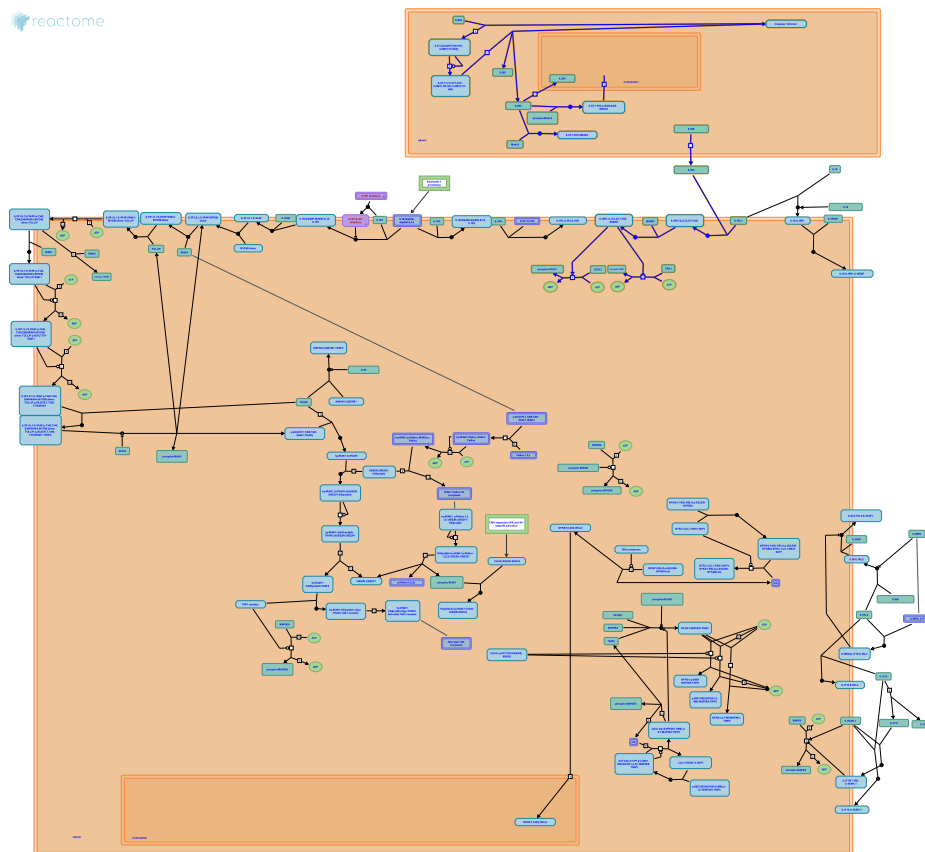


Interleukin-37 signaling



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

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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/).

06/05/2024

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

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Reactome database release: 88

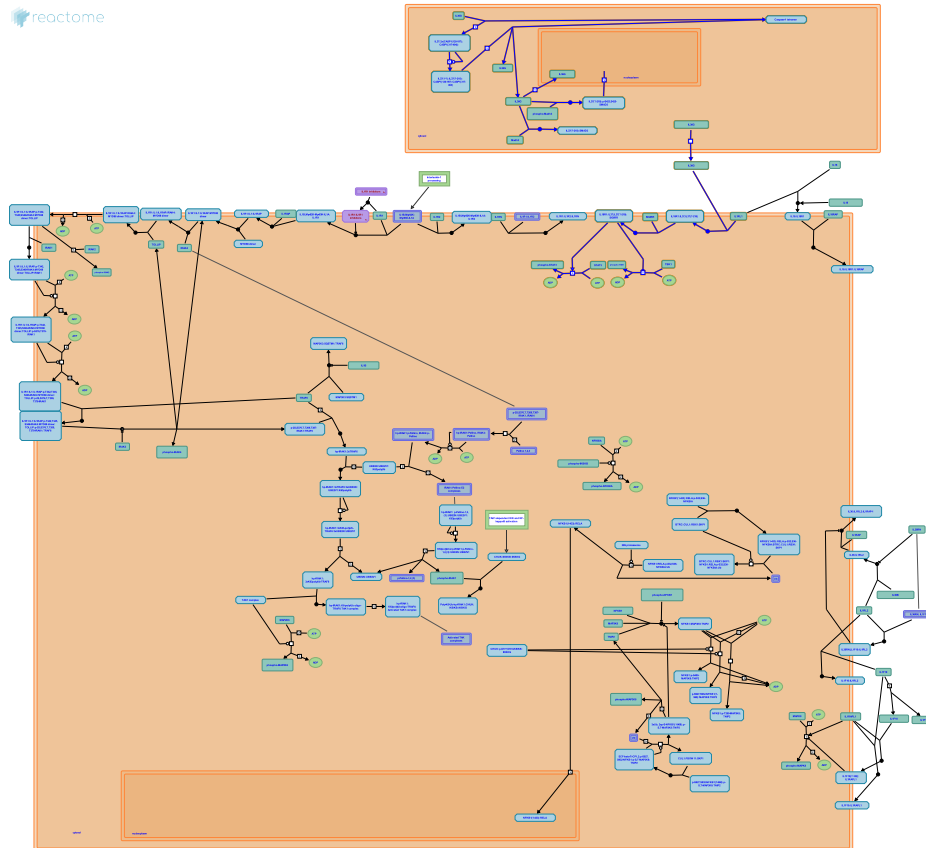
This document contains 1 pathway and 12 reactions ([see Table of Contents](#))

Interleukin-37 signaling ↗

Stable identifier: R-CFA-9008059

Compartments: cytosol, plasma membrane, extracellular region

Inferred from: [Interleukin-37 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.](#) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

IL37 binds 2x(CASP1(120-197):CASP1(317-404)) ↗

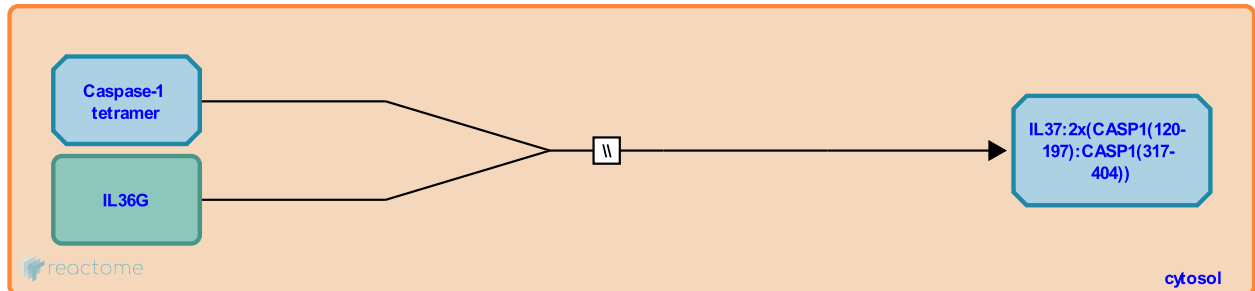
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-9012542

Type: omitted

Compartments: cytosol

Inferred from: [IL37 binds 2x\(CASP1\(120-197\):CASP1\(317-404\)\)](#) (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: [IL37\(1-?\)](#) and [IL37 \(?-\)](#) dissociates from [IL37\(1-?\):IL37\(?-218\):CASP1\(120-197\):CASP1\(317-404\)](#)

Followed by: [IL37:2x\(CASP1\(120-197\):CASP1\(317-404\)\)](#) cleaves [IL37](#)

IL37:2x(CASP1(120-197):CASP1(317-404)) cleaves IL37 ↗

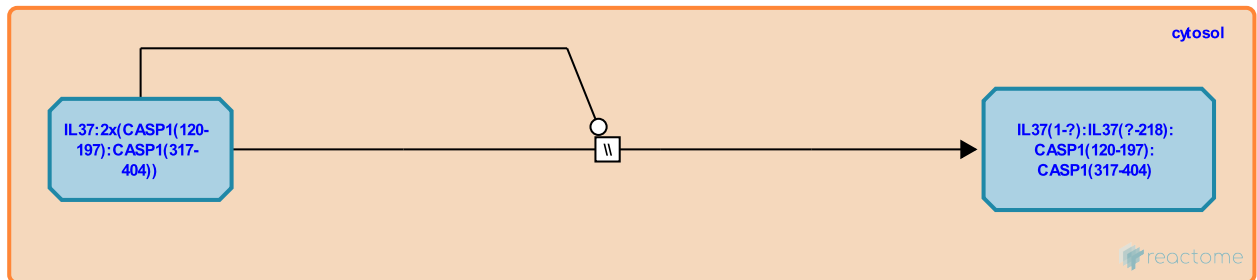
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-9012556

Type: omitted

Compartments: cytosol

Inferred from: [IL37:2x\(CASP1\(120-197\):CASP1\(317-404\)\) cleaves IL37 \(Homo sapiens\)](#)



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: [IL37 binds 2x\(CASP1\(120-197\):CASP1\(317-404\)\)](#)

Followed by: [IL37\(1-?\) and IL37 \(?-\) dissociates from IL37\(1-?\):IL37\(?-218\):CASP1\(120-197\):CASP1\(317-404\)](#)

IL37(1-?) and IL37 (?-) dissociates from IL37(1-?):IL37(?-218):CASP1(120-197):CASP1(317-404) ↗

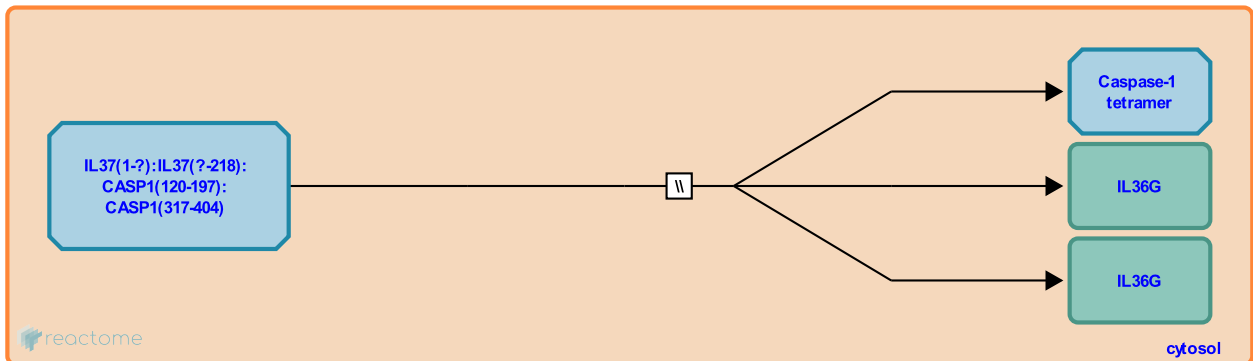
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-9012689

Type: omitted

Compartments: cytosol

Inferred from: [IL37\(1-?\) and IL37 \(?-\) dissociates from IL37\(1-?\):IL37\(?-218\):CASP1\(120-197\):CASP1\(317-404\)](#) (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: [IL37:2x\(CASP1\(120-197\):CASP1\(317-404\)\) cleaves IL37](#)

Followed by: [IL37\(?-218\) binds SMAD3](#), [IL37\(?-218\) translocates from the cytosol to the nucleus](#), [IL37\(?-218\) binds p-S423,S425-SMAD3](#), [IL37](#), [IL37\(?-218\) translocates from cytosol to extracellular region](#), [IL37 binds 2x\(CASP1\(120-197\):CASP1\(317-404\)\)](#)

IL37(?-218) translocates from the cytosol to the nucleus ↗

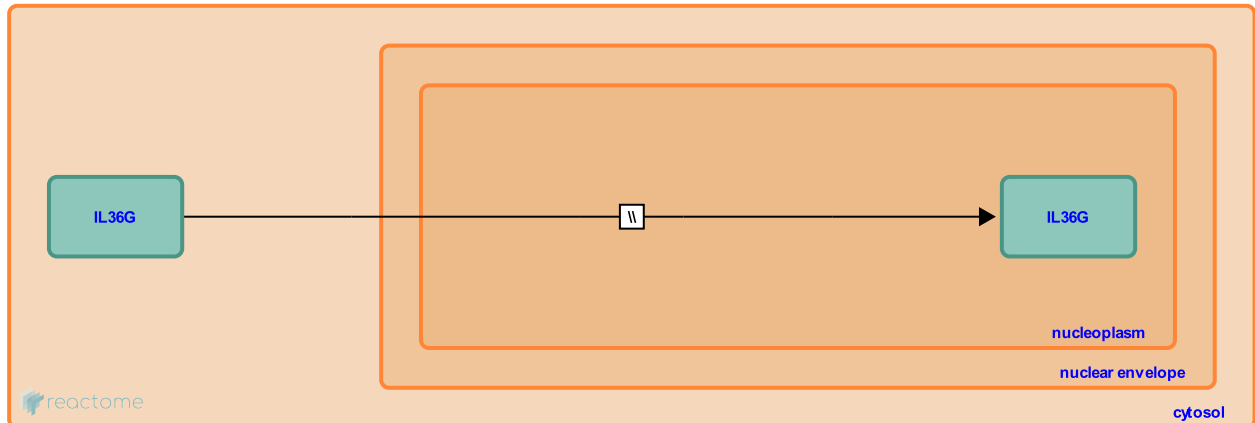
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-9008696

Type: omitted

Compartments: nucleoplasm, cytosol

Inferred from: [IL37\(?-218\) translocates from the cytosol to the nucleus \(Homo sapiens\)](#)



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: [IL37\(1-?\)](#) and [IL37 \(?-\)](#) dissociates from [IL37\(1-?\):IL37\(?-218\):CASP1\(120-197\):CASP1\(317-404\)](#)

IL37(?-218) binds p-S423,S425-SMAD3 ↗

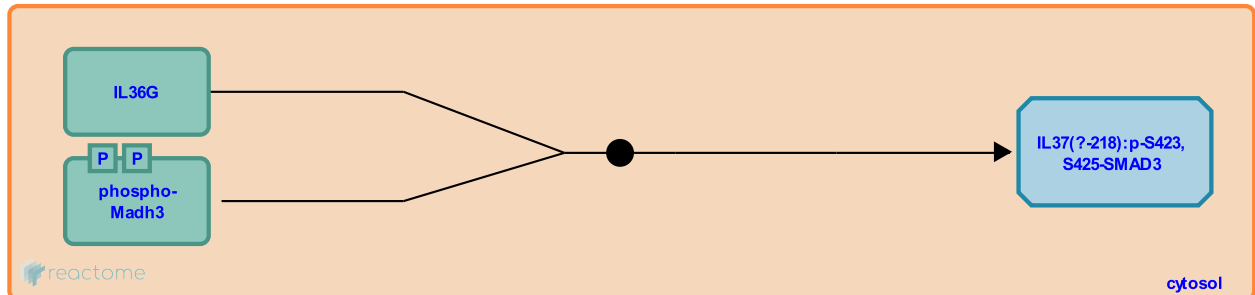
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-9009910

Type: binding

Compartments: cytosol

Inferred from: [IL37\(?-218\) binds p-S423,S425-SMAD3 \(Homo sapiens\)](#)



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: [IL37\(1-?\)](#) and [IL37 \(?-\)](#) dissociates from [IL37\(1-?\):IL37\(?-218\):CASP1\(120-197\):CASP1\(317-404\)](#)

Followed by: [IL37\(?-218\) binds SMAD3](#), [IL37\(?-218\):p-S423,S425-SMAD3 translocates to the nucleus](#)

IL37(?-218):p-S423,S425-SMAD3 translocates to the nucleus ↗

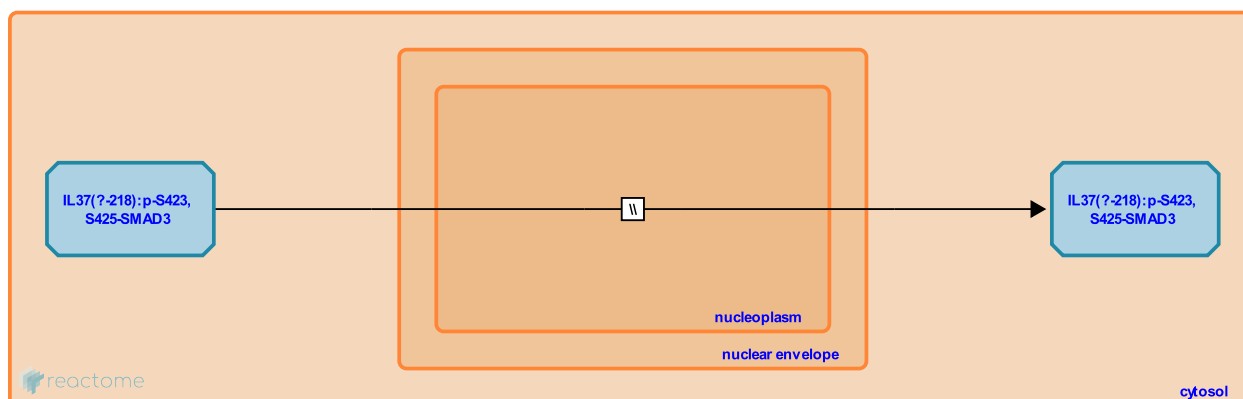
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-9008928

Type: omitted

Compartments: nucleoplasm, cytosol

Inferred from: [IL37\(?-218\):p-S423,S425-SMAD3 translocates to the nucleus \(Homo sapiens\)](#)



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: [IL37\(?-218\) binds p-S423,S425-SMAD3](#)

IL37(?-218) binds SMAD3 ↗

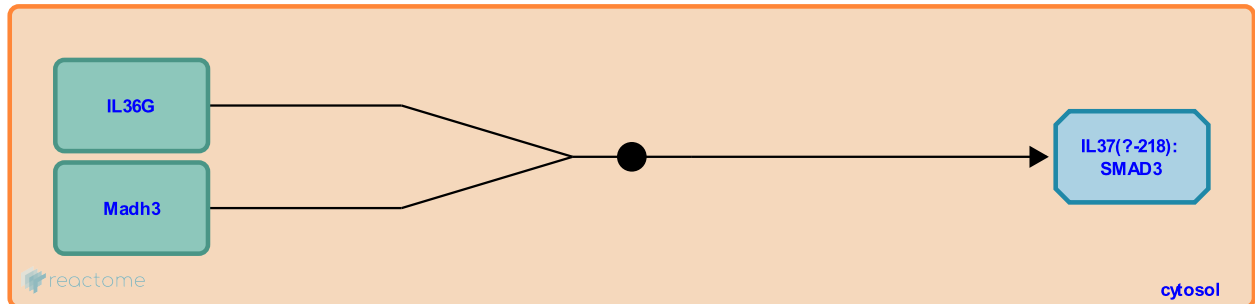
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-9008692

Type: binding

Compartments: cytosol

Inferred from: [IL37\(?-218\) binds SMAD3 \(Homo sapiens\)](#)



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: [IL37\(1-?\)](#) and [IL37 \(?-\)](#) dissociates from [IL37\(1-?\):IL37\(?-218\):CASP1\(120-197\):CASP1\(317-404\)](#), [IL37\(?-218\) binds p-S423,S425-SMAD3](#)

IL37, IL37(?-218) translocates from cytosol to extracellular region ↗

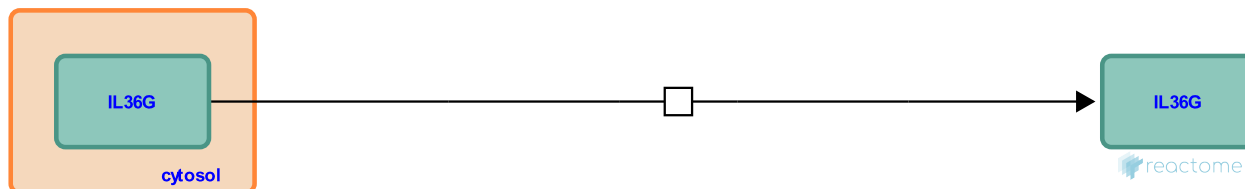
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-9008694

Type: transition

Compartments: extracellular region, cytosol

Inferred from: [IL37, IL37\(?-218\) translocates from cytosol to extracellular region \(Homo sapiens\)](#)



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: [IL37\(1-?\)](#) and [IL37 \(?-\)](#) dissociates from [IL37\(1-?\):IL37\(?-218\):CASP1\(120-197\):CASP1\(317-404\)](#)

Followed by: [IL37 binds IL18R1](#)

IL37 binds IL18R1 ↗

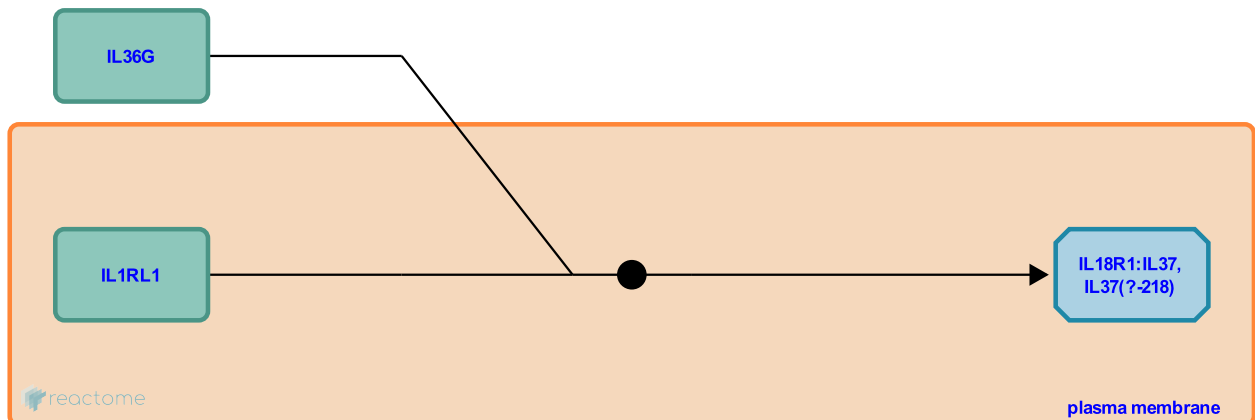
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-8848335

Type: binding

Compartments: plasma membrane, extracellular region

Inferred from: [IL37 binds IL18R1 \(Homo sapiens\)](#)



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: [IL37, IL37\(?-218\) translocates from cytosol to extracellular region](#)

Followed by: [IL37:IL18R1 binds SIGIRR](#)

IL37:IL18R1 binds SIGIRR ↗

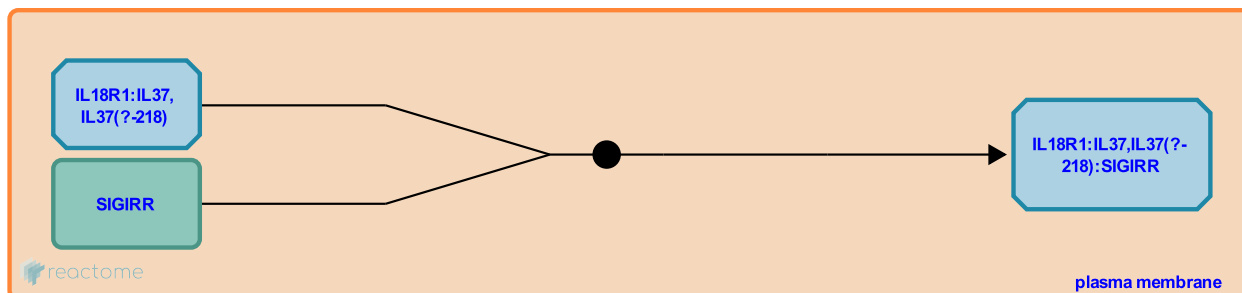
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-9008577

Type: binding

Compartments: plasma membrane

Inferred from: [IL37:IL18R1 binds SIGIRR \(Homo sapiens\)](#)



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: [IL37 binds IL18R1](#)

Followed by: [STAT3 phosphorylation](#), [TBK1 phosphorylation](#)

TBK1 phosphorylation ↗

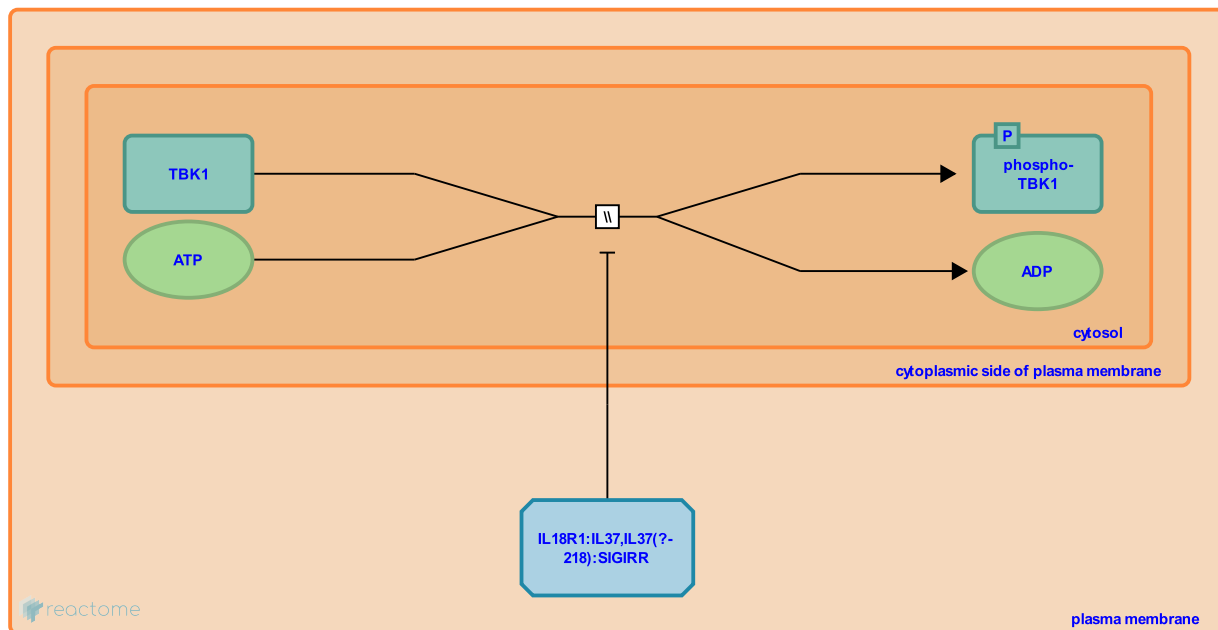
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-9008684

Type: omitted

Compartments: cytosol

Inferred from: [TBK1 phosphorylation \(Homo sapiens\)](#)



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: [IL37:IL18R1 binds SIGIRR](#)

STAT3 phosphorylation ↗

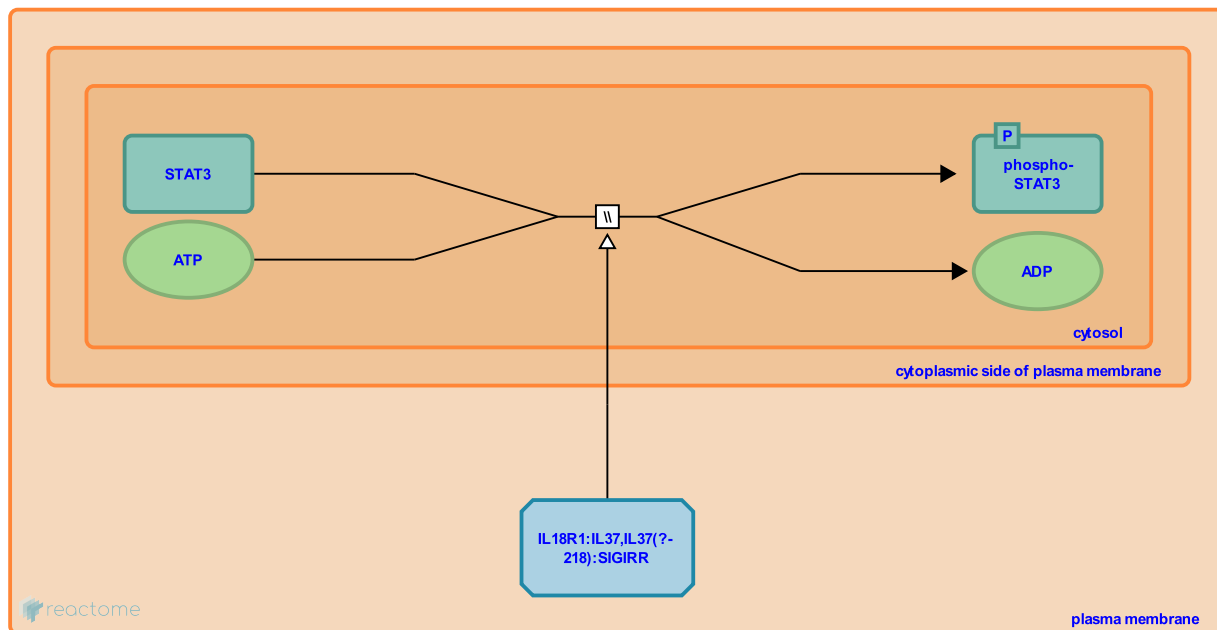
Location: [Interleukin-37 signaling](#)

Stable identifier: R-CFA-9009072

Type: omitted

Compartments: cytosol

Inferred from: [STAT3 phosphorylation \(Homo sapiens\)](#)



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.

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Preceded by: [IL37:IL18R1 binds SIGIRR](#)

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