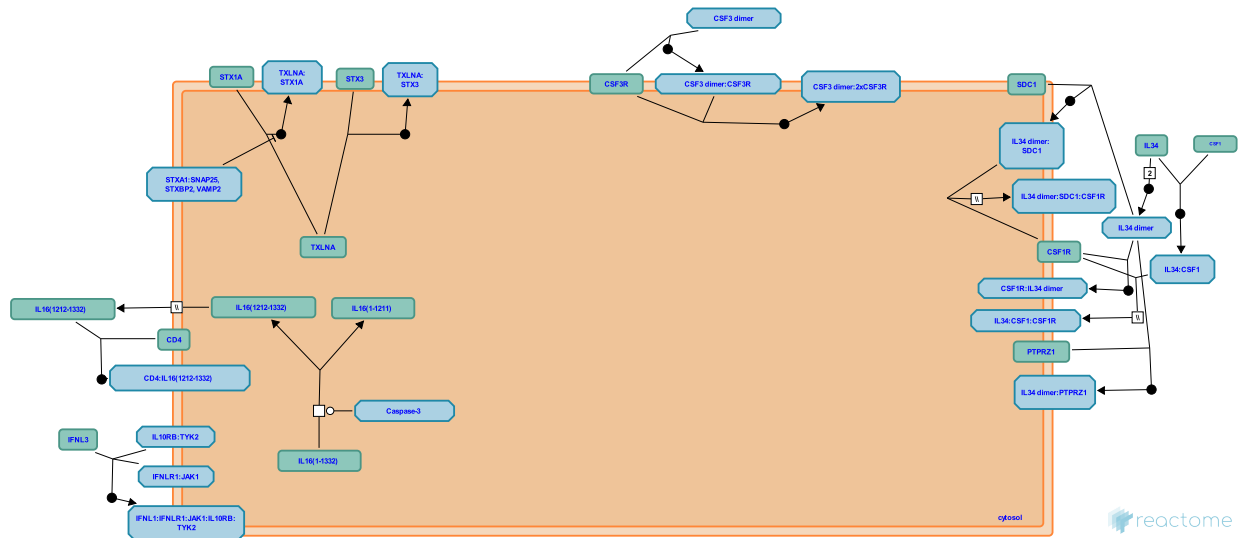


Other interleukin signaling



European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

The contents of this document may be freely copied and distributed in any media, provided the authors, plus the institutions, are credited, as stated under the terms of [Creative Commons Attribution 4.0 International \(CC BY 4.0\) License](https://creativecommons.org/licenses/by/4.0/). For more information see our [license](https://reactome.org/about/faq).

This is just an excerpt of a full-length report for this pathway. To access the complete report, please download it at the [Reactome Textbook](https://reactome.org/textbook).

05/05/2024

Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

Literature references

- Fabregat, A., Sidiropoulos, K., Viteri, G., Forner, O., Marin-Garcia, P., Arnau, V. et al. (2017). Reactome pathway analysis: a high-performance in-memory approach. *BMC bioinformatics*, 18, 142. [↗](#)
- Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics*, 33, 3461-3467. [↗](#)
- Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res*, 46, D649-D655. [↗](#)
- Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology*, 14, e1005968. [↗](#)

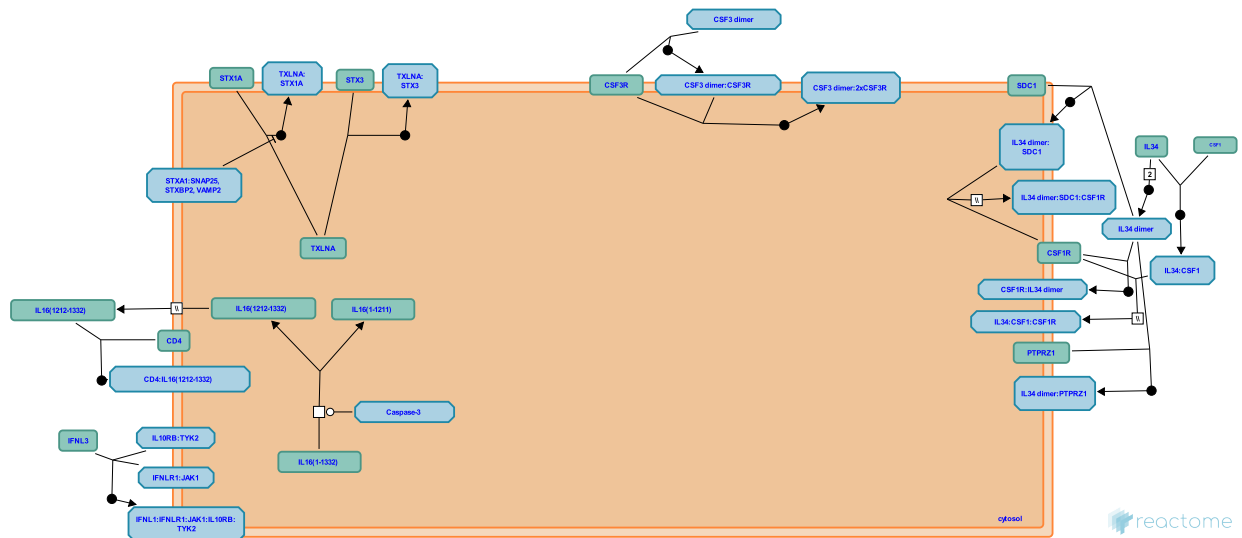
Reactome database release: 88

This document contains 1 pathway and 15 reactions ([see Table of Contents](#))

Other interleukin signaling ↗

Stable identifier: R-GGA-449836

Inferred from: Other interleukin signaling (Homo sapiens)



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.](http://www.pantherdb.org/about.jsp) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

Caspase-3 cleaves pro-interleukin-16 ↗

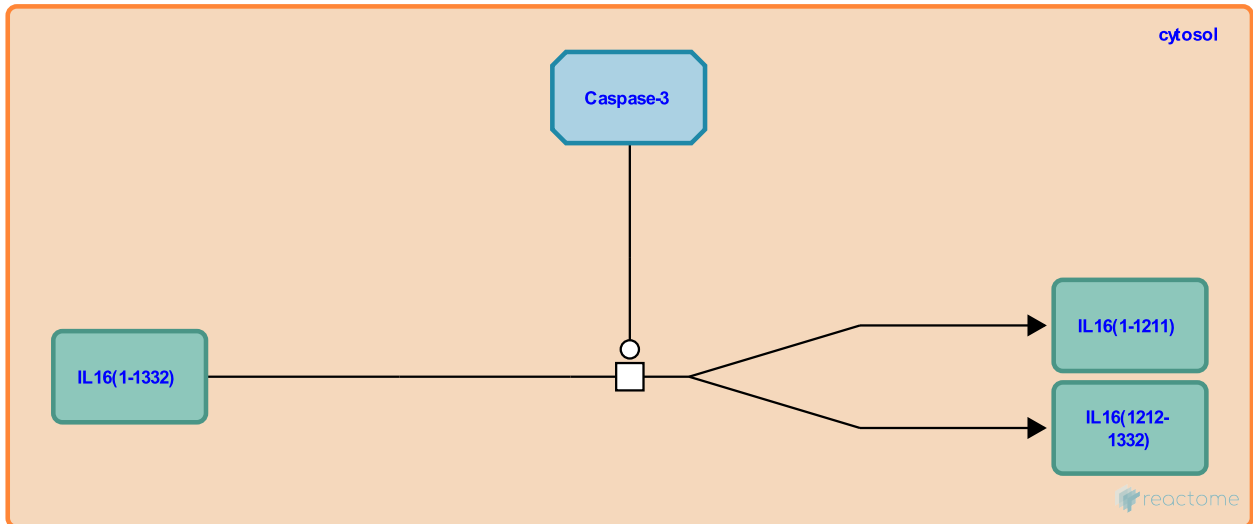
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-449073

Type: transition

Compartments: cytosol

Inferred from: [Caspase-3 cleaves pro-interleukin-16 \(Homo sapiens\)](#)



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>

Followed by: [Interleukin-16 is secreted](#)

Interleukin-16 is secreted [↗](#)

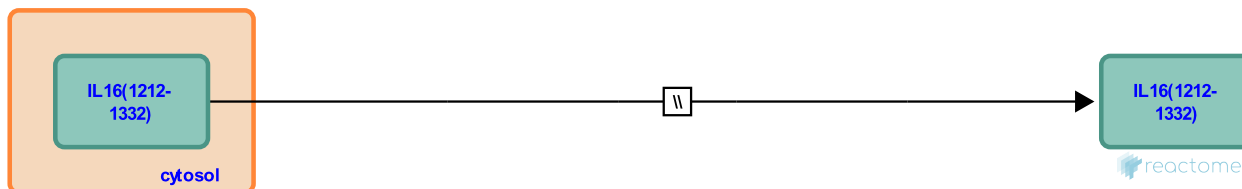
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-449077

Type: omitted

Compartments: extracellular region, cytosol

Inferred from: [Interleukin-16 is secreted \(Homo sapiens\)](#)



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>

Preceded by: [Caspase-3 cleaves pro-interleukin-16](#)

CD4 binds Interleukin-16 ↗

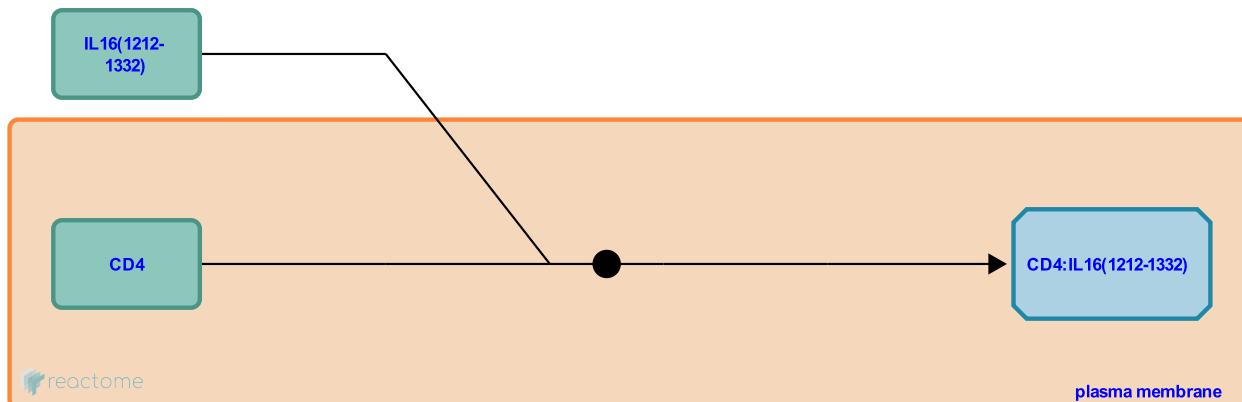
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-449087

Type: binding

Compartments: plasma membrane, extracellular region

Inferred from: [CD4 binds Interleukin-16 \(Homo sapiens\)](#)



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>

IFNL1 binds IL10RB:TYK2 and IFNLR1:JAK1 ↗

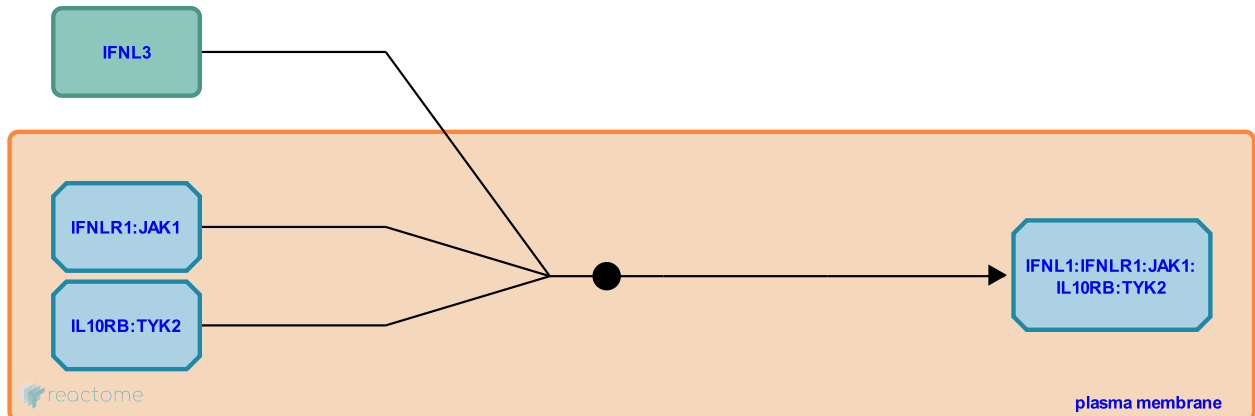
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-448661

Type: binding

Compartments: plasma membrane, extracellular region, cytosol

Inferred from: [IFNL1 binds IL10RB:TYK2 and IFNLR1:JAK1 \(Homo sapiens\)](#)



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>

IL34 dimerizes ↗

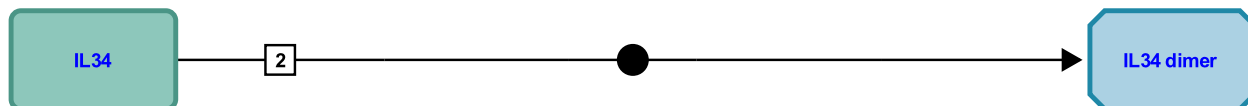
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-448632

Type: binding

Compartments: extracellular region

Inferred from: [IL34 dimerizes \(Homo sapiens\)](#)



 reactome

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>

Followed by: [IL34 dimer binds SDC1](#)

IL34 dimer binds CSF1R ↗

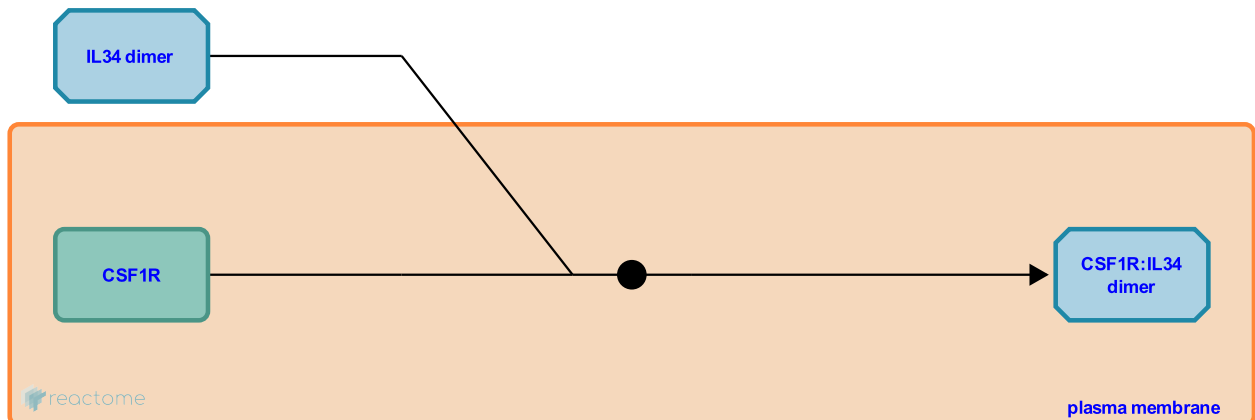
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-6787820

Type: binding

Compartments: plasma membrane, extracellular region

Inferred from: [IL34 dimer binds CSF1R \(Homo sapiens\)](#)



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>

IL34 dimer binds PTPRZ1 ↗

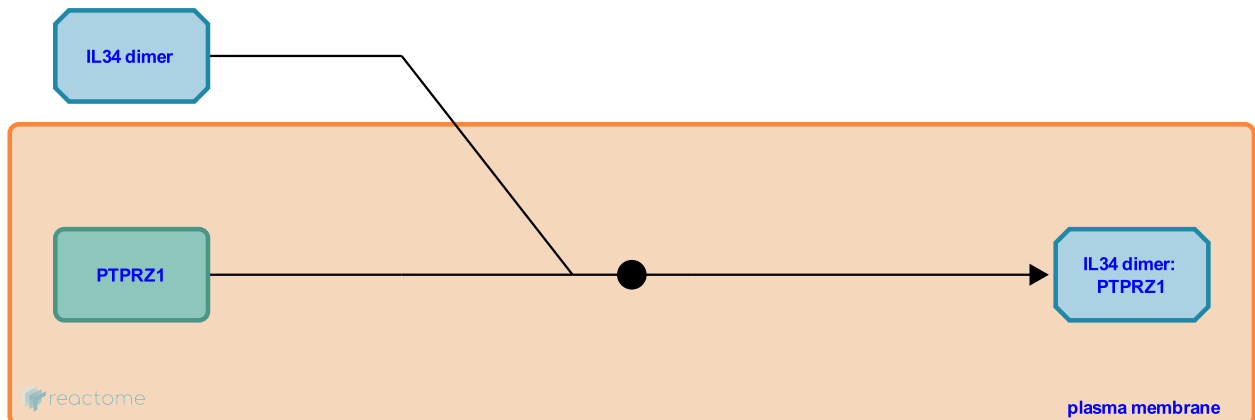
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-8981657

Type: binding

Compartments: plasma membrane, extracellular region

Inferred from: [IL34 dimer binds PTPRZ1 \(Homo sapiens\)](#)



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>

IL34 dimer binds SDC1 ↗

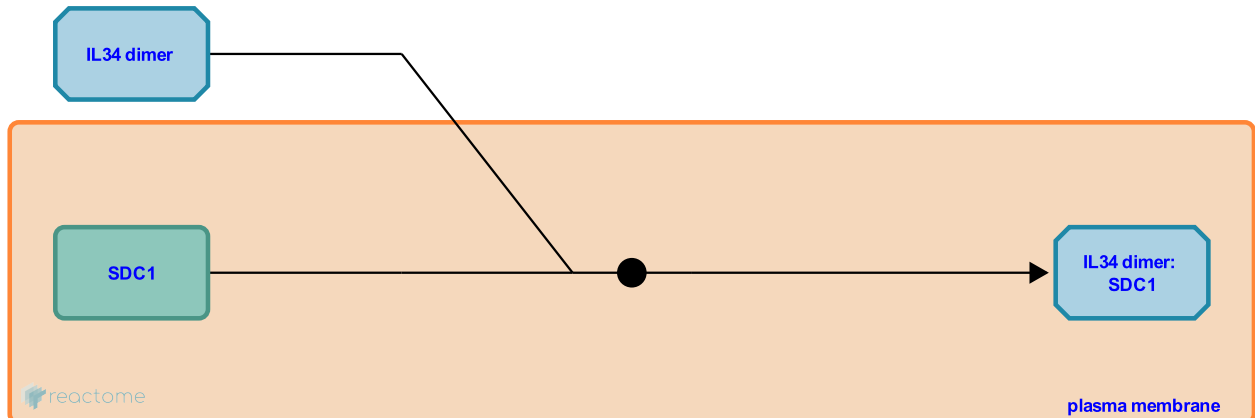
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-9009558

Type: binding

Compartments: plasma membrane, extracellular region

Inferred from: [IL34 dimer binds SDC1 \(Homo sapiens\)](#)



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>

Preceded by: [IL34 dimerizes](#)

Followed by: [IL34 dimer:SDC1 binds CSF1R](#)

IL34 dimer:SDC1 binds CSF1R ↗

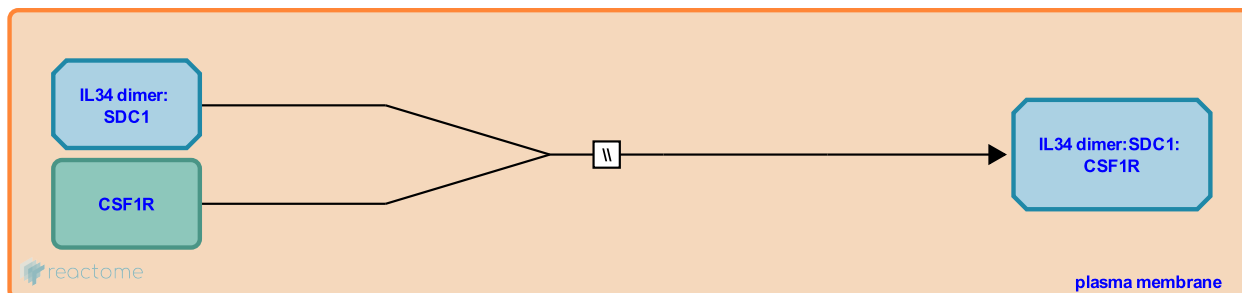
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-9009554

Type: omitted

Compartments: plasma membrane, extracellular region

Inferred from: [IL34 dimer:SDC1 binds CSF1R \(Homo sapiens\)](#)



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>

Preceded by: [IL34 dimer binds SDC1](#)

IL34 binds CSF1 ↗

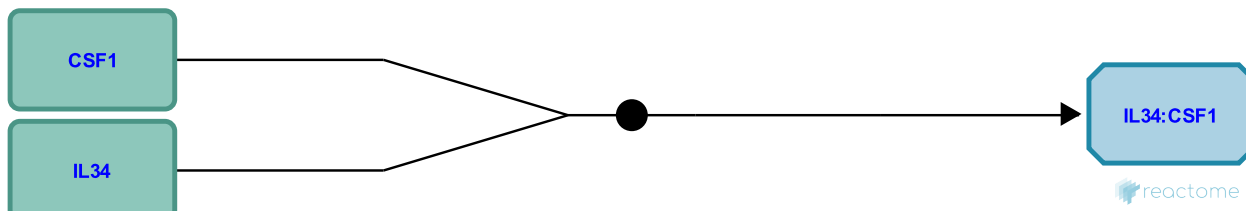
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-9009488

Type: binding

Compartments: extracellular region

Inferred from: [IL34 binds CSF1 \(Homo sapiens\)](#)



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>

Followed by: [IL34:CSF1 binds CSF1R](#)

IL34:CSF1 binds CSF1R ↗

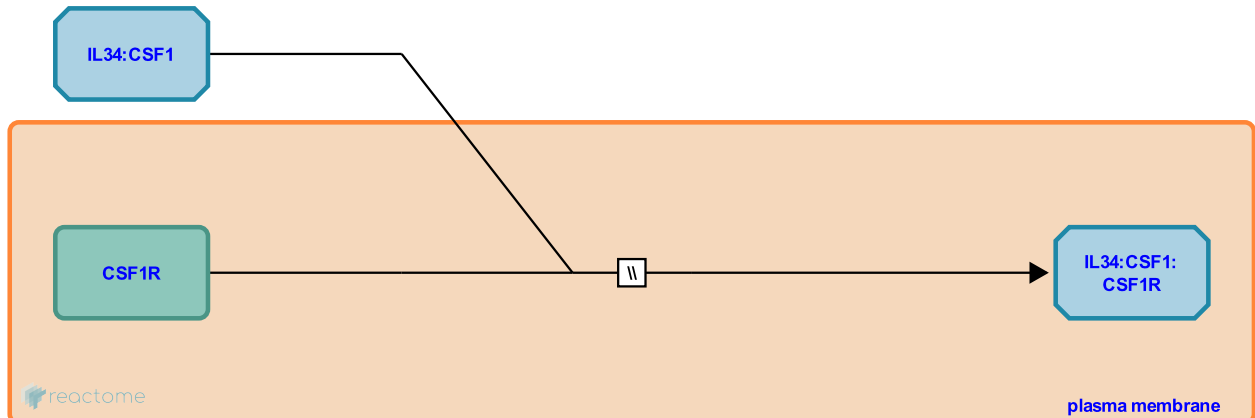
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-9009485

Type: omitted

Compartments: plasma membrane, extracellular region

Inferred from: [IL34:CSF1 binds CSF1R \(Homo sapiens\)](#)



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>

Preceded by: [IL34 binds CSF1](#)

CSF3R binds CSF3 dimer ↗

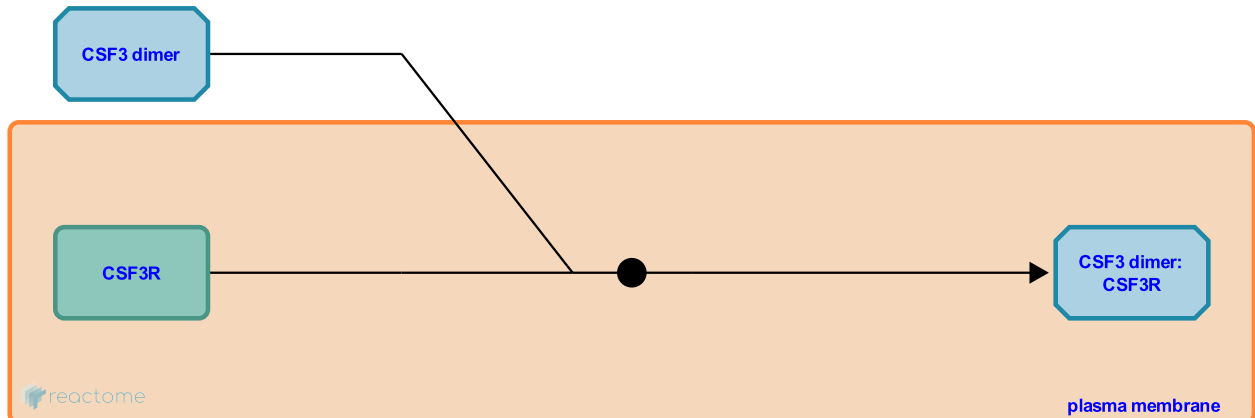
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-6787737

Type: binding

Compartments: plasma membrane, extracellular region

Inferred from: [CSF3R binds CSF3 dimer \(Homo sapiens\)](#)



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>

Followed by: [CSF3 dimer:CSFR binds CSFR](#)

CSF3 dimer:CSFR binds CSFR ↗

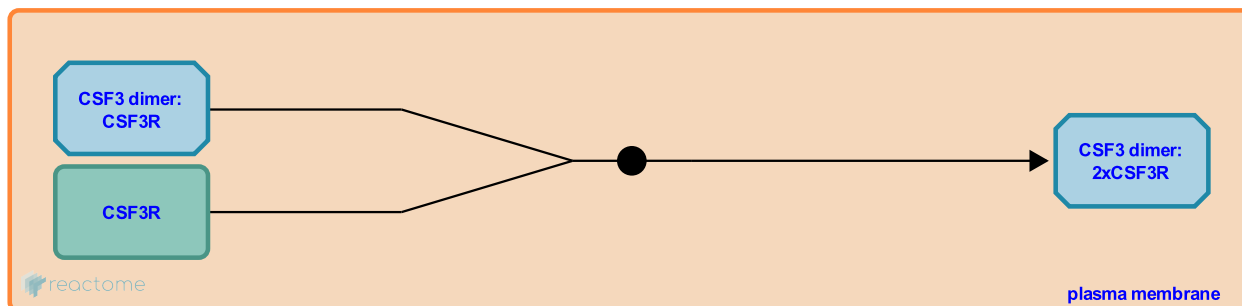
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-8854738

Type: binding

Compartments: plasma membrane, extracellular region

Inferred from: [CSF3 dimer:CSFR binds CSFR \(Homo sapiens\)](#)



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>

Preceded by: [CSF3R binds CSF3 dimer](#)

TXLNA (IL14) binds syntaxin1A ↗

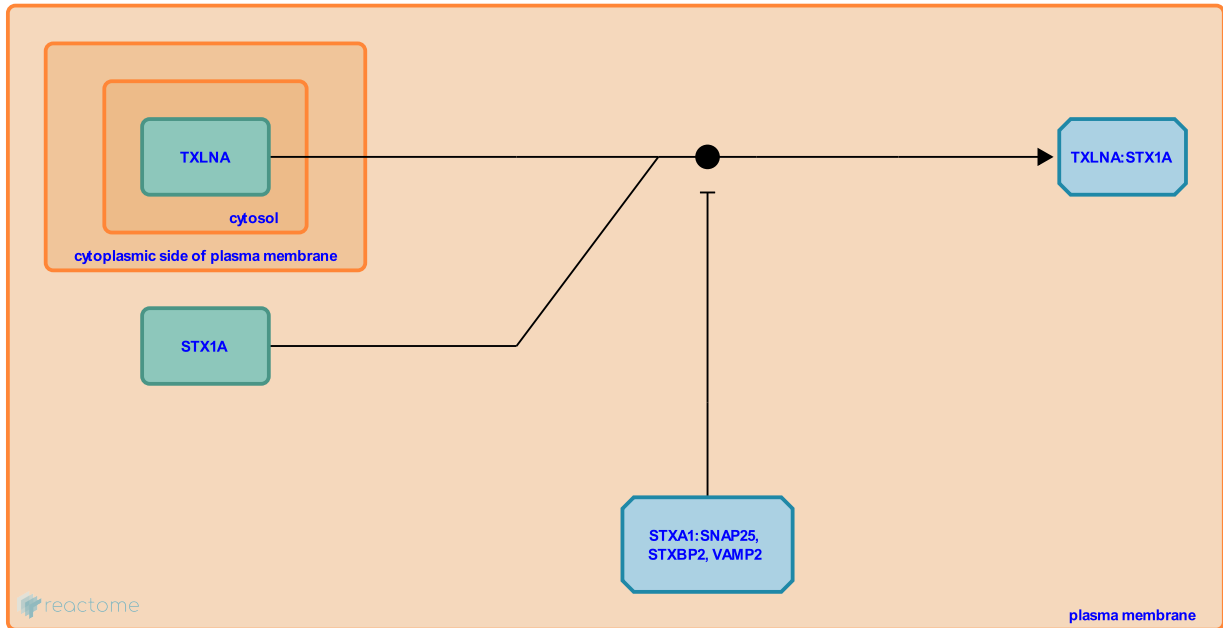
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-449117

Type: binding

Compartments: plasma membrane, extracellular region

Inferred from: [TXLNA \(IL14\) binds syntaxin1A \(Homo sapiens\)](#)



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.](http://www.pantherdb.org/about.jsp) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

TXLNA (IL14) binds syntaxin3 ↗

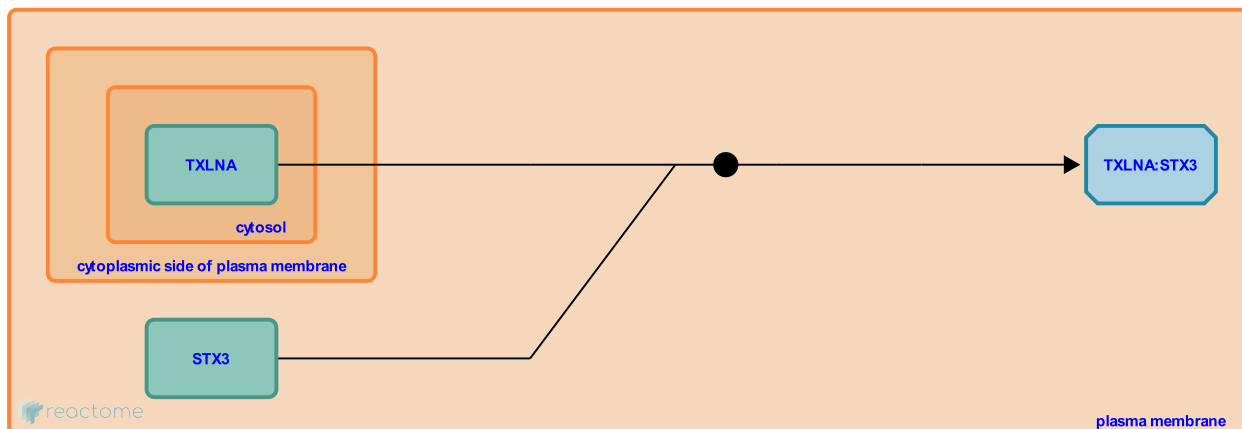
Location: [Other interleukin signaling](#)

Stable identifier: R-GGA-9014052

Type: binding

Compartments: plasma membrane, extracellular region

Inferred from: [TXLNA \(IL14\) binds syntaxin3 \(Homo sapiens\)](#)



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>

Table of Contents

Introduction	1
❏ Other interleukin signaling	2
➤ Caspase-3 cleaves pro-interleukin-16	3
❏ Interleukin-16 is secreted	4
➤ CD4 binds Interleukin-16	5
➤ IFNL1 binds IL10RB:TYK2 and IFNLR1:JAK1	6
➤ IL34 dimerizes	7
➤ IL34 dimer binds CSF1R	8
➤ IL34 dimer binds PTPRZ1	9
➤ IL34 dimer binds SDC1	10
❏ IL34 dimer:SDC1 binds CSF1R	11
➤ IL34 binds CSF1	12
❏ IL34:CSF1 binds CSF1R	13
➤ CSF3R binds CSF3 dimer	14
➤ CSF3 dimer:CSFR binds CSFR	15
➤ TXLNA (IL14) binds syntaxin1A	16
➤ TXLNA (IL14) binds syntaxin3	17
Table of Contents	18