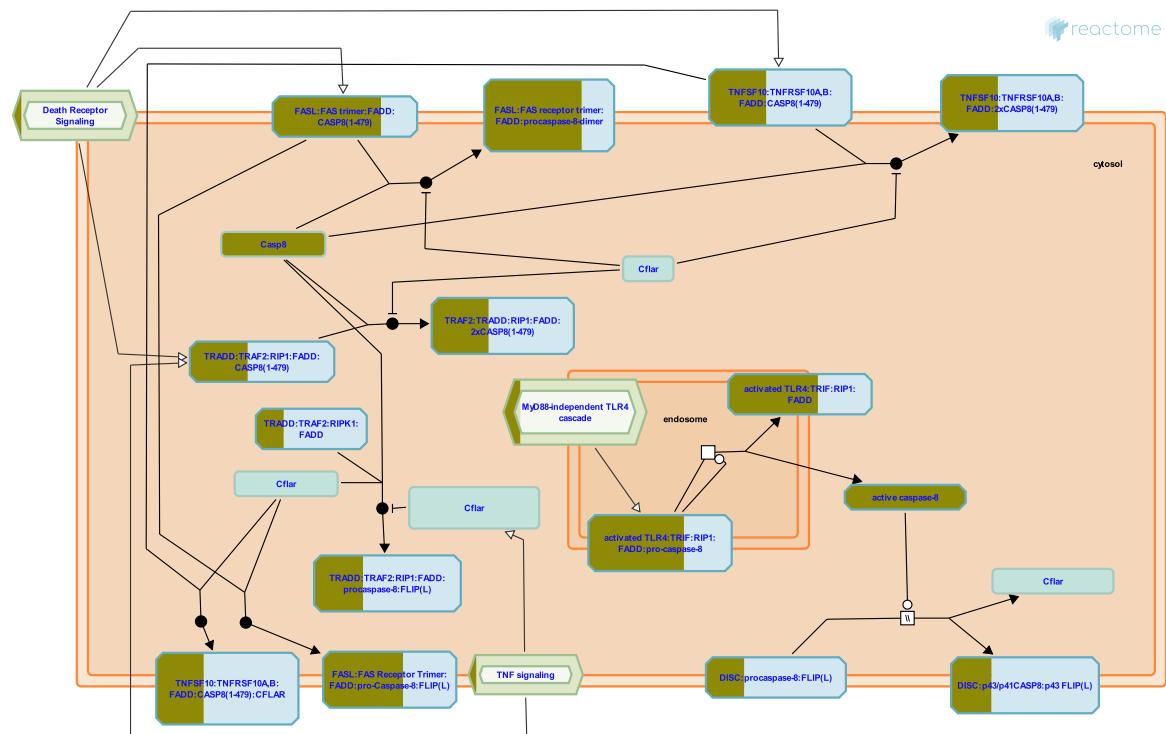
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

2 submitted entities found in this pathway, mapping to 2 Reactome entities

Input	UniProt Id	Input	UniProt Id
Cd14	P10810	Lbp	Q61805

8. Caspase activation via Death Receptors in the presence of ligand (R-MMU-140534)



Cellular compartments: cytosol.

Inferred from: Caspase activation via Death Receptors in the presence of ligand.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

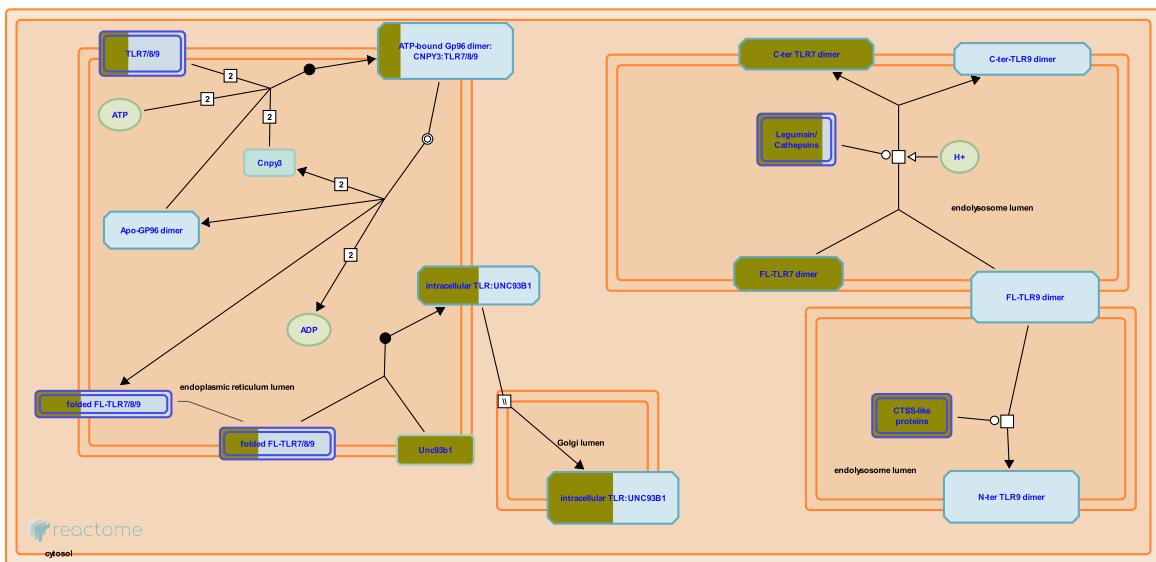
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

7 submitted entities found in this pathway, mapping to 7 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Casp8	O89110	Cd14	P10810	Fadd	Q61160
Fas	P25446	Ly96	Q9JHF9	Ticam2	Q8BJQ4
Tlr4	Q9QUK6				

9. Trafficking and processing of endosomal TLR (R-MMU-1679131)



Inferred from: Trafficking and processing of endosomal TLR.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

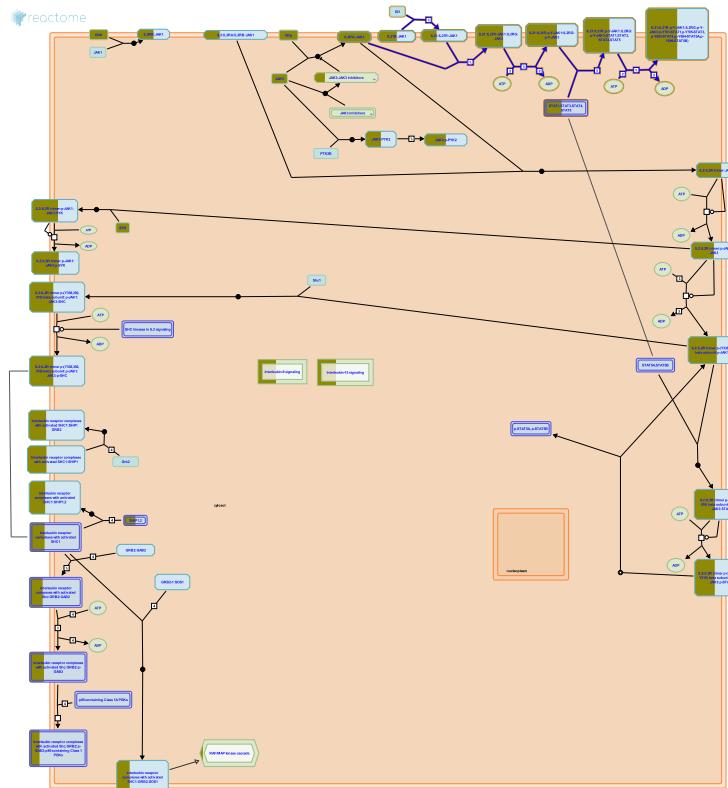
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

6 submitted entities found in this pathway, mapping to 6 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Ctsb	P10605	Ctsl	P06797	Ctss	O70370
Lgmn	O89017	Tlr7	P58681	Unc93b1	Q8VCW4

10. Interleukin-21 signaling (R-MMU-9020958)



Inferred from: Interleukin-21 signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

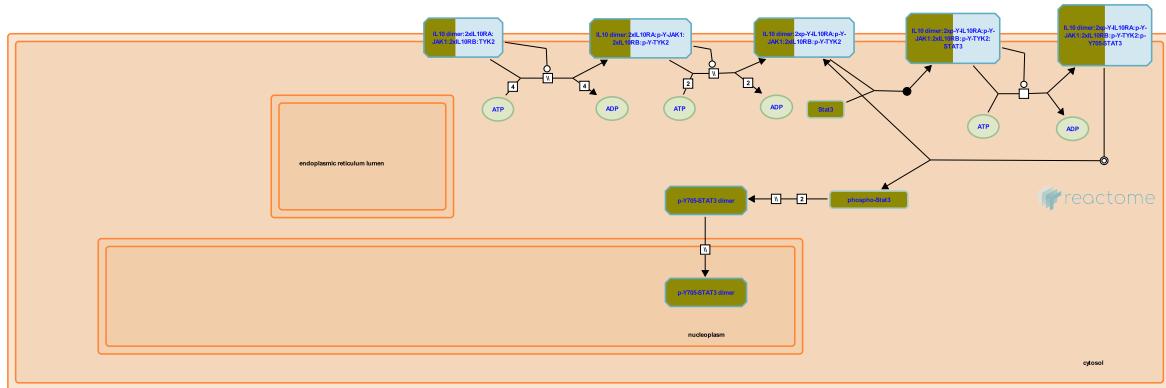
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

5 submitted entities found in this pathway, mapping to 5 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Il21r	Q9JHX3	Il2rg	P34902	Jak3	Q62137
Stat1	P42225	Stat3	P42227		

11. Interleukin-10 signaling (R-MMU-6783783)



Inferred from: Interleukin-10 signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

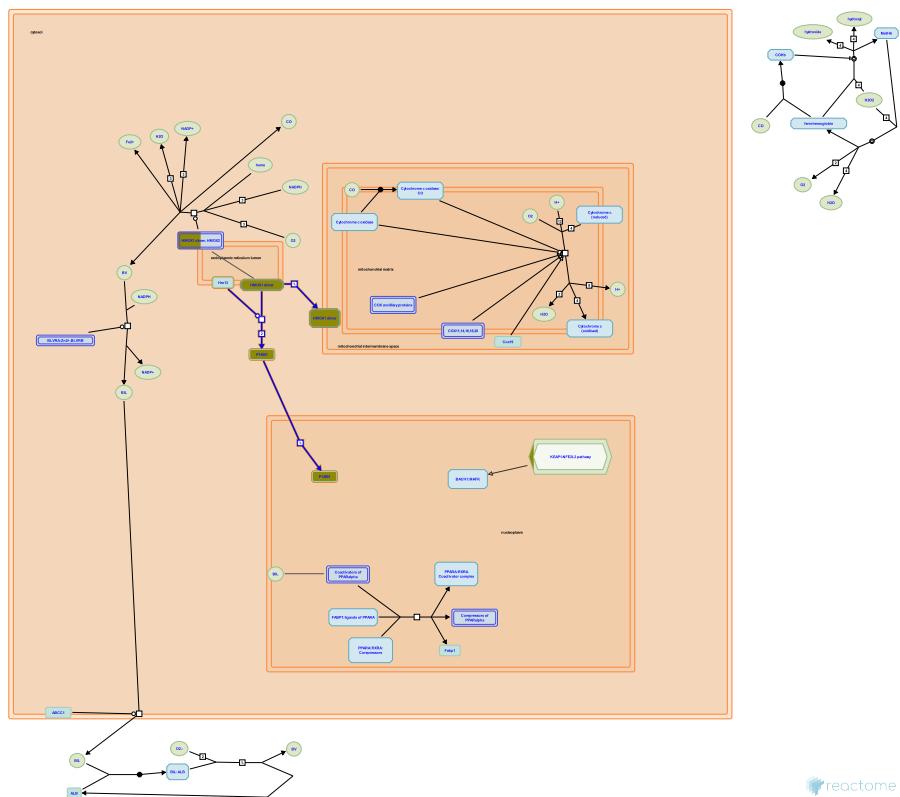
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

3 submitted entities found in this pathway, mapping to 3 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Il10ra	Q61727	Il10rb	Q61190	Stat3	P42227

12. Regulation of HMOX1 expression and activity (R-MMU-9707587)



Inferred from: Regulation of HMOX1 expression and activity.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

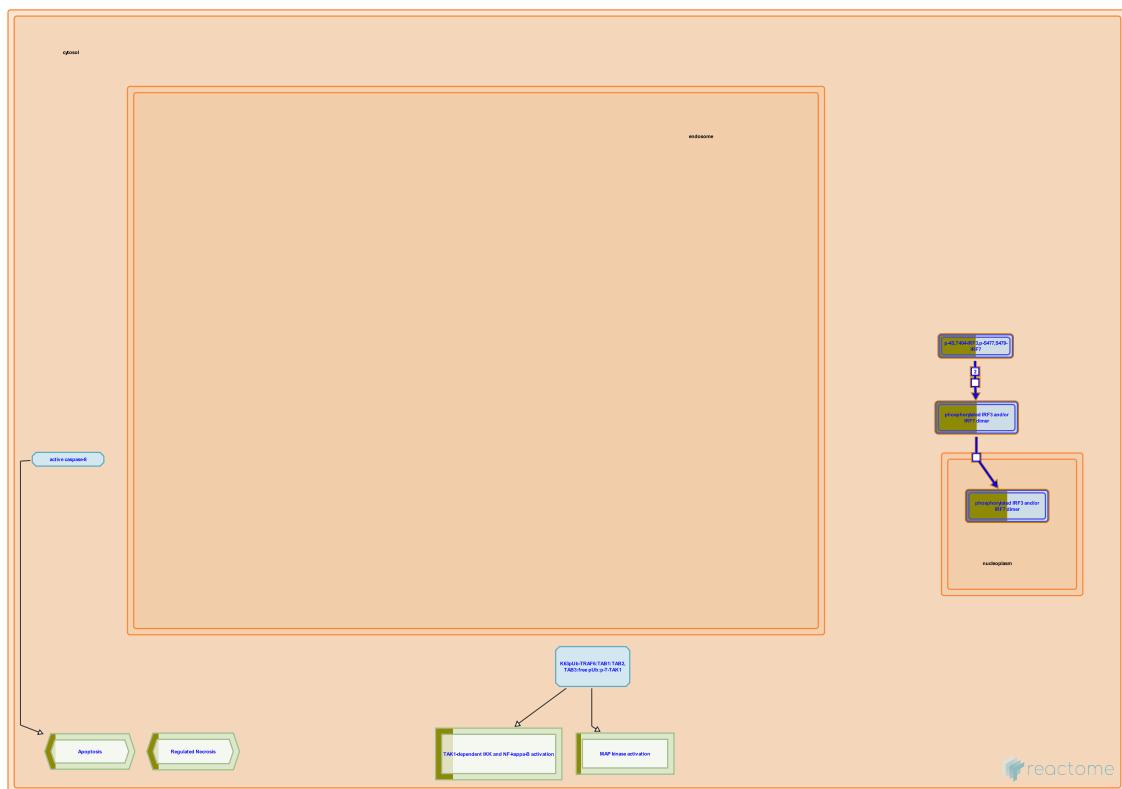
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Hmox1	P14901

13. TICAM1-dependent activation of IRF3/IRF7 (R-MMU-9013973)



Cellular compartments: cytosol.

Inferred from: TICAM1-dependent activation of IRF3/IRF7.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

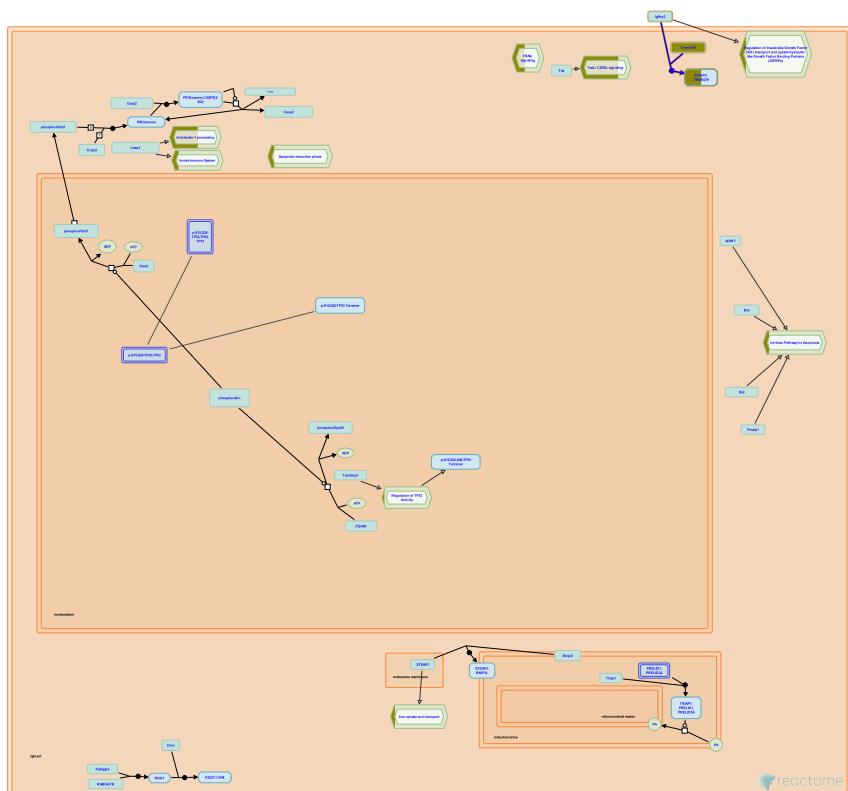
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Irf7	P70434

14. TP53 Regulates Transcription of Death Receptors and Ligands (R-MMU-6803211)



Inferred from: TP53 Regulates Transcription of Death Receptors and Ligands.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

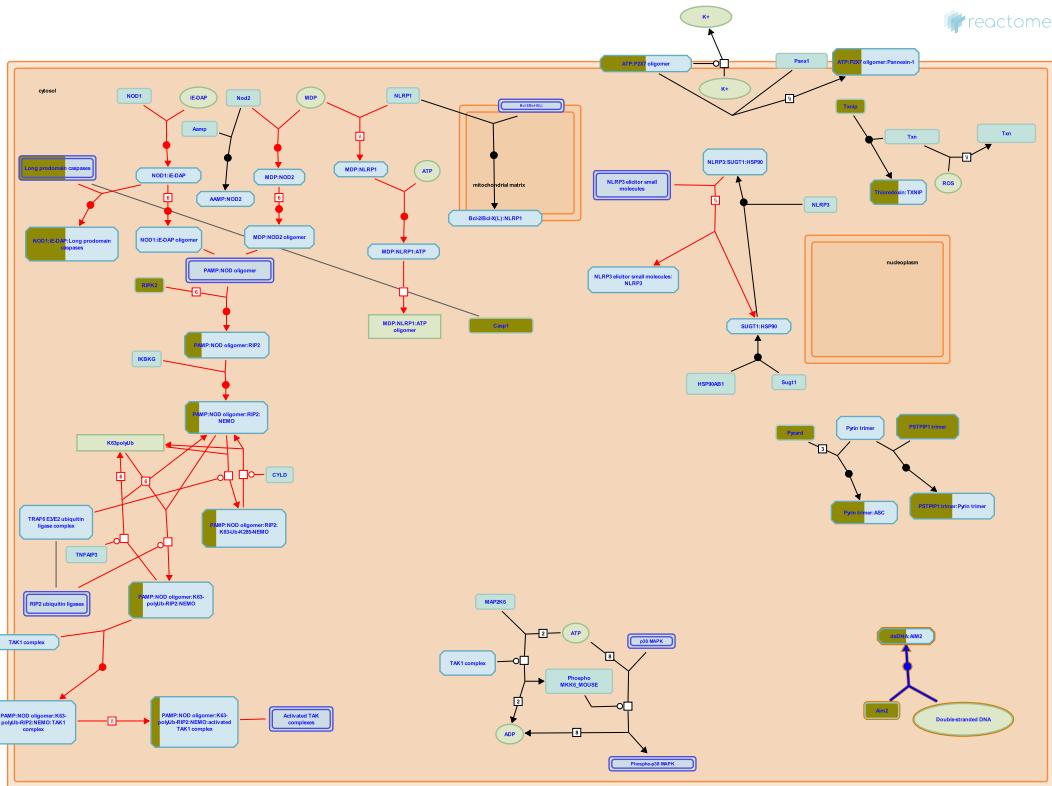
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Tmem219	Q9D123

15. The AIM2 inflammasome (R-MMU-844615)



Cellular compartments: cytosol.

Inferred from: The AIM2 inflammasome.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

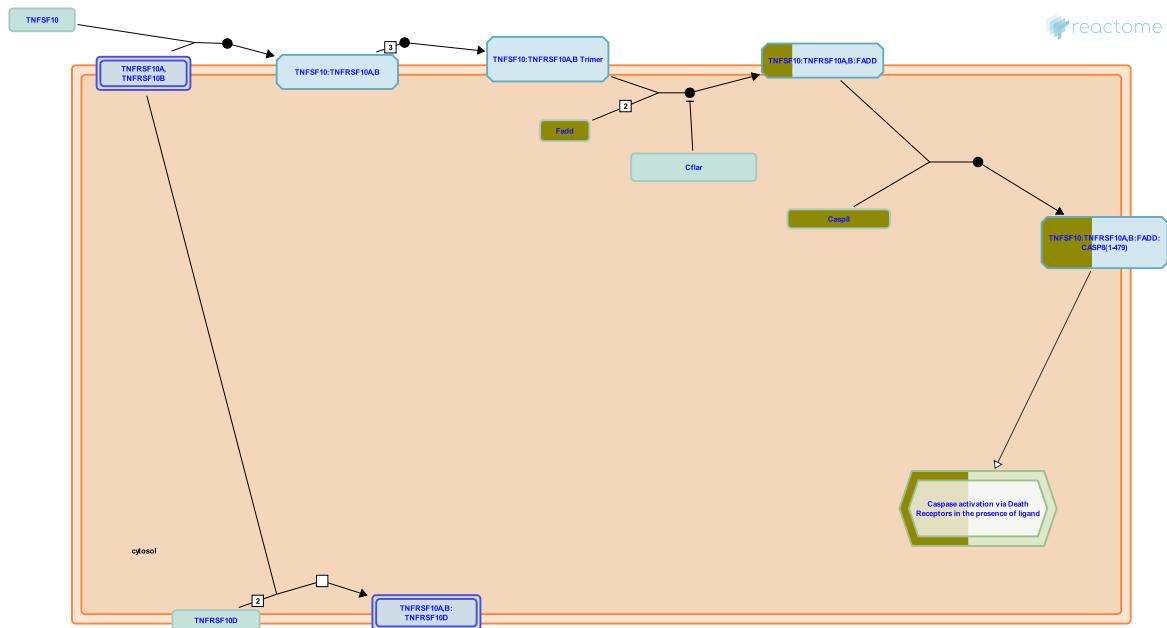
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Aim2	Q91VJ1

16. TRAIL signaling (R-MMU-75158)



Inferred from: TRAIL signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

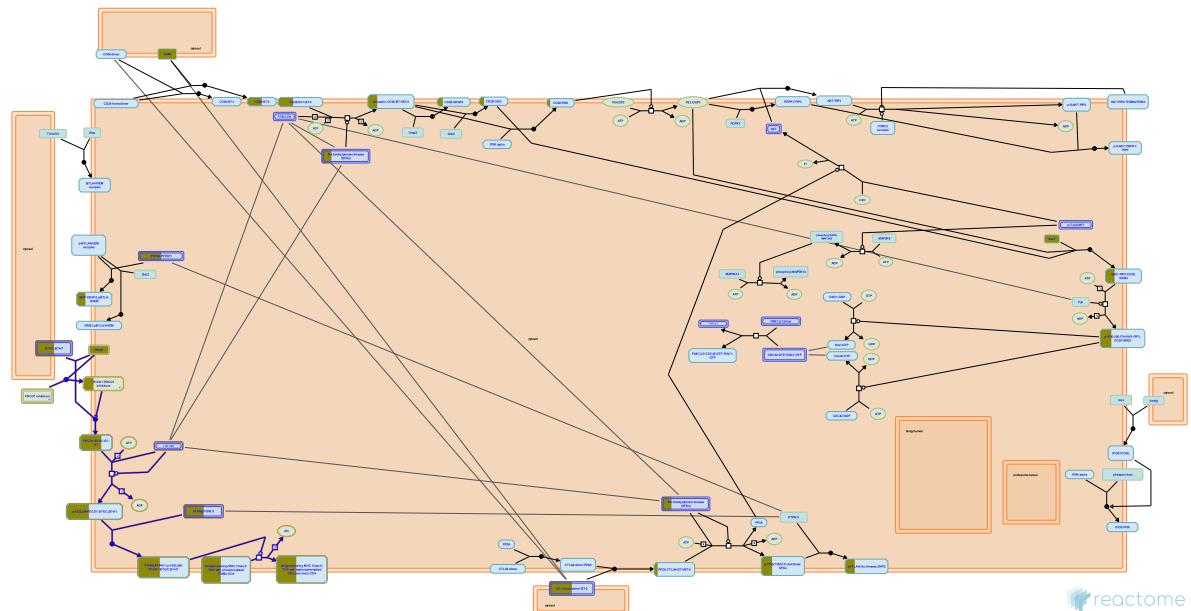
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

2 submitted entities found in this pathway, mapping to 2 Reactome entities

Input	UniProt Id	Input	UniProt Id
Casp8	O89110	Fadd	Q61160

17. PD-1 signaling (R-MMU-389948)



Cellular compartments: plasma membrane.

Inferred from: PD-1 signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

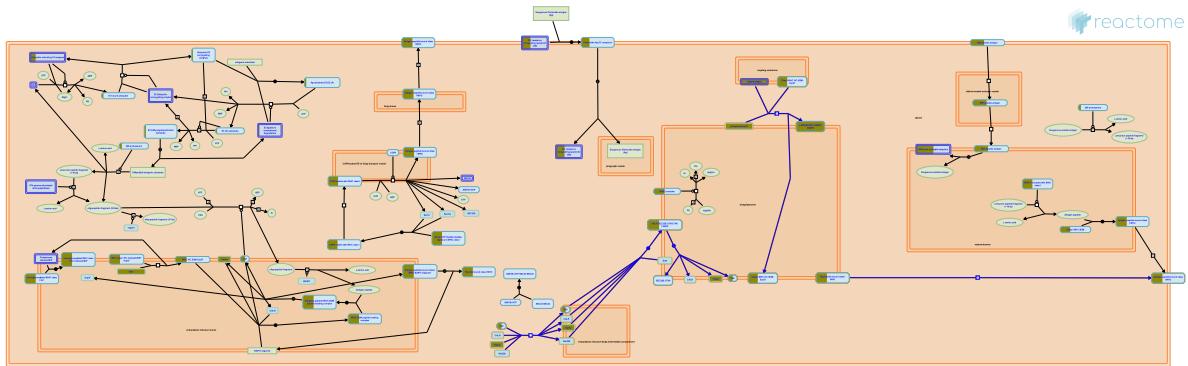
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

10 submitted entities found in this pathway, mapping to 10 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Cd274	Q9EP73	Cd3d	P04235	Cd3e	P22646
Cd3g	P11942	H2-Aa	P01910	H2-Ab1	P01921
H2-Eb1	P04230	Pdcd1	Q02242	Ptpn6	P29351
Trbc1	A0A075B5J3				

18. ER-Phagosome pathway (R-MMU-1236974)



Inferred from: ER-Phagosome pathway.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

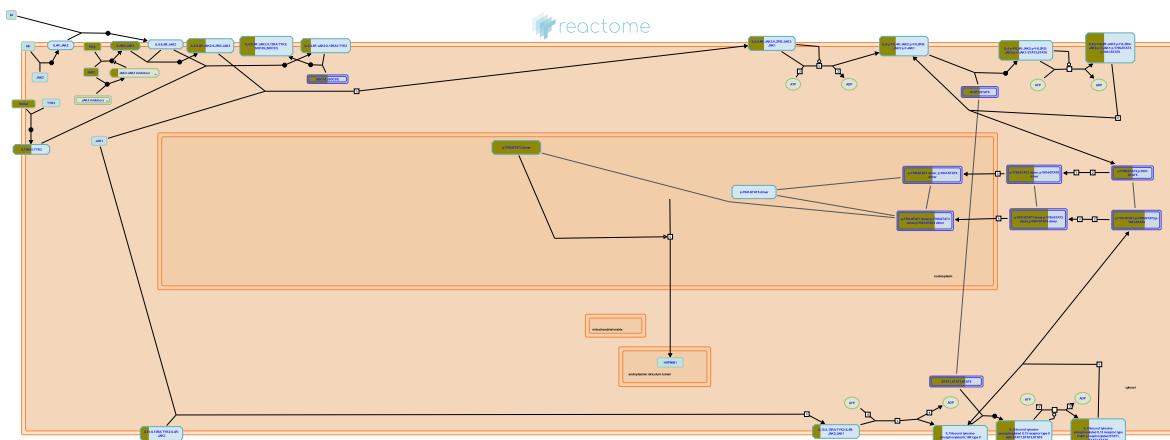
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

15 submitted entities found in this pathway, mapping to 15 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
B2m	P01887	H2-D1	P14427	H2-K1	P01901
H2-M3	Q31093	H2-Q4	Q8HWB2	H2-Q6	P79568
H2-Q7	P14429	H2-T10	F6T1I5	H2-T22	Q31615
H2-T23	P06339	Snap23	O09044	Tap1	P21958
Tapbp	Q9R233	Vamp3	P63024	Vamp8	O70404

19. Interleukin-4 and Interleukin-13 signaling (R-MMU-6785807)



Inferred from: Interleukin-4 and Interleukin-13 signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

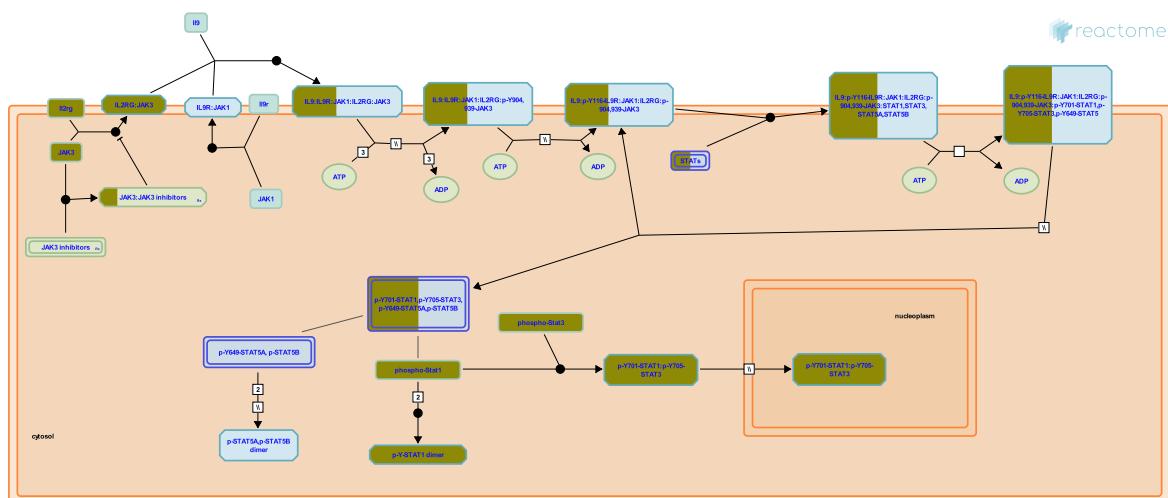
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

6 submitted entities found in this pathway, mapping to 6 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Il13ra1	O09030	Il2rg	P34902	Jak3	Q62137
Socs1	O35716	Stat1	P42225	Stat3	P42227

20. Interleukin-9 signaling (R-MMU-8985947)



Inferred from: Interleukin-9 signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

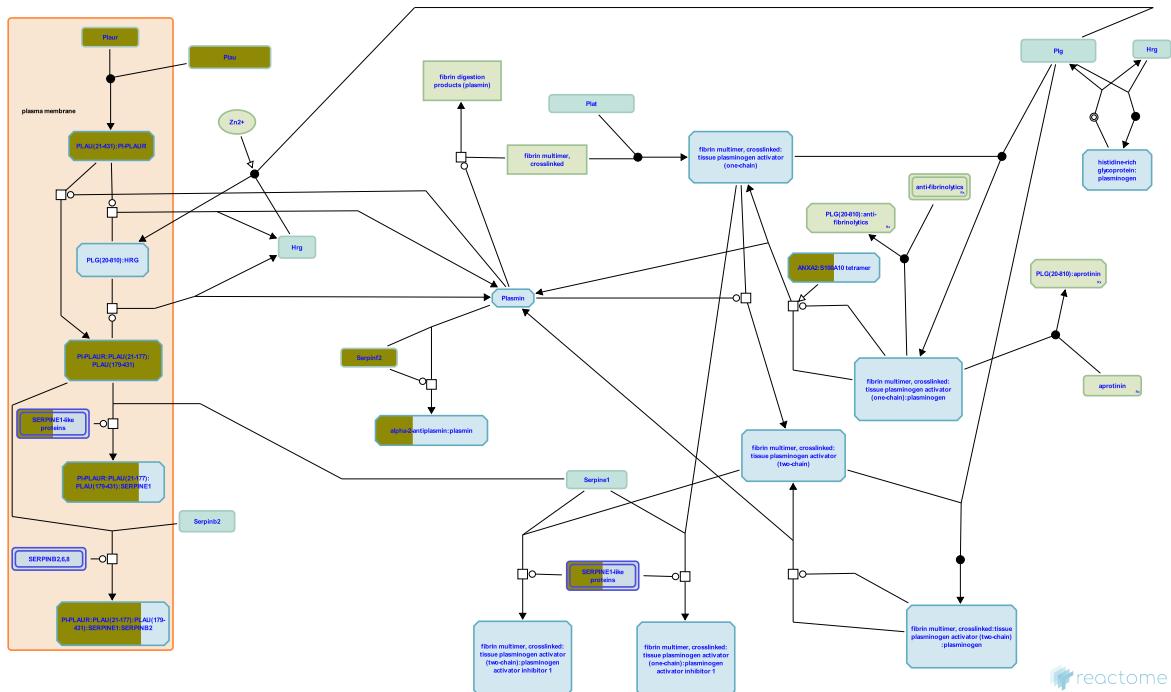
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

4 submitted entities found in this pathway, mapping to 4 Reactome entities

Input	UniProt Id	Input	UniProt Id
Il2rg	P34902	Jak3	Q62137
Stat1	P42225	Stat3	P42227

21. Dissolution of Fibrin Clot (R-MMU-75205)



Inferred from: Dissolution of Fibrin Clot.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

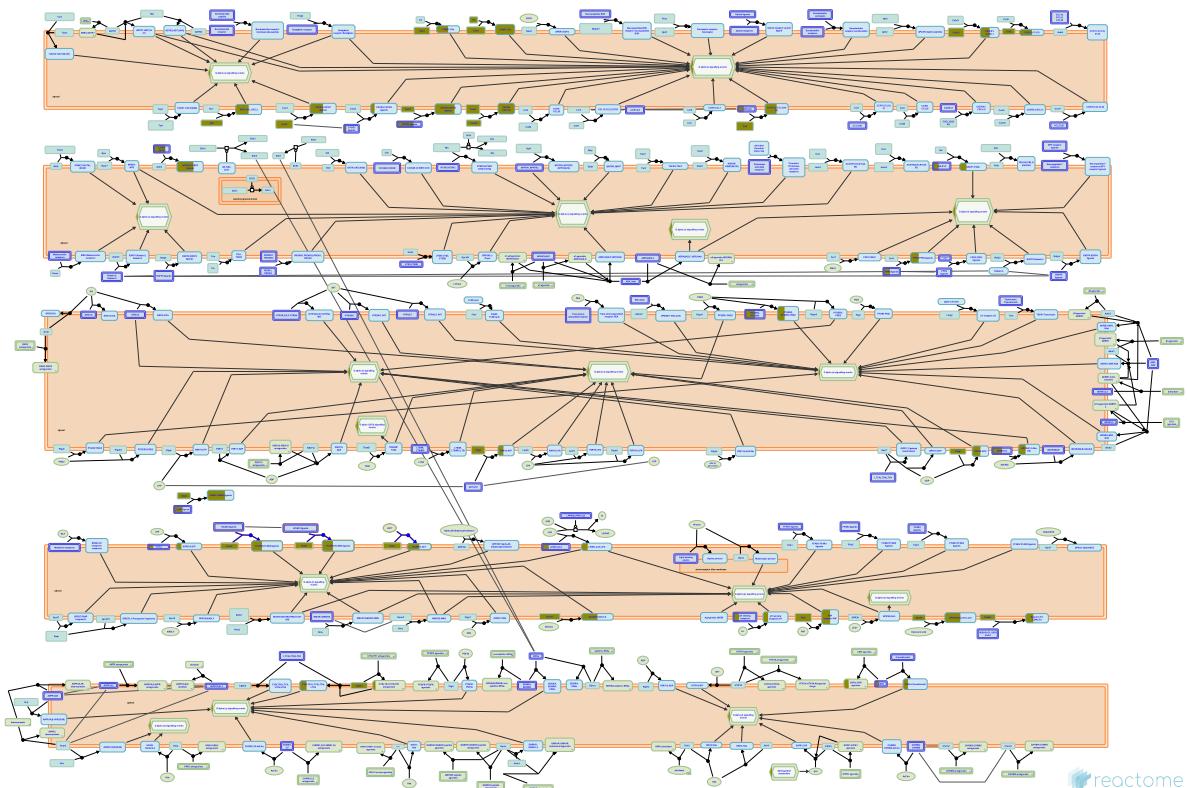
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

5 submitted entities found in this pathway, mapping to 5 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Anxa2	P07356	Plau	P06869	Plaur	P35456
Serpine2	Q07235	Serpinf2	Q61247		

22. Hydroxycarboxylic acid-binding receptors (R-MMU-3296197)



Inferred from: Hydroxycarboxylic acid-binding receptors.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

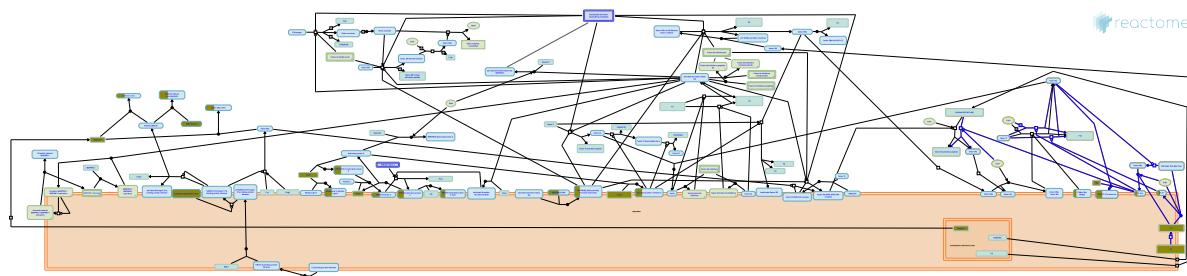
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

2 submitted entities found in this pathway, mapping to 2 Reactome entities

Input	UniProt Id	Input	UniProt Id
Hcar1	Q8C131	Hcar2	Q9EP66

23. Extrinsic Pathway of Fibrin Clot Formation (R-MMU-140834)



Cellular compartments: extracellular region.

Inferred from: Extrinsic Pathway of Fibrin Clot Formation.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

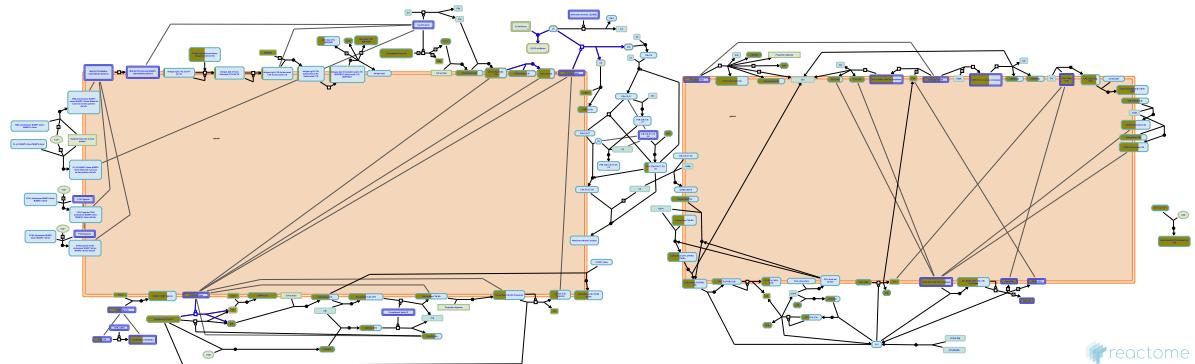
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

2 submitted entities found in this pathway, mapping to 2 Reactome entities

Input	UniProt Id	Input	UniProt Id
F3	P20352	Tfpi	O54819

24. Activation of C3 and C5 (R-MMU-174577)



Cellular compartments: plasma membrane, extracellular region.

Inferred from: Activation of C3 and C5.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

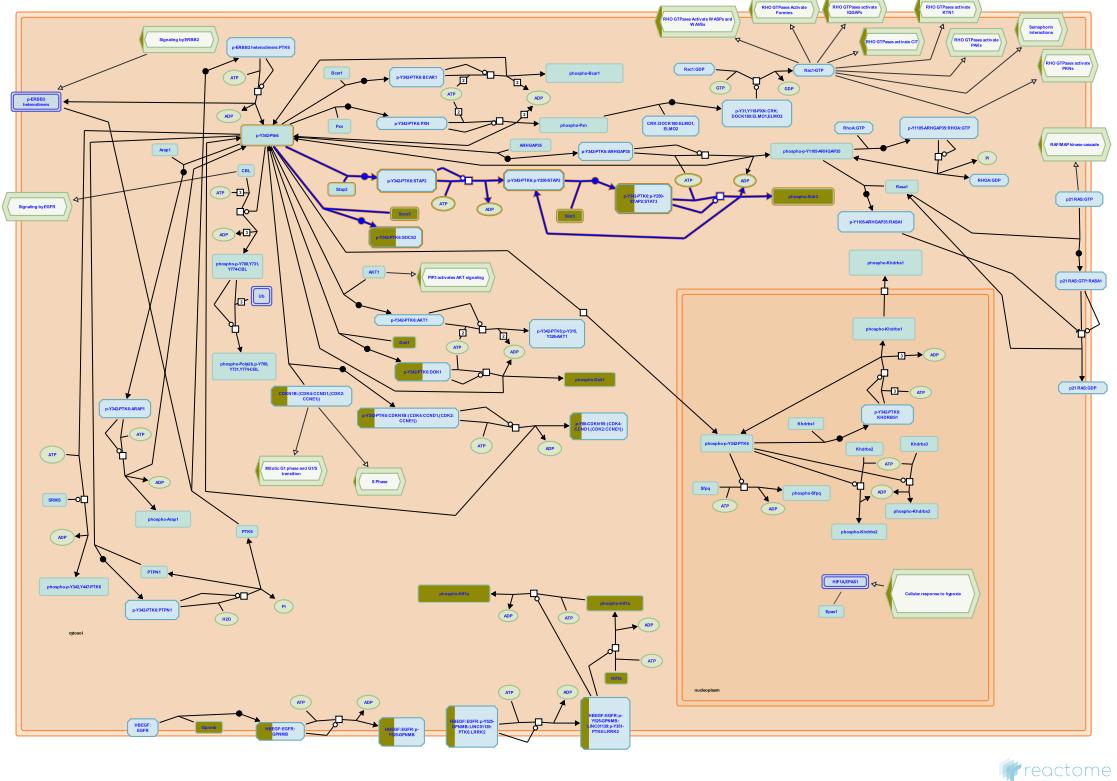
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

2 submitted entities found in this pathway, mapping to 2 Reactome entities

Input	UniProt Id	Input	UniProt Id
C3	P01027	C4b	P01029

25. PTK6 Activates STAT3 (R-MMU-8849474)



Inferred from: PTK6 Activates STAT3.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

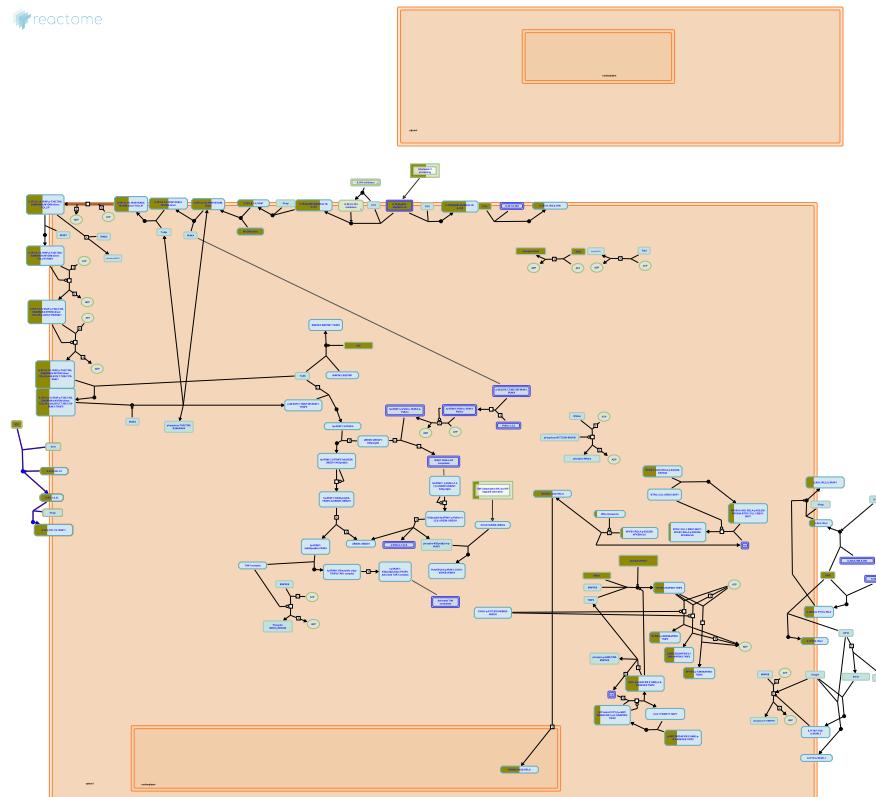
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

2 submitted entities found in this pathway, mapping to 2 Reactome entities

Input	UniProt Id	Input	UniProt Id
Socs3	O35718	Stat3	P42227

26. Interleukin-33 signaling (R-MMU-9014843)



Inferred from: Interleukin-33 signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

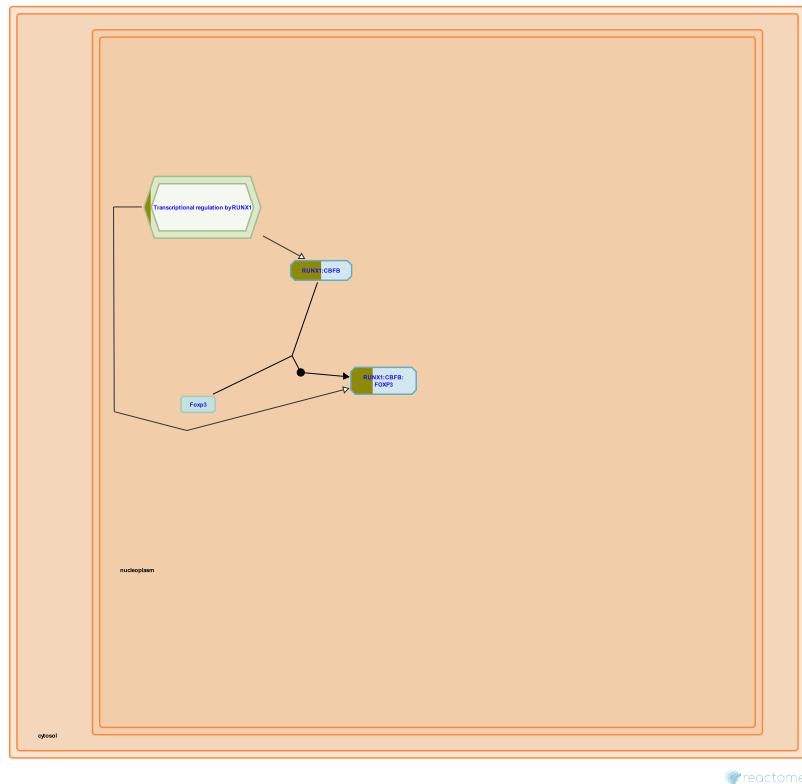
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Il33	Q8BVZ5

27. RUNX1 and FOXP3 control the development of regulatory T lymphocytes (Tregs) (R-MMU-8877330)



Inferred from: RUNX1 and FOXP3 control the development of regulatory T lymphocytes (Tregs).

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

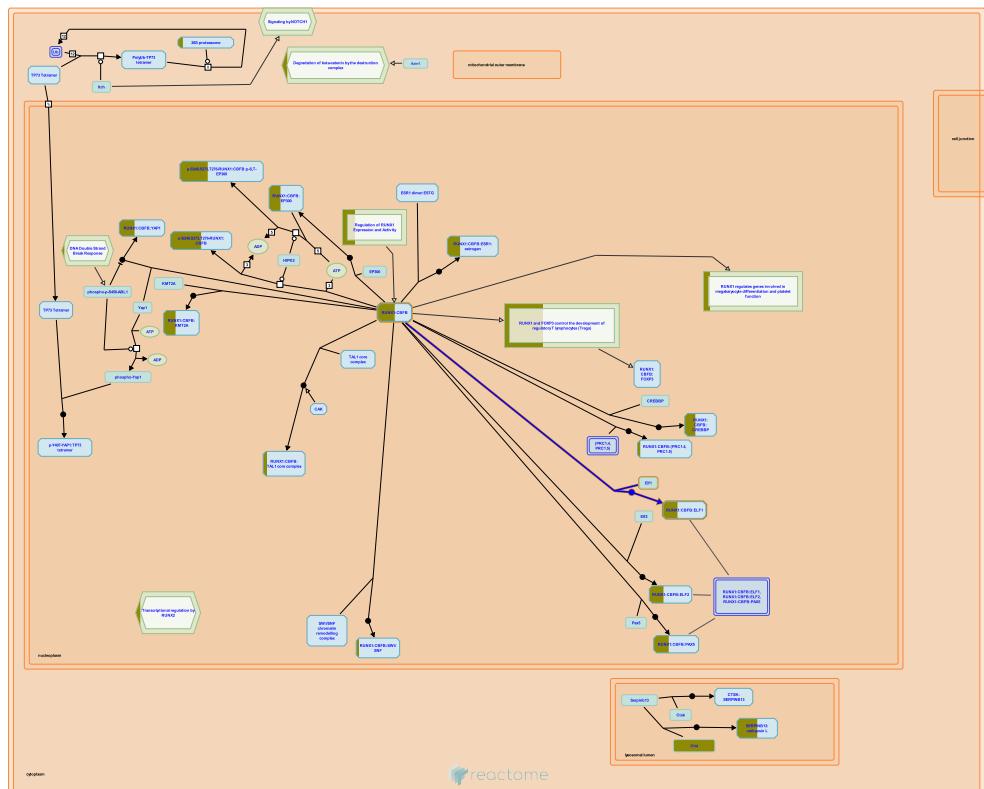
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Runx1	Q03347

28. RUNX1 regulates transcription of genes involved in interleukin signaling (R-MMU-8939247)



Inferred from: RUNX1 regulates transcription of genes involved in interleukin signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

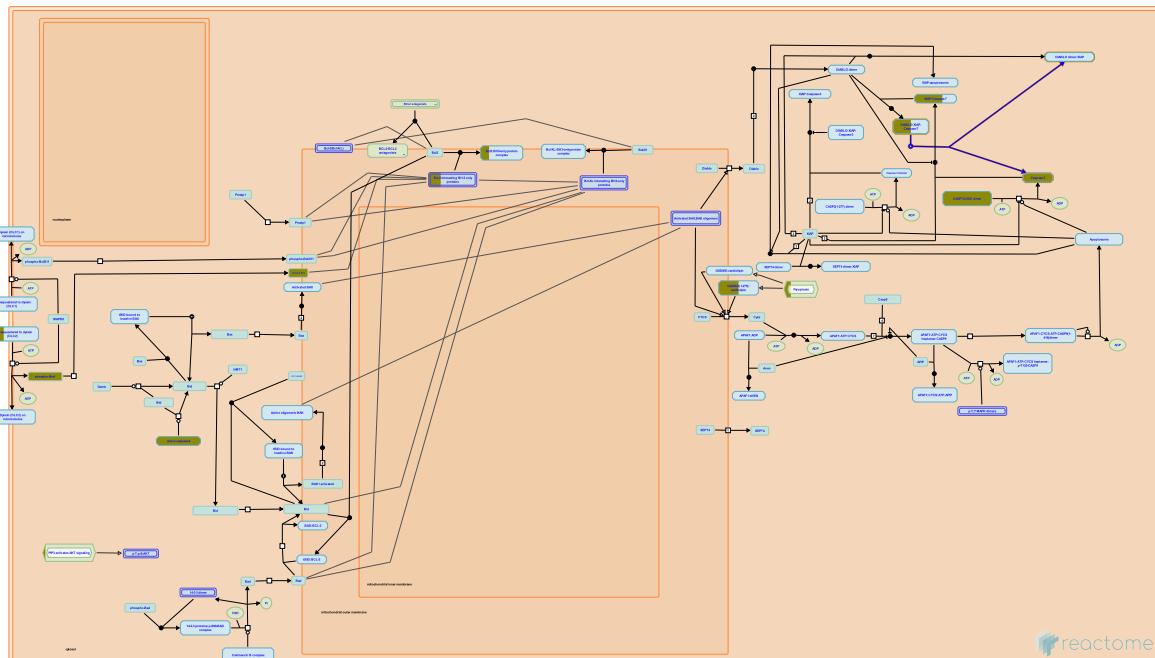
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Runx1	Q03347

29. SMAC(DIABLO)-mediated dissociation of IAP:caspase complexes (R-MMU-111464)



Cellular compartments: cytosol.

Inferred from: SMAC(DIABLO)-mediated dissociation of IAP:caspase complexes .

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

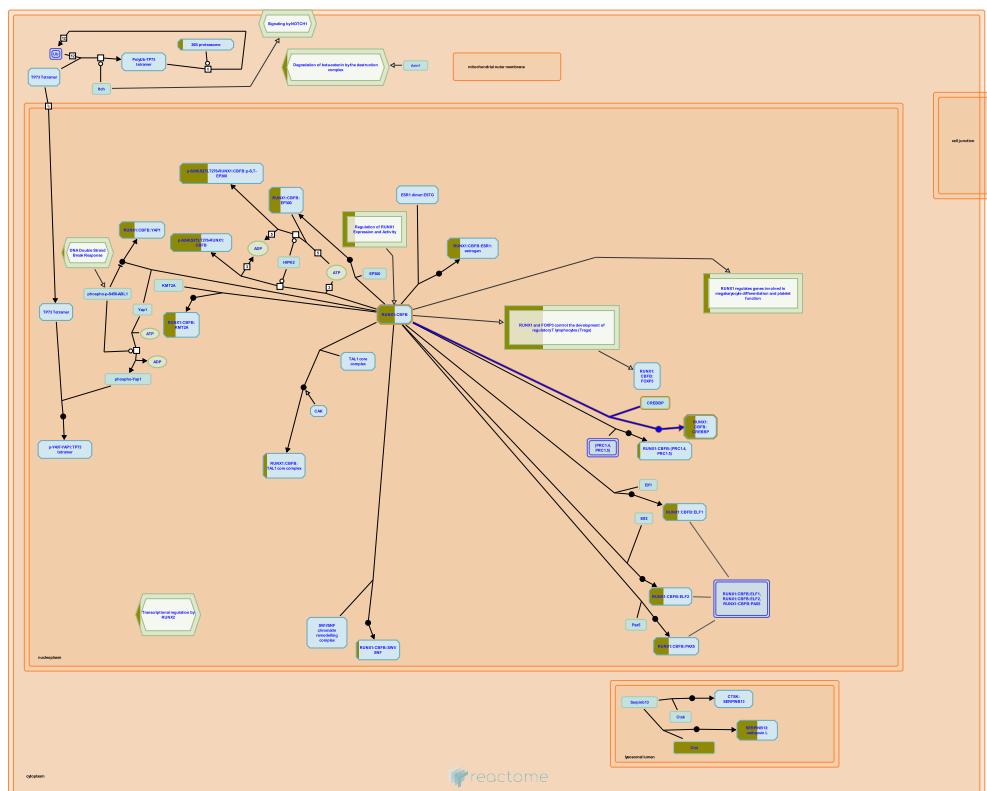
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Casp7	P97864

30. RUNX1 regulates transcription of genes involved in differentiation of myeloid cells (R-MMU-8939246)



Inferred from: RUNX1 regulates transcription of genes involved in differentiation of myeloid cells.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

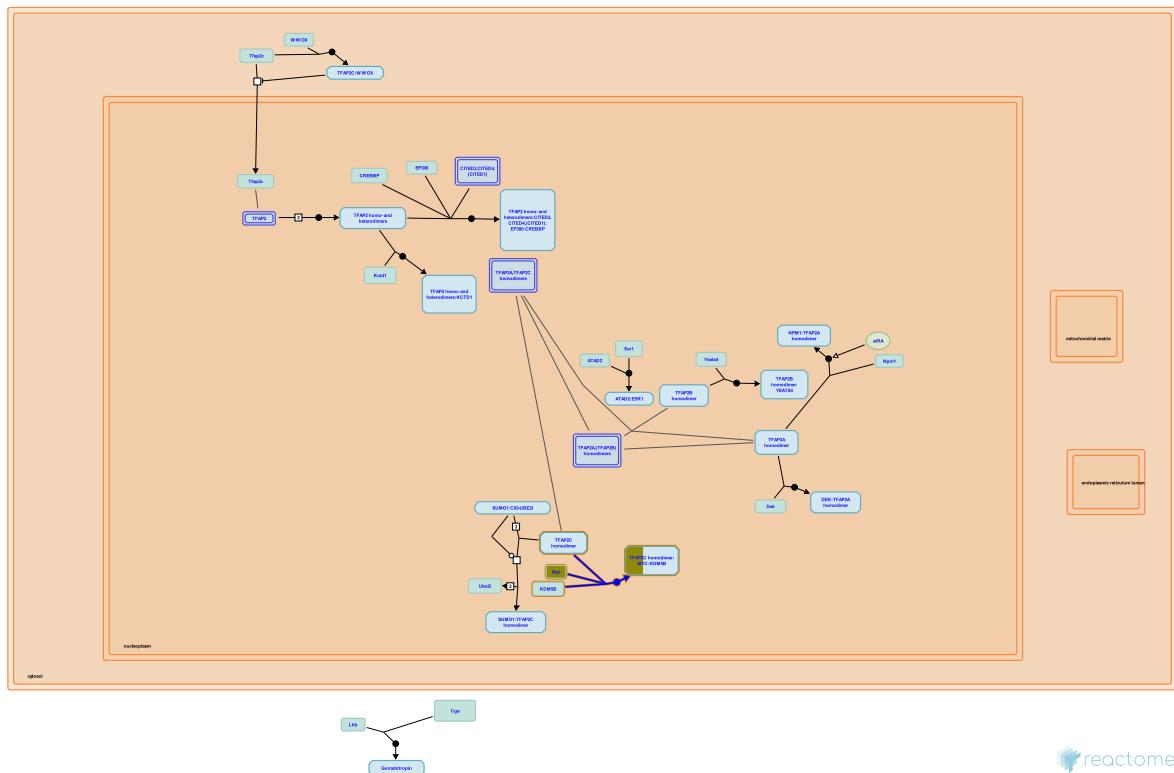
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Runx1	Q03347

31. TFAP2 (AP-2) family regulates transcription of cell cycle factors ([R-MMU-8866911](#))



Inferred from: TFAP2 (AP-2) family regulates transcription of cell cycle factors.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

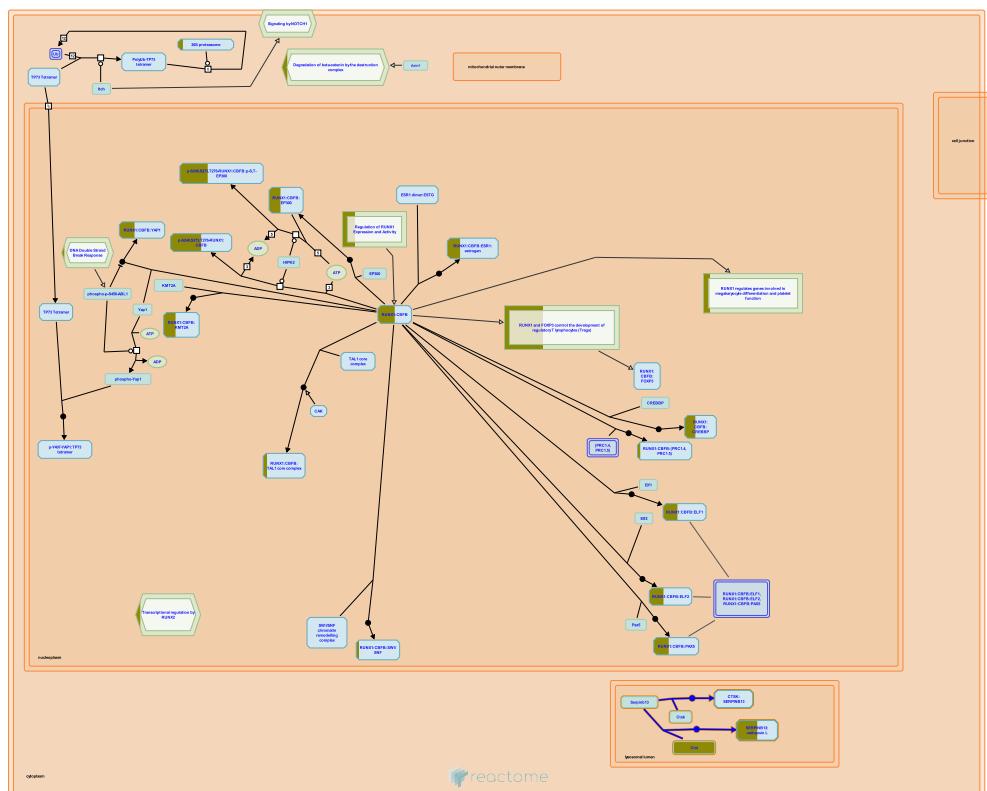
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Myc	P01108

32. RUNX1 regulates transcription of genes involved in differentiation of keratinocytes (R-MMU-8939242)



Inferred from: RUNX1 regulates transcription of genes involved in differentiation of keratinocytes.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

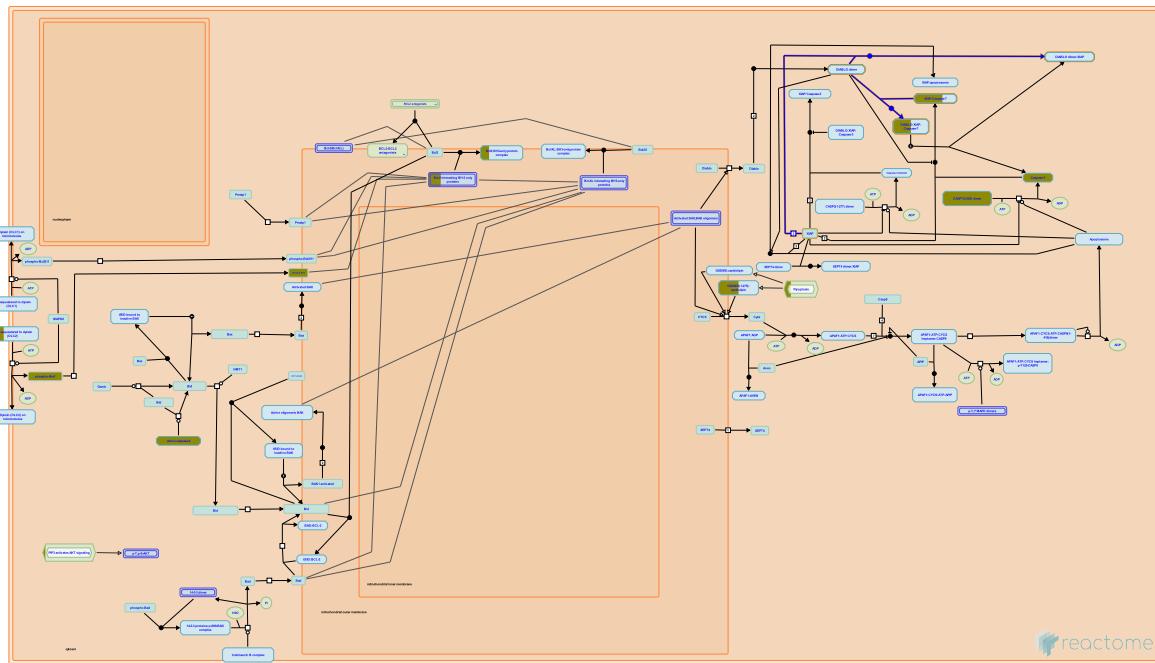
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Ctsl	P06797

33. SMAC (DIABLO) binds to IAPs (R-MMU-111463)



Cellular compartments: cytosol.

Inferred from: SMAC (DIABLO) binds to IAPs .

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

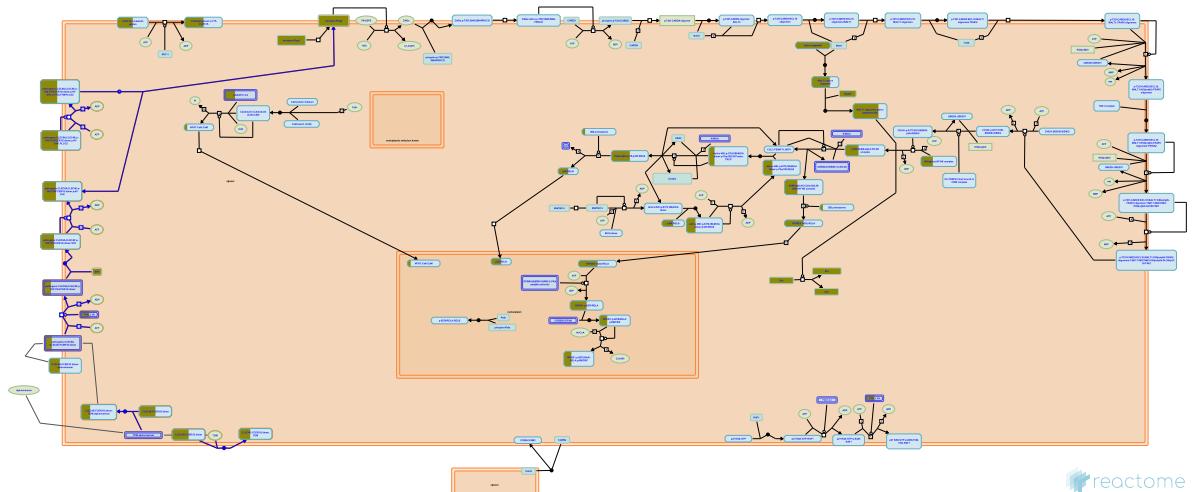
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Casp7	P97864

34. Dectin-2 family (R-MMU-5621480)



Cellular compartments: plasma membrane.

Inferred from: Dectin-2 family.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

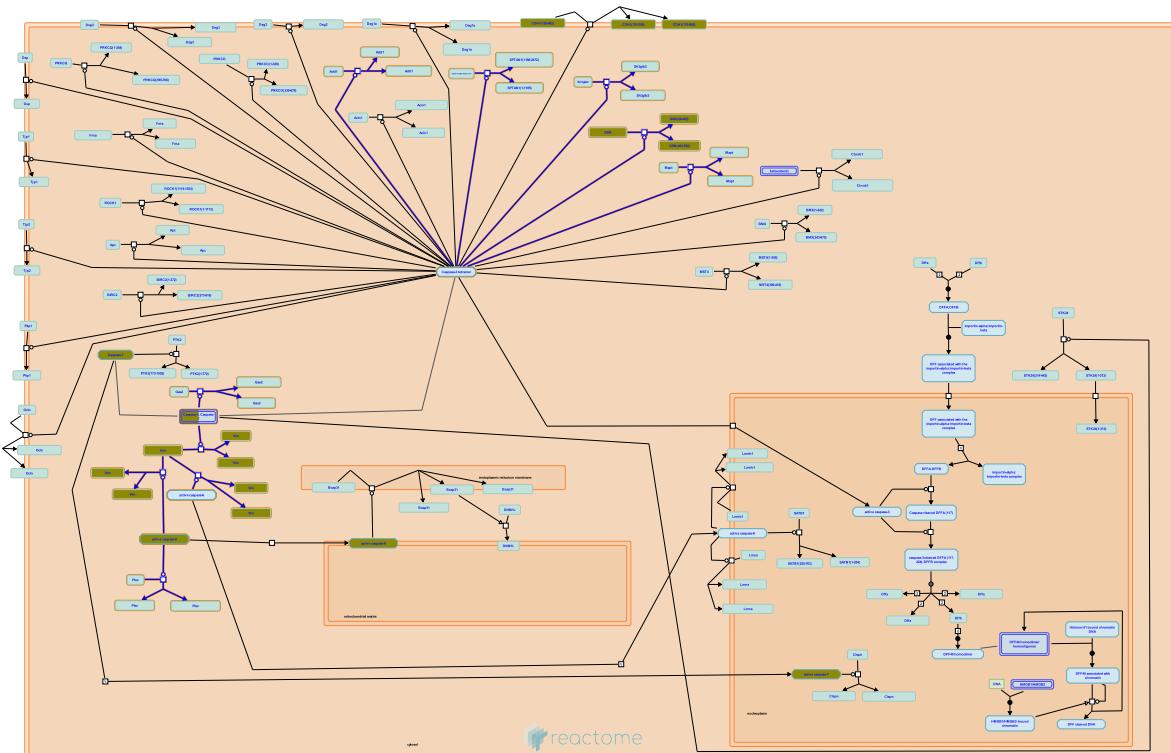
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

4 submitted entities found in this pathway, mapping to 4 Reactome entities

Input	UniProt Id	Input	UniProt Id
FcγR	P20491	Lyn	P25911
PLCγ2	Q8CIH5	Syk	P48025

35. Caspase-mediated cleavage of cytoskeletal proteins (R-MMU-264870)



Inferred from: Caspase-mediated cleavage of cytoskeletal proteins.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

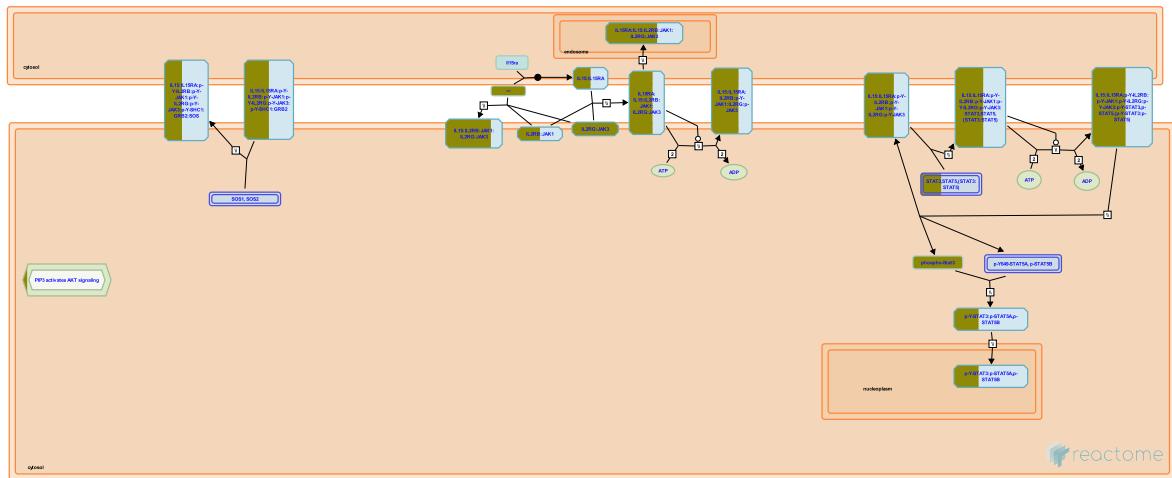
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

4 submitted entities found in this pathway, mapping to 4 Reactome entities

Input	UniProt Id	Input	UniProt Id
Casp7	P97864	Casp8	O89110
Gsn	P13020	Vim	P20152

36. Interleukin-15 signaling (R-MMU-8983432)



Inferred from: Interleukin-15 signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

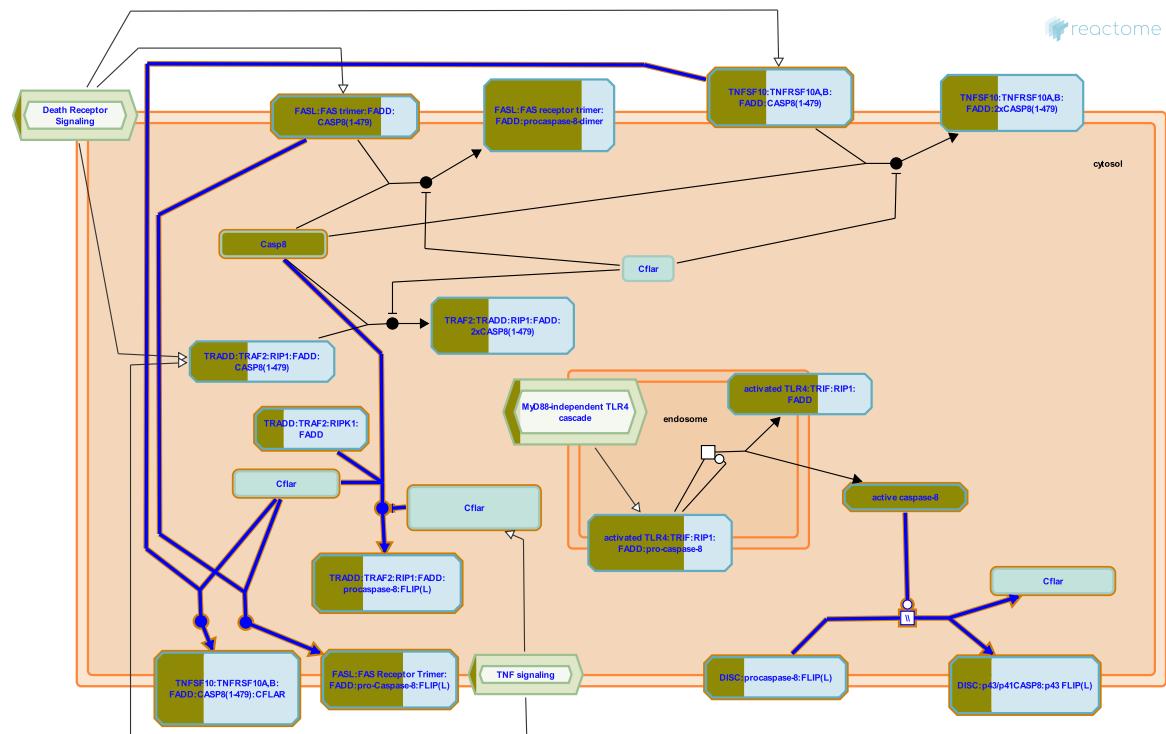
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

5 submitted entities found in this pathway, mapping to 5 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Il15	P48346	Il2rb	P16297	Il2rg	P34902
Jak3	Q62137	Stat3	P42227		

37. Regulation by c-FLIP (R-MMU-3371378)



Inferred from: Regulation by c-FLIP.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

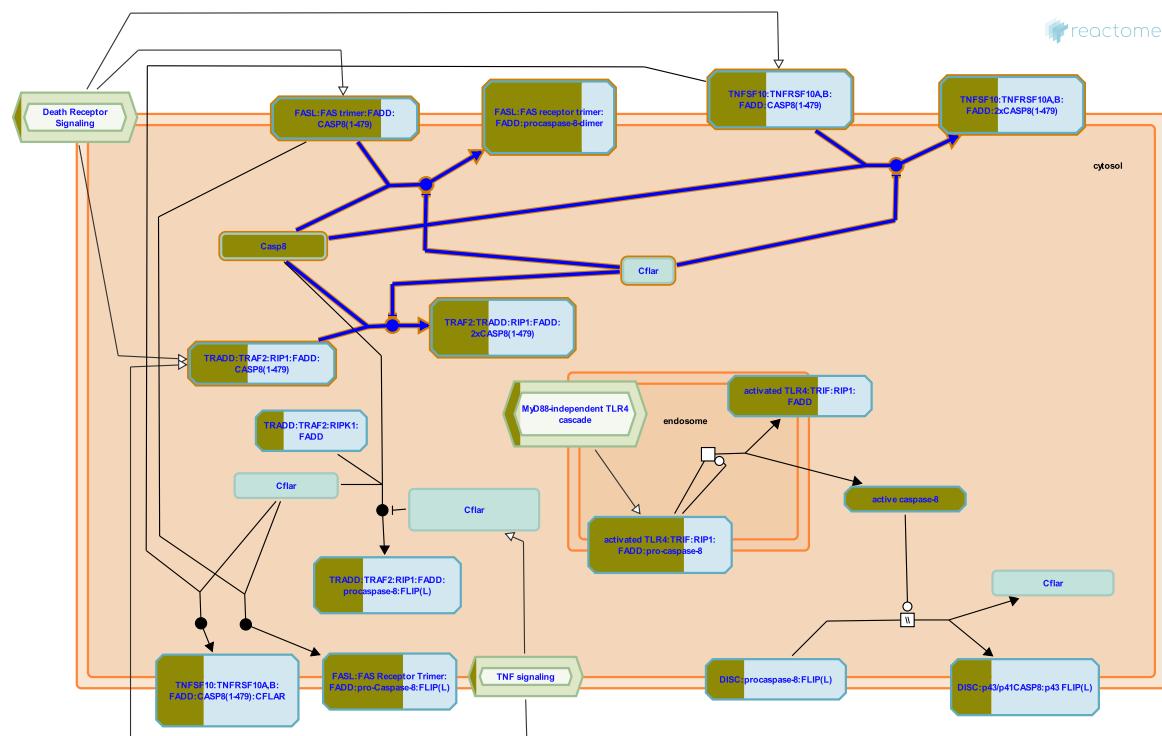
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

3 submitted entities found in this pathway, mapping to 3 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Casp8	O89110	Fadd	Q61160	Fas	P25446

38. Dimerization of procaspase-8 (R-MMU-69416)



Inferred from: Dimerization of procaspase-8.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

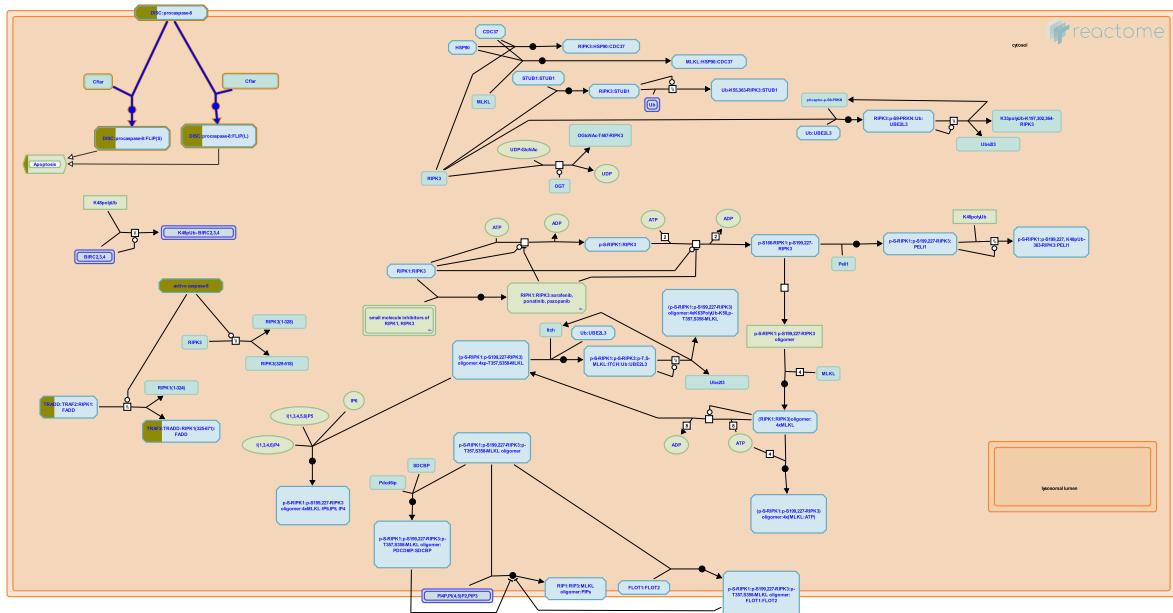
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

3 submitted entities found in this pathway, mapping to 3 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Casp8	O89110	Fadd	Q61160	Fas	P25446

39. CASP8 activity is inhibited ([R-MMU-5218900](#))



Inferred from: CASP8 activity is inhibited.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

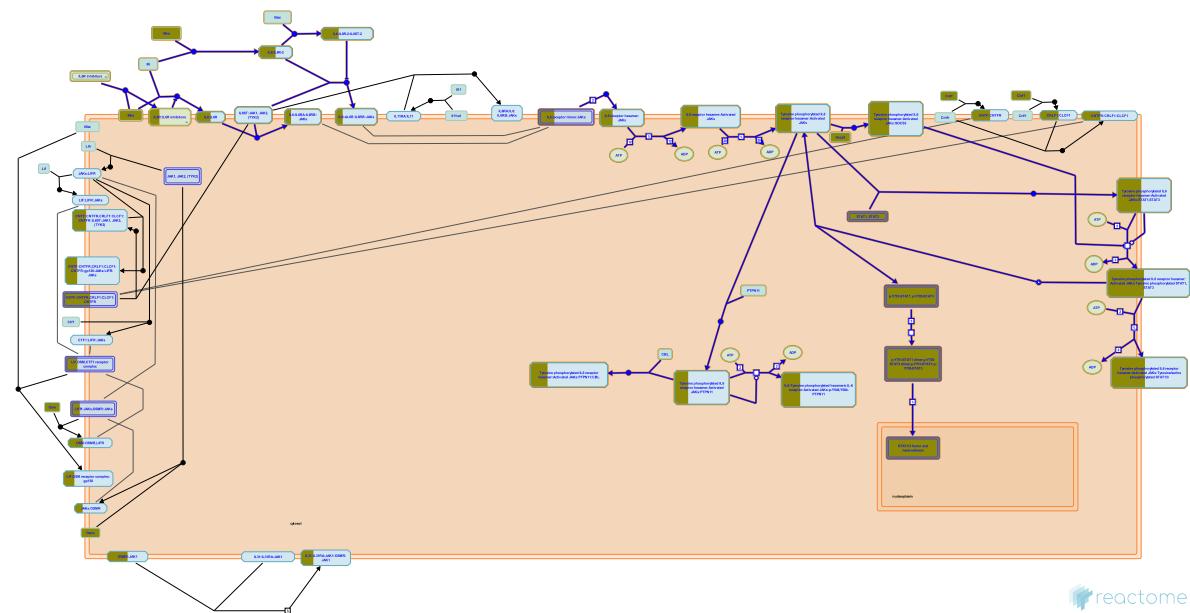
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

3 submitted entities found in this pathway, mapping to 3 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Casp8	O89110	Fadd	Q61160	Fas	P25446

40. Interleukin-6 signaling (R-MMU-1059683)



Inferred from: Interleukin-6 signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

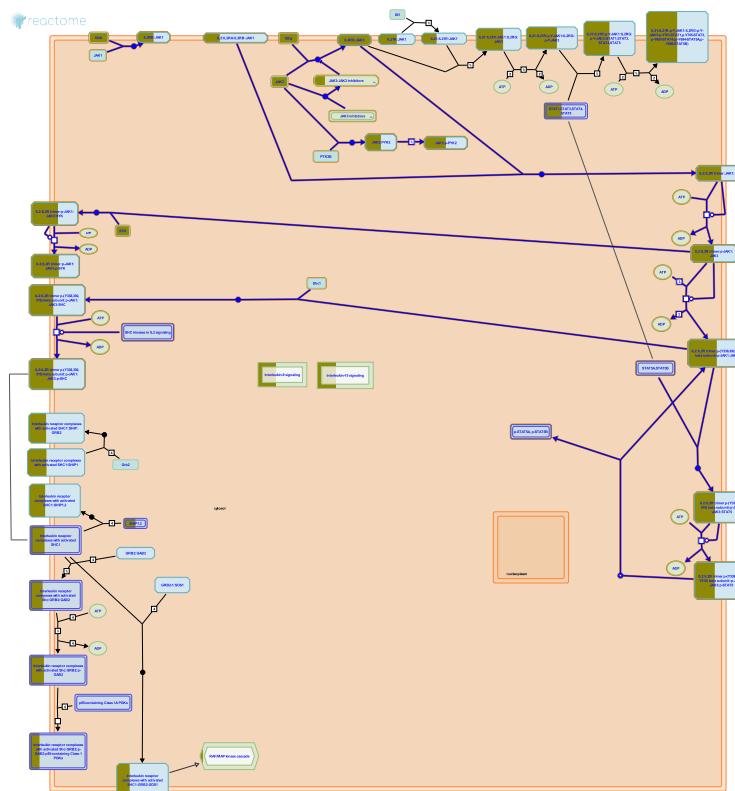
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

4 submitted entities found in this pathway, mapping to 4 Reactome entities

Input	UniProt Id	Input	UniProt Id
Il6ra	P22272	Socs3	O35718
Stat1	P42225	Stat3	P42227

41. Interleukin-2 signaling (R-MMU-9020558)



Inferred from: Interleukin-2 signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

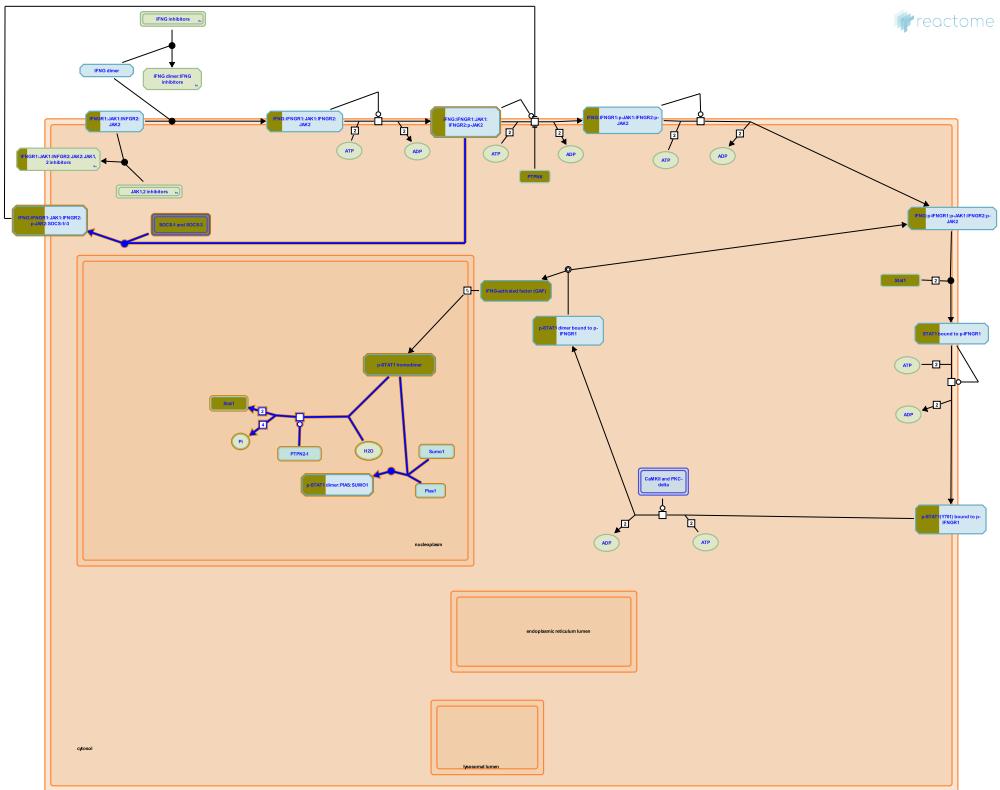
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

4 submitted entities found in this pathway, mapping to 4 Reactome entities

Input	UniProt Id	Input	UniProt Id
Il2rb	P16297	Il2rg	P34902
Jak3	Q62137	Syk	P48025

42. Regulation of IFNG signaling (R-MMU-877312)



Inferred from: Regulation of IFNG signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

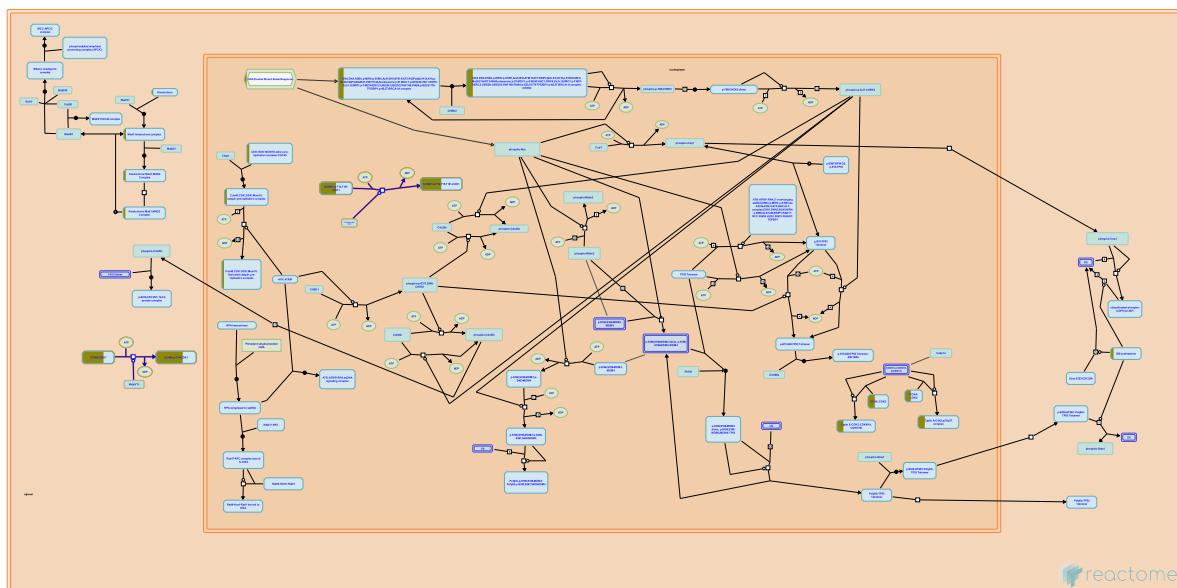
Edit history

Date	Action	Author
2022-11-18	Created	Wright A
2022-11-23	Modified	Wright A

4 submitted entities found in this pathway, mapping to 4 Reactome entities

Input	UniProt Id	Input	UniProt Id
Ifngr1	P15261	Socs1	O35716
Socs3	O35718	Stat1	P42225

43. G2/M DNA replication checkpoint (R-MMU-69478)



Inferred from: G2/M DNA replication checkpoint.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

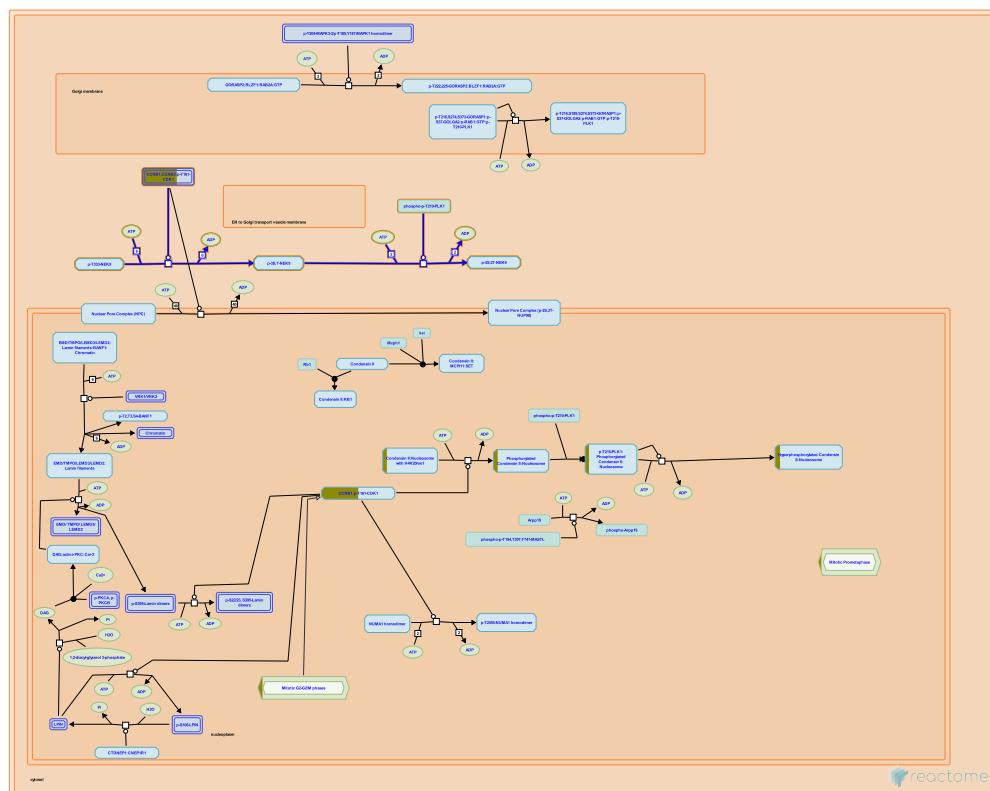
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

2 submitted entities found in this pathway, mapping to 2 Reactome entities

Input	UniProt Id	Input	UniProt Id
Ccnb2	P30276	Cdk1	P11440

44. Activation of NIMA Kinases NEK9, NEK6, NEK7 ([R-MMU-2980767](#))



Inferred from: Activation of NIMA Kinases NEK9, NEK6, NEK7.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

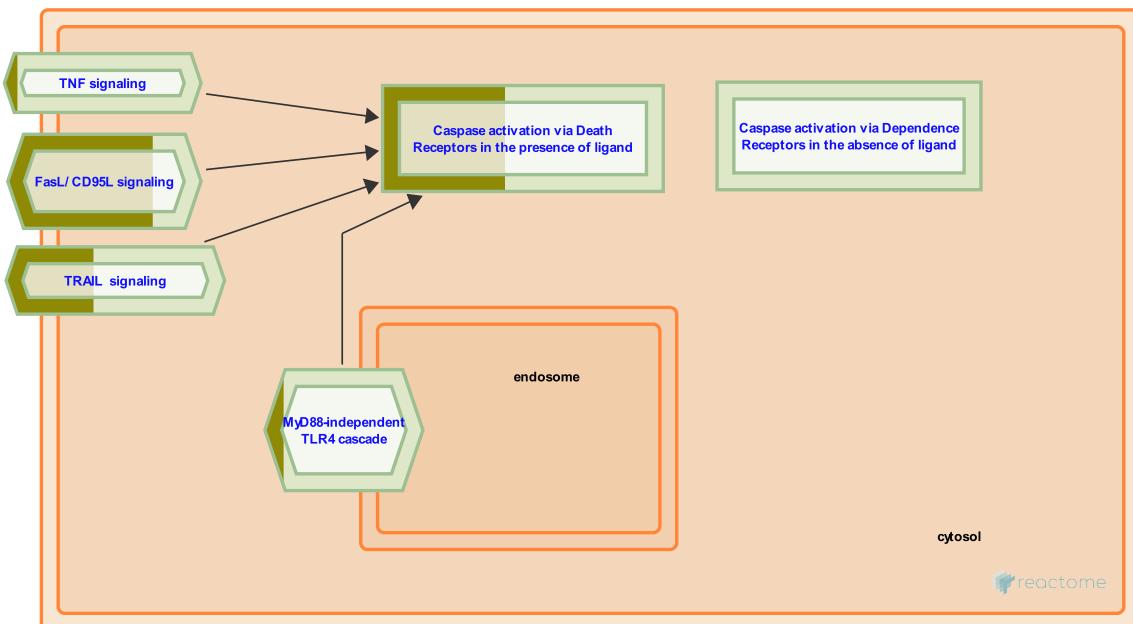
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

2 submitted entities found in this pathway, mapping to 2 Reactome entities

Input	UniProt Id	Input	UniProt Id
Ccnb2	P30276	Cdk1	P11440

45. Caspase activation via extrinsic apoptotic signalling pathway (R-MMU-5357769)



Inferred from: Caspase activation via extrinsic apoptotic signalling pathway.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

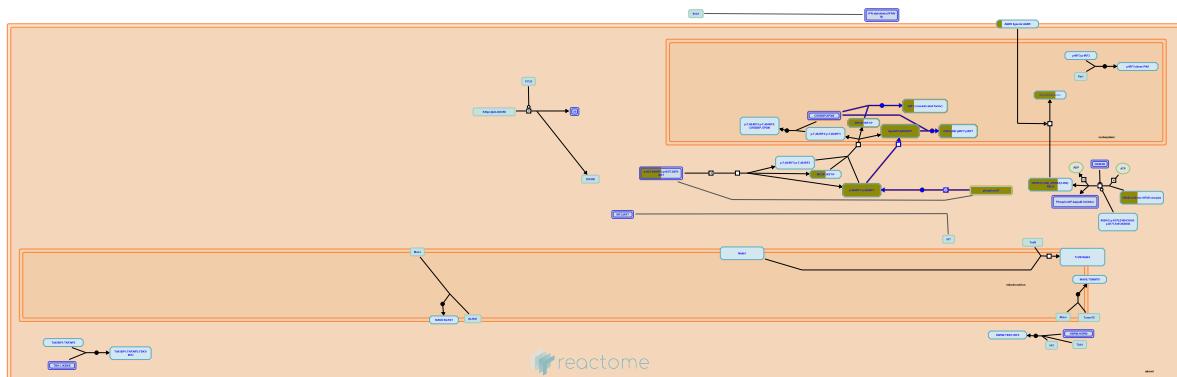
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

7 submitted entities found in this pathway, mapping to 7 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Casp8	O89110	Cd14	P10810	Fadd	Q61160
Fas	P25446	Ly96	Q9JHF9	Ticam2	Q8BJQ4
Tlr4	Q9QUK6				

46. TRAF6 mediated IRF7 activation (R-MMU-933541)



Cellular compartments: mitochondrial outer membrane.

Inferred from: TRAF6 mediated IRF7 activation.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

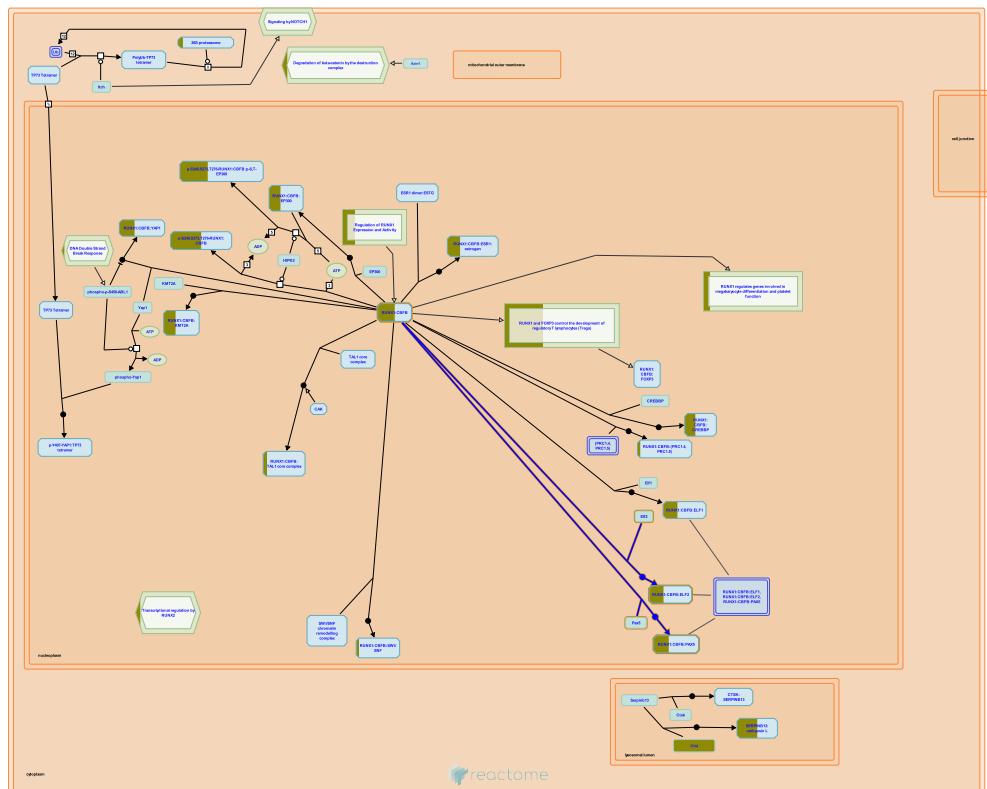
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Irf7	P70434

47. RUNX1 regulates transcription of genes involved in BCR signaling (R-MMU-8939245)



Inferred from: RUNX1 regulates transcription of genes involved in BCR signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

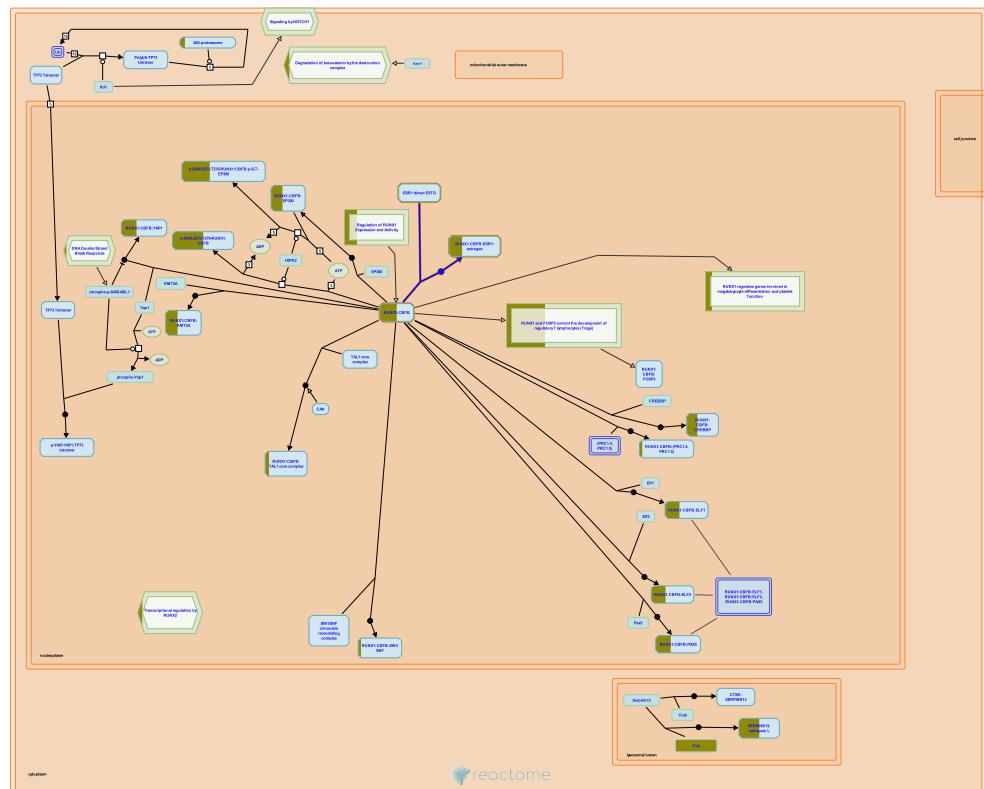
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Runx1	Q03347

48. RUNX1 regulates estrogen receptor mediated transcription (R-MMU-8931987)



Inferred from: RUNX1 regulates estrogen receptor mediated transcription.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

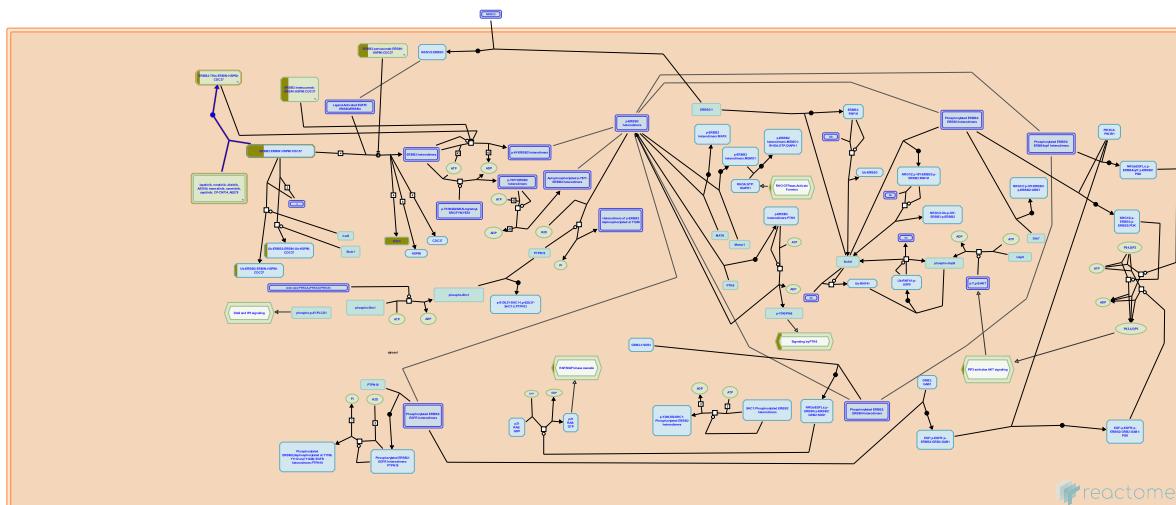
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Runx1	Q03347

49. Drug-mediated inhibition of ERBB2 signaling (R-MMU-9652282)



Inferred from: Drug-mediated inhibition of ERBB2 signaling.

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

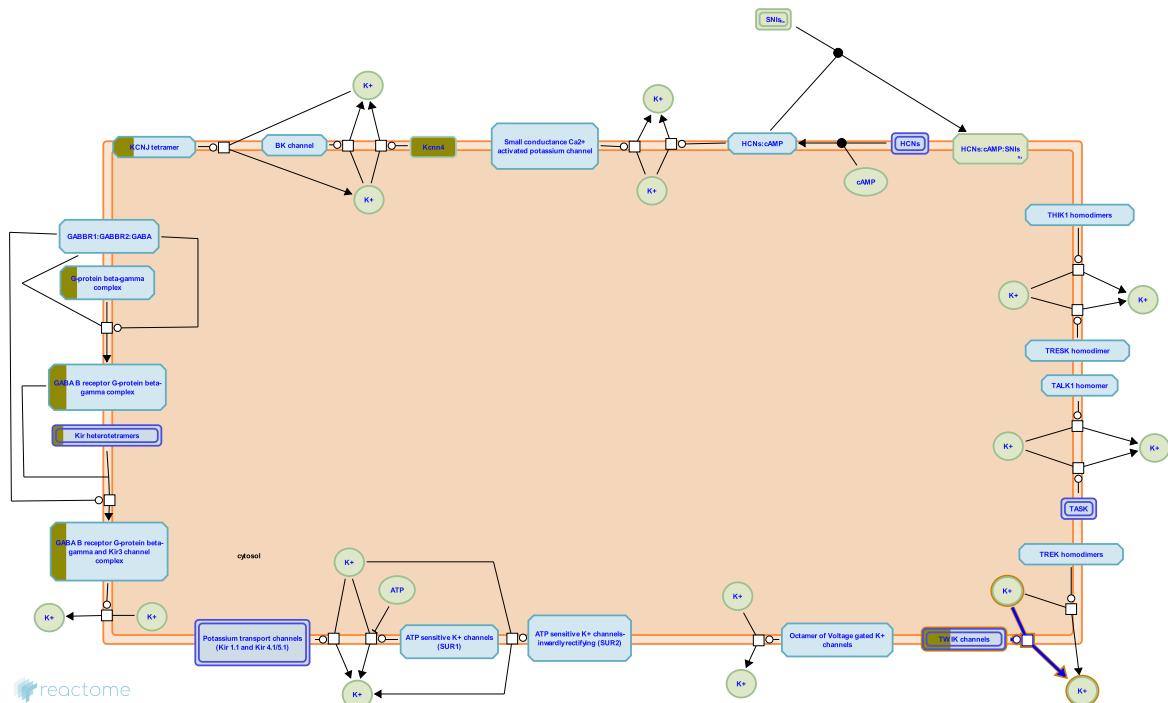
Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Erbin	Q80TH2

50. Tandem of pore domain in a weak inwardly rectifying K⁺ channels (TWIK) (R-MMU-1299308)



Cellular compartments: plasma membrane, extracellular region, cytosol.

Inferred from: Tandem of pore domain in a weak inwardly rectifying K⁺ channels (TWIK).

This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

More details and caveats of the event inference in Reactome. For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

References

Edit history

Date	Action	Author
2022-11-18	Created	Wright A

1 submitted entities found in this pathway, mapping to 1 Reactome entities

Input	UniProt Id
Kcnk7	Q9Z2T1

6. Identifiers found

Below is a list of the input identifiers that have been found or mapped to an equivalent element in Reactome, classified by resource.

820 of the submitted entities were found, mapping to 3928 Reactome entities

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
A2m	P01023	Abca1	O95477	Abca4	P78363
Abca9	Q8IUA7	Abcc3	O15438	Abhd14b	Q96IU4
Abhd4	Q8TB40	Acads	P16219	Acat2	O75908
Acer3	Q9NUN7	Adam17	P78536	Adamtsl3	P82987
Adamtsl4	Q6UY14	Adcy7	P51828	Adgre1	Q61549
Adipor1	Q96A54	Adora3	P0DMS8	Afp	P02771
Aga	P20933	Ager	Q15109	Agtrap	Q6RW13
Aim2	O14862	Akr1b10	O60218	Aldh1l2	Q3SY69
Aldh2	P05091	Aldh3b1	P43353	Alox5	P09917
Alox5ap	Q148F2	Ang	P03950	Angpt1	Q15389
Antxr2	P58335-1, P58335-4	Anxa2	P07355	Anxa5	P08758
Aox1	Q06278	Apbb1ip	Q7Z5R6	Apobec1	F1SLW4
Apoc1	P02654	Apoc2	P02655	Apoc4	P55056
Apod	P05090	Apoe	P02649	Aqp4	P55088
Arhgap11a	Q6P4F7	Arhgap18	Q8N392	Arhgap30	Q7Z6I6
Arhgap4	P98171	Arhgap45	Q92619	Arhgap9	Q9BRR9
Arhgdb	P52566	Arhgef16	Q5VV41	Arpc1b	O15143
Arsk	Q6UWY0	As3mt	Q9HBK9	Asah1	Q13510
Asb10	Q91ZT7	Aspg	Q86U10	Atf3	P18847
Atp1b3	P54709	Atp6v0d2	Q8N8Y2	Atp6v0e	O15342
Axl	P30530	B2m	P61769	B3gnt8	Q67FW5, Q7Z7M8
B4gal1t1	P15291	Baiap2l2	Q6UXY1	Batf	Q16520
Bcam	F6V7N4	Bco2	A0A6I8SMW5	Bin2	Q9UBW5
Birc3	Q13489	Blnk	Q8WV28	Bmf	Q96LC9
Bst2	Q10589	Btd	P43251	Btk	Q06187
C1qa	Q5E9E3	C1qb	Q2KIV9	C1qc	A0A3B0IZF8
C1ra	Q8CG16	C3	P01026	C3ar1	F1NMA7
C4b	Q6MG90	C5ar1	P21730	C5ar2	Q08DZ7
Cacna1s	Q13698	Capg	Q9BPX3	Casp1	P29466
Casp4	P49662	Casp7	P55210	Casp8	Q14790
Castor1	Q8WTX7	Cav1	Q03135	Cav2	P51636
Ccl12	Q62401	Ccl2	P13500	Ccl3	P10147
Ccl4	P13236	Ccl5	P13501	Ccl6	Q68FP3
Ccl7	P80098	Ccl8	C7F842, P49873	Ccl9	Q5FVN3
Ccnb2	O95067	Ccnd3	P30281	Ccr5	P51681
Ccrl2	O00421	Cd14	P08571	Cd151	P48509
Cd180	Q99467	Cd2	Q148M9	Cd22	A0A3Q1NI55
Cd226	A0A287AFE6	Cd274	Q9NZQ7	Cd300a	Q9UGN4
Cd300c2	Q7TSN2	Cd300lb	A8K4G0	Cd300lf	A0A287AYU8
Cd33	P20138	Cd3d	P04235	Cd3e	P22646
Cd3g	P11942	Cd44	P16070	Cd48	Q2KHZ6

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Cd52	P31358	Cd53	P19397	Cd63	P08962
Cd68	P34810	Cd72	P21854	Cd74	A0A3Q1MEG8
Cd79b	F1MMQ7	Cd81	A0A5G2RMT1	Cd84	F1N7U9
Cd86	P42081	Cd8a	A0A287A9Y5	Cd8b1	P10966
Cd9	P21926	Cdh1	Q9UM11	Cdh3	P22223, P55291
Cdk1	P06493	Cdk2	P24941	Cdk6	Q00534
Cers2	Q96G23	Cfh	A0A3Q1MP45	Cgas	Q8N884
Ch25h	O95992	Chrnb4	P30926	Chst14	Q8NCH0
Cklf	Q13887	Clcf1	Q9UBD9	Cldn11	O75508
Cldn14	O95500	Clec1b	Q9P126	Clec5a	Q9NY25
Clec7a	Q9BXN2	Cln3	P13365	Clu	P10909
Cmkrl1	Q99788	Cmtm6	Q9NX76	Cmtm7	A0A803JCR4
Cnr2	P34972	Cntf	P26441	Col13a1	Q5TAT6
Col16a1	Q07092	Col27a1	A0A3Q1M646	Col5a3	P25940
Colec12	Q5KU26	Cpa3	P15088	Cpne3	O75131
Crl1	Q63135	Creg1	O75629	Crispld2	Q9H0B8
Crlf2	Q9HC73	Crtap	O75718	Cryba4	A0A7D9NJS9
Csf1	P09603	Csf1r	P07333	Csf2ra	P15509
Csf2rb	P32927	Csf3r	Q99062	Cst3	P01034
Ctsa	P10619	Ctsb	P07858	Ctsc	P53634
Ctsd	P07339	Ctse	A0A1L1RYV3	Ctsh	P09668
Ctsl	P07711	Ctss	P25774	Ctsw	P56202
Ctsz	Q9UBR2	Cx3cr1	P49238	Cxcl10	P02778
Cxcl16	Q9H2A7	Cxcl5	P42830	Cxcl9	Q07325
Cxcr3	P49682	Cxcr6	O00574	Cyb5r3	P00387
Cyba	P13498	Cybb	P04839	Cybrd1	Q53TN4
Cysltr1	F1P4F9	Cyth4	Q9UIA0	Dap	Q7JNL9
Dbi	P07108	Dcstamp	Q9H295	Dcxr	Q7Z4W1
Ddah1	O94760	Ddah2	O95865	Decr1	Q16698
Def6	Q01524	Degs1	O15121	Dennd1c	A0A803JXY2
Dera	Q9Y315	Dhrs3	O75911	Dhx58	Q96C10
Dkk2	Q9UBU2	Dna2	P51530	Dnase1l1	P49184
Dnase2a	O00115	Dock2	Q92608	Dock8	Q8NF50
Dok1	Q99704	Dpp7	Q9UHL4	Dtx3l	Q3UIR3
Ebi3	Q14213	Echdc3	A0A6I8RGG7	Eda2r	Q9HAV5
Edem2	Q9BV94	Eef1d	P57776	Eef2kmt	Q96G04
Efemp1	Q12805	Efemp2	O95967	Eif2ak2	P19525
Eif4ebp1	E1C115	Enpp2	Q13822	Entpd1	P49961
Epb41l2	A0A287BFZ2	Ephx1	P07099	Ephx2	P34913
Epsti1	Q96J88	Erap1	K7GLU6	Erbin	Q96RT1
Eya4	O95677	Ezr	A0A7D9NK43	F11r	Q9Y624
F3	P13726	Fadd	Q13158	Fas	P25445
Fblim1	Q8WUP2	Fbln5	Q9UBX5	Fbxo5	Q9UKT4
Fbxw4	P57775	Fcer1g	P30273	Fcgr1	P12314
Fcgr2b	F1MHH9	Fcgr3	O75015	Fcgr4	A0A0B4J1G0
Fdft1	P37268	Fdps	P14324	Fermt3	Q86UX7
Fes	P07332	Fgd2	Q7Z6J4	Fgfrl1	Q8N441
Fgl2	Q14314	Fgr	P09769	Fli1	Q01543
Flnc	Q14315	Fmn13	Q8IVF7	Folr2	P14207

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
Fth1	P02794	Fxyd1	O00168	Fxyd3	Q14802
Fyb	O15117	Gabarap	O95166	Gadl1	Q6ZQY3
Galnt15	Q7Z4T8, Q8N3T1	Galr3	O60755	Gas6	Q14393
Gbp2	P32456	Gbp3	Q9H0R5	Gbp4	Q96PP9
Gbp5	Q96PP8	Gbp6	Q6ZN66	Gbp7	Q8N8V2
Gdpd3	Q7L5L3	Gem	P55040	Gfap	P14136
Gfpt2	O94808	Ggh	Q92820	Glb1l	Q6UWU2
Glipr1	P48060	Gltp	Q9NZD2	Glycam1	Q8IVK1
Gm2a	P17900	Gmfg	O60234	Gmip	Q9P107
Gna15	P30679	Gng12	Q9UBI6	Gng5	P63218
Gngt2	O14610	Gns	P15586	Gpam	Q9HCL2
Gpnmb	Q14956	Gpr183	P32249	Gpr35	Q9HC97
Gpr65	Q8IYL9	Gpr84	Q9NQS5	Gpsm3	Q9Y4H4
Grb14	Q14449	Grn	P28799	Gsdmd	P57764
Gsn	P06396	Guca1a	P43080	Gusb	P08236
Gzmk	A0A2R8PYA2	H1f2	P16403	H2-Aa	P01910
H2-Ab1	P01921	H2-D1	P14427	H2-DMa	P28078
H2-DMb1	P35737	H2-Eb1	P04230	H2-K1	P01901
H2-M3	Q31093	H2-Oa	Q9QWV1	H2-Ob	A0A494BB12
H2-Q4	Q8HWB2	H2-Q6	P79568	H2-Q7	P14429
H2-T10	F6T1I5	H2-T22	Q31615	H2-T23	P06339
H2ac6	Q93077	H2bc4	P62807	H4c11	P62805
H4c3	P62805	H4c8	P62805	H4c9	P62805
Haa0	P46952	Hacd2	Q6Y1H2	Hacd4	Q5VWC8
Hadh	P40939, Q16836	Havcr2	Q8TDQ0	Hcar1	Q9BXCO
Hcar2	Q8TDS4	Hck	P08631	Hcst	Q9GJR5
Hexa	P06865	Hexb	P07686	Hfe	Q30201
Hif1a	Q16665	Hk2	Q8AYP7	Hk3	P52790
Hmox1	P09601	Hoga1	Q86XE5	Hpgd	P15428
Hpgds	O60760	Hpn	P05981	Hpse	Q9Y251
Hscb	D3ZME7	Hsd3b7	Q9H2F3	Hspb8	F7CD02
Hvcn1	F1NMC8	Icam1	P05362	Id3	Q02535
Ifi204	P0DOV2	Ifi27	P40305	Ifi30	P13284
Ifi35	P80217	Ifih1	Q9BYX4	Ifit1	P09914
Ifit2	P09913	Ifit3	O14879	Ifitm2	Q01629
Ifitm3	Q01628	Ifitm6	A0A1B0GS75	Ifitm7	G3X9Z2
Ifnar2	P48551-2	Ifngr1	P15260	Igf1	P05017
Igfbp5	P24593	Ighd	P01880	Ikbke	Q14164
Ikzf1	Q13422-1	Il10ra	Q13651	Il10rb	Q08334
Il13ra1	O09030	Il15	P40933	Il18bp	O95998
Il1a	P01583	Il1b	P01584	Il1rl2	Q9HB29
Il1rn	P18510	Il21r	Q9HBE5	Il2rb	P14784
Il2rg	P31785	Il33	O95760	Il3ra	P26951
Il4i1	Q96RQ9	Il4ra	P24394	Il6ra	P22272
Inpp5d	Q92835	Ip6k3	Q96PC2	Iqgap3	Q86VI3
Irag2	Q12912	Irak3	Q9Y616	Irak4	Q9NWZ3
Irf1	P10914	Irf5	Q13568	Irf7	Q92985
Irf8	Q02556	Irf9	Q00978	Isg15	P05161
Isg20	Q96AZ6	Itga6	P23229	Itgal	P20701

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Itgam	P11215	Itgax	P20702	Itgb2	P05107
Itgb3	P05106	Itgb5	P18084	Itgb7	P26010
Itih3	Q06033	Jak3	P52333	Jam3	Q9BX67
Kcne1l	Q9UJ90	Kcne2	Q9Y6J6	Kcnj2	P63252
Kcnk7	F1NP03	Kcnn4	Q8WMG4	Kif18a	Q8NI77
Kl	Q9UEF7-1, Q9UEF7-2	Klc3	Q6P597	Klk6	P36374
Klrc1	Q9Z202	Klrd1	Q13241	Klrk1	P26718
Krt18	Q7ZTS4	Lag3	P18627	Lair1	Q6GTX8
Lamp2	P13473	Lap3	Q01532	Lat	O43561
Lat2	Q9UHI5	Lbp	P18428	Lcn2	P80188
Lcp1	P13796	Lcp2	Q13094	Ldlrap1	Q5SW96
Lgals1	P09382	Lgals3	P17931	Lgals3bp	Q08380
Lgals9	O00182	Lgi4	F6U6G9	Lgmn	Q99538
Lilrb4a	Q64281	Lilrb4b	Q61450	Lipa	P38571
Liph	Q8WWY8	Lox	P28300	Lpar5	F7AE20
Lpcat2	Q7L5N7	Lpl	P06858	Ltb	Q06643
Ltbr	P36941	Ly6e	A0A1D5P7D9	Ly86	O95711
Ly96	Q9Y6Y9	Lyl1	P12980	Lyn	P07948
Lyz2	P08905	Mafb	Q9Y5Q3	Maff	Q9ULX9
Man2b1	O00754	Man2b2	Q9Y2E5	Mapkapk3	Q16644
Mboat1	Q6ZNC8	Mccc1	Q96RQ3	Mcm3	P25205
Mcoln3	Q8TDD5	Mfng	O00587	Mgmt	P16455
Mgst1	P10620	Mical1	Q8TDZ2	Micu2	Q8IYU8
Mknk1	Q9BUB5	Mlc1	P12829	Mlxipl	Q8VIP2
Mmp12	P39900	Mmp19	Q99542	Mmp2	P08253
Mob1a	Q9H8S9	Mocos	Q96EN8	Mrc2	A1A5G9
Mrps6	P82932	Msmo1	Q15800	Msn	P26038
Msr1	P21757	Mt1	P02802	Mt2	P02798
Mthfd2	P13995	Mvp	Q14764	Mx1	P20591
Mx2	P20592	Mxra8	Q9BRK3	Myc	P01106
Myd88	Q99836	Myl12a	P19105	Naalad2	Q9Y3Q0
Naglu	P54802	Naprt	Q6XQN6	Nat2	Q9H2H9
Ncf1	P14598	Ncf2	P19878	Ncf4	Q15080
Nckap1l	P55160	Necap2	Q9NVZ3	Neurl3	A8MQ27
Nfam1	Q8NET5	Nfatc1	O95644	Nfe2l2	Q16236
Nfkb1	P19838	Nfkb2	Q00653	Nfkbie	A0A803JZI4
Nlrc5	Q86WI3	Nmi	Q13287	Npc2	P61916
Npl	Q9BXD5	Nr1h3	Q13133	Nsdhl	Q15738
Oas2	P29728	Oas3	Q9Y6K5	Oasl1	Q8VI94
Oat	P04181	Oca2	Q4LEV3	Ogn	P20774
Or5v1	Q9UGF6	Ormdl2	Q53FV1	Osm	P13725
Osmr	Q99650	Ostf1	Q92882	P2rx4	Q99571
P2rx7	Q99572	P2ry12	Q9H244	P2ry13	Q9BPV8
P2ry2	P41231	P2ry6	Q15077	P4ha3	Q7Z4N8
Padi2	Q9Y2J8	Pafah2	Q99487	Paox	Q6QHF9
Parp10	Q53GL7	Parp14	Q460N5	Parp9	Q8IXQ6
Pctp	Q9UKL6	Pdcd1	Q02242	Pdpn	Q86YL7
Pecr	Q9BY49	Pfkfb3	A7UAK5	Pik3ap1	A0A3Q1M535
Pik3cg	P48736	Pik3r5	Q8WYR1	Pilra	A0A5G2R2W0

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Pla2g15	Q8NCC3	Pla2g4a	P47712	Plau	P00749
Plaur	Q03405	Plce1	Q9P212	Plec2	P16885
Pld4	Q96BZ4	Plek	P08567	Plin2	Q99541
Plpp2	O43688	Pltp	P55058-1, P55058-2	Pmp22	Q9NR77
Pnp	P00491	Pnpla7	Q6ZV29	Pon3	Q1JQD3
Pou2f2	P09086	Ppfia4	F1S7U4	Ppfibp2	A0A287BHI3
Ppp1r14a	Q91VC7	Prcp	P42785	Prdx6	P30041
Prkcq	Q04759	Procr	Q9UNN8	Pros1	P07225
Psmb8	P28062	Psmb9	P28065	Psme1	Q06323
Psme2	Q9UL46	Pstpip1	O43586	Ptafr	P25105
Ptger4	P35408	Ptges	O14684	Ptgs1	P23219
Ptpn18	Q99952	Ptpn22	D4A2D5	Ptpn6	P29350
Ptprc	P08575	Ptx3	P26022	Pycard	Q9ULZ3
Pygl	P06737	Qprt	Q15274	Rab13	Q561P0
Rab19	A4D1S5	Rab29	O14966	Rab32	Q13637
Rab3il1	A0A6I8QMY7	Rab7b	A0A803K824	Rac2	P15153
Ralb	P11234	Rasa4	O43374	Rasal3	Q86YV0
Rasgrp3	Q8IV61	Rbl1	P28749	Rdh5	Q92781
Renbp	P51606	Retsat	Q6NUM9	Rgs1	Q09777
Rgs10	O43665	Rhbdf1	F6W745	Rhoc	P08134
Rhog	P84095	Rhoh	Q15669	Rhoj	Q9H4E5
Rida	P52760	Rin2	Q8WYP3	Rin3	A0A6I8QJ78
Rinl	Q6ZS11	Ripk2	O43353	Rnase4	A0A3Q1MIF5
Rnase6	Q93091	Rnaset2a	C0HKG5	Rnaset2b	C0HKG6
Rnf213	Q63HN8	Rnls	Q5VYX0	Rpl32	P62910
Rps6ka1	Q63531	Rps9	P46781	Rrbp1	Q9P2E9
Rsad2	Q8WXG1	Rsu1	Q15404	Runx1	Q01196
S100a1	P23297	S100a11	P31949	S100b	E1C251
S1pr3	A0A803K6E2	Samhd1	Q9Y3Z3	Sat1	Q9H2H9
Scarb2	Q14108	Sctr	P47872	Sdc4	E1BKS1
Selp1g	F1MS77	Serpina3i	D3Z450	Serpine2	P07093
Serpinf2	P08697	Serpingle	P05155	Sgpl1	O95470
Siglech	B7ZMQ6	Sipa1	Q96FS4	Skap2	O75563
Sla	Q13239	Slamf6	F1RJY4	Slamf7	A0A5G2QLP8
Slc11a1	F1MJ63	Slc12a4	Q9UP95	Slc14a1	Q13336
Slc15a3	Q8IY34	Slc16a3	O15427	Slc16a8	O95907
Slc1a5	Q15758	Slc22a18	Q96BI1	Slc22a4	Q9H015
Slc2a4	P14672	Slc2a5	P22732	Slc35d2	Q76EJ3
Slc37a2	Q8TED4-2	Slc39a1	P59889	Slc44a2	Q8IWA5
Slc44a3	Q8N4M1	Slc6a20a	Q8VDB9	Slc7a7	Q9UM01
Slc9a9	Q8IVB4	Slco1c1	Q9NYB5	Slco2b1	O94956-3
Snai1	O95863	Snap23	O09044	Snx5	Q9Y5X3
Soat1	P35610	Socs1	O15524	Socs3	O14543
Sod3	P08294	Sp100	P23497	Sp110	A0A803K185
Sparc	P09486	Spc25	Q15005	Spi1	P17947
Spint1	O43278	Spp1	P10451	Spsb2	O88838
Sptlc2	O15270	Spx	Q9W424	Sqle	Q14534
Sqor	Q5HZC5	Srebf1	P36956-3	Srgn	P10124
Ssc5d	A1L4H1	St14	Q9Y5Y6	St3gal6	Q9Y274

Input	UniProt Id	Input	UniProt Id	Input	UniProt Id
St6gal1	P15907	St8sia6	P61647	Stat1	P42224
Stat2	P52630	Stat3	P40763	Sting1	Q86WV6
Stk10	O94804	Stom	P27105	Stxbp3	O00186
Suclg2	Q96I99	Sucnr1	Q9BXA5	Sult1c1	O00338
Sult1c2	O75897	Sumf2	Q8NBJ7	Syk	P43405
Syngr2	F7EJK9	Taf13	Q15543	Tagap	Q8N103
Tagln2	P37802	Tap1	P21958	Tap2	E1BJS0
Tapbp	Q9R233	Tax1bp3	O14907	Tbxas1	P24557
Tcirg1	Q13488	Tcn2	P20062	Tdgf1	P13385
Tec	P42680	Tep1	P60484	Tes	A1ZAT5
Tfpi	P10646	Tgfbr1	P36897	Tgfbr2	P37173
Tgif1	Q15583	Tgm1	P22735	Thbs2	P35442
Thbs3	P49746	Thy1	P04216	Ticam2	Q86XR7
Tifa	Q96CG3	Tirap	P58753	Tk1	P04183
Tlr1	Q15399	Tlr2	O60603	Tlr3	O15455
Tlr4	O00206	Tlr6	Q9Y2C9	Tlr7	Q9NYK1
Tmc6	Q7Z403	Tmed10	P49755	Tmed3	Q9Y3Q3
Tmem179b	Q7Z7N9	Tmem219	Q9D123	Tmem86a	A0A6I8RFL3
Tnfaip8l2	Q6P589	Tnfrsf11a	Q9Y6Q6	Tnfrsf13b	O14836
Tnfrsf17	Q02223	Tnfrsf1a	P19438	Tnfrsf1b	P20333
Tnfsf11	O14788	Tnfsf13b	Q9Y275	Tnfsf8	P32971
Tnfsf9	P41273	Tnni1	P19237	Tnni2	P48788
Tor3a	F7CWT1	Tor4a	Q9NXH8	Tpcn2	Q8NHX9
Tpm4	P67936	Tpp1	P49638	Traf1	F1NLM1
Trbc1	A0A075B5J3	Trem2	Q9NZC2	Treml2	I3LTE9
Trex1	Q9NSU2	Trf	P54274	Trim14	Q14142
Trim25	Q14258	Trim56	Q9BRZ2	Trpm1	Q7Z4N2
Trpm5	Q9NZQ8	Trpv4	Q9HBA0	Tspo	Q9VPR1
Ttr	P02766	Tubb6	Q9BUF5	Txnip	Q9H3M7
Tyrobp	O43914	Uba7	P41226	Ube2l6	O14933
Ucp2	A0A2C9F3B4, O97562	Unc13d	Q70J99	Unc93b1	Q9H1C4
Usp18	Q9UMW8	Vamp3	P63024	Vamp8	O70404
Vav1	P15498	Vcam1	P19320	Vim	P08670
Vkorc1	Q9BQB6	Was	P42768	Wwtr1	Q4V7E6
Xaf1	Q6GPH4	Xcl1	P47992	Zbp1	Q9NZI8
Zc3hav1	Q7Z2W4	Zfp36	A8WGZ9	Zfp984	A2A7A2

Input	Ensembl Id	Input	Ensembl Id	Input	Ensembl Id
Abca1	ENSG00000165029, ENST00000374736.7	Alox5	ENSG0000012779	Anxa2	ENSG00000182718
Apoc1	ENSG00000130208	Apoc2	ENSG00000234906	Apoc4	ENSG00000267467
Apod	ENSG00000189058	Apoe	ENSG00000130203	Atf3	ENSG00000162772
B2m	ENSG00000166710	Batf	ENSG00000156127	Bst2	ENSG00000130303
C1qc	ENSGALP0000007599	Casp1	ENSG00000137752	Cav1	ENSG00000105974
Ccl2	ENSG00000108691	Ccl3	ENSG00000277632	Ccl4	ENSG00000275302
Ccl5	ENSG00000271503	Ccnb2	ENSG00000157456	Ccr5	ENSG00000160791
Cd274	ENSG00000120217	Cd44	ENST00000263398, ENST00000278385, ENST00000278386, ENST00000279452, ENST00000352818	Cd86	ENSG00000114013

Input	Ensembl Id	Input	Ensembl Id	Input	Ensembl Id
Cdh1	ENSG00000039068	Cdk1	ENSG00000170312	Cklf	ENSG00000102554
Cryba4	ENSG00000196431	Csf1	ENSG00000184371	Csf1r	ENSG00000182578
Csf3r	ENSG00000119535	Ctsd	ENSG00000117984	Cxcl10	ENSG00000169245
Ebi3	ENSG00000105246	Enpp2	ENST00000427067	F3	ENSG00000117525
Fadd	ENSGALP0000012326	Fas	ENSG00000169710	Fbxo5	ENSG00000112029
Fcgr1	ENSG00000150337	Fdft1	ENSG00000079459	Fdps	ENSG00000160752
Fth1	ENST00000273550	Gbp2	ENSG00000162645	Gbp3	ENSG00000117226
Gbp4	ENSG00000162654	Gbp5	ENSG00000154451	Gbp6	ENSG00000183347
Gbp7	ENSG00000213512	Gem	ENSG00000164949	Gfap	ENSG00000131095
Glipr1	ENSG00000139278	Gpam	ENSG00000119927	Gsdmd	ENSG00000104518
Hhex	ENSG00000152804	Hif1a	ENSG00000100644	Hmox1	ENSG00000100292
Icam1	ENSG00000090339	Id3	ENSG00000117318	Ifi27	ENSG00000165949
Ifi30	ENSG00000216490	Ifi35	ENSG00000068079	Ifit1	ENSG00000185745
Ifit2	ENSG00000119922	Ifit3	ENSG00000119917	Ifitm2	ENSG00000185201
Ifitm3	ENSG00000142089	Ikbke	ENSGALP0000021757	Il1a	ENSG00000115008
Il1b	ENSG00000125538, ENST00000263341	Il1rn	ENSG00000136689	Il2rg	ENSG00000147168
Il4ra	ENSG00000077238	Irf1	ENSG00000125347	Irf5	ENSG00000128604
Irf7	ENSG00000185507	Irf8	ENSG00000140968	Irf9	ENSG00000213928
Isg15	ENSG00000187608	Isg20	ENSG00000172183	Itgal	ENSG0000005844
Itgam	ENSG00000169896	Itgax	ENSG00000140678	Itgb2	ENSG00000160255
Lbp	ENSG00000129988	Lcn2	ENSG00000148346	Lcp1	ENSG00000136167
Lgals3	ENSG00000131981	Lpl	ENSG00000175445	Mapkapk3	ENSGALP0000003578
Mmp2	ENSG00000087245	Msn	ENSG00000147065	Mt2	ENSG00000125148
Mx1	ENSG00000157601	Mx2	ENSG00000183486	Myc	ENST00000613283
Nfe2l2	ENSG00000116044	Nr1h3	ENSG00000025434, ENST00000441012	Oas2	ENSG00000111335
Oas3	ENSG00000111331	Or5v1	ENSG00000243729	Osm	ENSG00000099985
Plin2	ENSG00000147872	Pltp	ENSG00000100979	Pmp22	ENSG00000109099
Prkcq	ENSG00000065675	Psmb8	ENSG00000204264	Psme2	ENSG00000100911
Ptafr	ENSG00000169403	Ptpn18	ENSG00000072135	Ptpn6	ENSG00000111679
Rbl1	ENSG00000080839	Rsad2	ENSG00000134321	Runx1	ENSG00000159216, ENST00000344691
S100b	ENSG00000160307	Samhd1	ENSG00000101347	Slc2a4	ENSG00000181856
Snai1	ENSG00000124216	Socs1	ENSG00000185338	Socs3	ENSG00000184557
Sp100	ENSG00000067066	Sparc	ENSG00000113140	Spi1	ENSG00000066336
Spp1	ENSG00000118785	Sqle	ENSG00000104549	Srebf1	ENSG00000072310
Stat1	ENSG00000115415	Stat3	ENSG00000168610	Tdgf1	ENSG00000241186
Tec	ENSG00000119508	Tep1	ENSG00000171862	Tk1	ENSG00000167900
Tnfrsf1a	ENSG00000067182	Tnfrsf1b	ENSG00000028137	Tpp1	ENSG00000166340
Trim14	ENSG00000106785	Trim25	ENSG00000121060	Vcam1	ENSG00000162692
Vim	ENSG00000026025	Xaf1	ENSG00000132530		

7. Identifiers not found

These 508 identifiers were not found neither mapped to any entity in Reactome.

0610040J01Rik	1600010M07Rik	1700003F12Rik	1700065J18Rik	1810058I24Rik	2010008C14Rik	2610203C22Rik	2610528A11Rik
4931406C07Rik	4933424M12Rik	4933429O19Rik	9330175E14Rik	9930111J21Rik1	9930111J21Rik2	A330048O09Rik	A430093F15Rik
A530040E14Rik	A630001G21Rik	AB124611	AI467606	AI506816	AI662270	AU020206	AU022793
AW112010	Abcb1b	Abhd15	Abi3	Accs	Adam3	Adap2	Adap2os
Aebp1	Ahnak	Aif1	Akip1	Akna	Akr1b8	Anxa3	Anxa4
Apobec3	Arl11	Armh1	Arrdc4	Asap3	B430306N03Rik	BC023105	BC028528
BC147527	Batf2	Bcas1	Bcl2a1a	Bcl2a1b	Bcl2a1d	Bcl3	Bfsp2
Bicc1	Bik	Bmp2k	Brip1os	C130026I21Rik	C130050O18Rik	Calhm6	Car5b
Card19	Casp12	Ccdc102a	Ccdc190	Cchcr1	Cd200r4	Cd244a	Cd37
Cd5	Cd63-ps	Cd69	Cd82	Cd83	Cela1	Cep85	Cetn4
Cfap43	Chaf1b	Chil1	Cib1	Ckap2	Clec1a	Clec4a3	Clic1
Cln5	Cmtm3	Cnn3	Cox8b	Cpq	Crip1	Cryzl2	Csf2rb2
Cst7	Ctbs	Ctla2a	Ctla2b	Cttnbp2nl	Cyp4f14	Cyp4f18	Cyp4v3
Cytip	D5Ertd605e	D730003I15Rik	Dbndd2	Ddx31	Ddx60	Dhrs1	Drc7
Dynlt1f	E230029C05Rik	E230032D23Rik	Eef1akmt4	Ehd4	Elf4	Elk3	Emcn
Emp1	Emp3	Eva1b	Evi2a	Evi2b	Fam111a	Fam167a	Fam167b
Fam24b	Fcrl1	Fcrls	Fkbp7	Fmo5	Frmd8	Frmpdlos	Frrs1
Ftl1	Ftl1-ps1	Fxyd5	G430095P16Rik	G530011O06Rik	Gal3st4	Gbgt1	Gbp10
Gbp8	Gbp9	Ggtal	Gimap3	Gimap4	Gimap7	Ginm1	Gldn
Glipr2	Glmp	Glrp1	Gm10129	Gm10308	Gm10790	Gm10863	Gm11423
Gm11545	Gm11843	Gm11930	Gm12250	Gm12791	Gm12959	Gm13015	Gm13166
Gm13293	Gm13391	Gm13392	Gm13632	Gm13822	Gm14756	Gm15148	Gm15503
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Gm17219	Gm17473	Gm17661	Gm19680	Gm19898	Gm20403	Gm20429	Gm20559
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Gm3488	Gm35154	Gm35558	Gm36738	Gm37416	Gm38008	Gm3815	Gm38158
Gm38562	Gm38843	Gm4013	Gm41349	Gm42047	Gm42417	Gm43021	Gm43302
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Gm7609	Gm8075	Gm8731	Gm9103	Gm9888	Gm9999	Gpr137b	Gpr160
Gpr34	Gsap	Gsg1	Gvin-ps7	Gvin1	Gzma	H2-DMb2	H2-K2
H4c17	Hcls1	Hk1os	Hlx	Hspb6	I830077J02Rik	Ifi206	Ifi207
Ifi209	Ifi211	Ifi213	Ifi27l2a	Ifi44	Ifi47	Ifit3b	Igsf10
Igsf6	Igtp	Iigp1	Irgm1	Irgm2	Jpt2	Kctd11	Klh16
Klk9	Klrb1b	Krcc1	Lacc1	Laptm4a	Laptm5	Lbx2	Lgals8
Litaf	Lpxn	Lrmnda	Lrrc25	Lrrk1	Lsp1	Ly9	Mamdc2
Meig1	Mgp	Mif4gd	Milr1	Mir142hg	Mir155hg	Mir1957b	Mlph
Morrbid	Mpeg1	Mr1	Mroh5	Ms4a4b	Ms4a4c	Ms4a6b	Ms4a6c
Ms4a6d	Ms4a7	Mtmr11	Myo1e	Myo1f	Myo1g	Myzap	Naga
Naip2	Naip5	Neat1	Nfe2l3	Niban1	Niban2	Nkg7	Npas3
Nradd	Nrros	Nuak2	Oas1a	Oas1b	Oas1g	Oasl2	Ogfod3
Olfml3	Or5v1b	Osgin1	Otx2	Pald1	Parp3	Parvg	Pbxip1
Pdlim2	Pdlim4	Phf11a	Phf11b	Phf11d	Phyhd1	Piezo2	Pimreg
Pirb	Plekhd1	Plgrkt	Plp2	Plscr1	Plscr2	Plxdc2	Plxna4os1

Ppp1r18	Pqlc3	Prelid2	Prickle3	Prorsd1	Prr32	Prrx2	Psd4
Psme2b	Ptprcap	Pttg1ip	Pvrig	Pyroxd2	Rapgef3os2	Rbm47	Rcttb2
Rcsd1	Rd3l	Rigi	Rnh1	Rom1	Ropn1l	Rpl35a-ps7	Rtp4
Rubcnl	S100a13	S100a6	Samd9l	Samsn1	Sash3	Sbno2	Scamp2
Scarna10	Scimp	Scpep1	Scrg1	Sdf2l1	Septin10	Serpina3m	Serpina3n
Serpinf1	Sfrp5	Sgce	Sh2d6	Sh3bp2	Sh3glb1	Sh3tc1	Siglecfc
Sil1	Slamf8	Slamf9	Slc10a3	Slc25a43	Slc25a45	Slc43a3	Slfn2
Slfn5	Slfn8	Slfn9	Smagp	Smim1	Smim40-ps	Smoc1	Smpd5
Snx20	Sp140	Spa17	Spacdr	Spata17	Spata24	Spata3	Spef2
Spns3	Ssmem1	Steap1	Sugct	Susd3	Sypl	Szrd1	Tasl
Tcim	Tent5c	Tespa1	Tex11	Tfcp2l1	Tfeb	Tgm2	Tgtp2
Themis2	Tifab	Tigit	Tinagl1	Tlr12	Tlr13	Tmco4	Tmem100
Tmem106a	Tmem119	Tmem123	Tmem140	Tmem154	Tmem176a	Tmem176b	Tmem198b
Tmem221	Tmem273	Tmem35b	Tmem37	Tmprss11a	Tnfaip2	Tnfrsf23	Tppp3
Traf3ip3	Trav11d	Trgv2	Trim12a	Trim30a	Trim30d	Trim34a	Trim47
Trip6	Trp73	Tspan32	Tspan4	Ttc12	Ttf2	Txlnb	Uap1l1
Ugt1a6a	Ugt1a7c	Upk3bl	Vamp5	Vsir	Vstm4	Vwa5a	Wfdc17
Wfdc2	Xlr	Yipf7	Zmynd15				