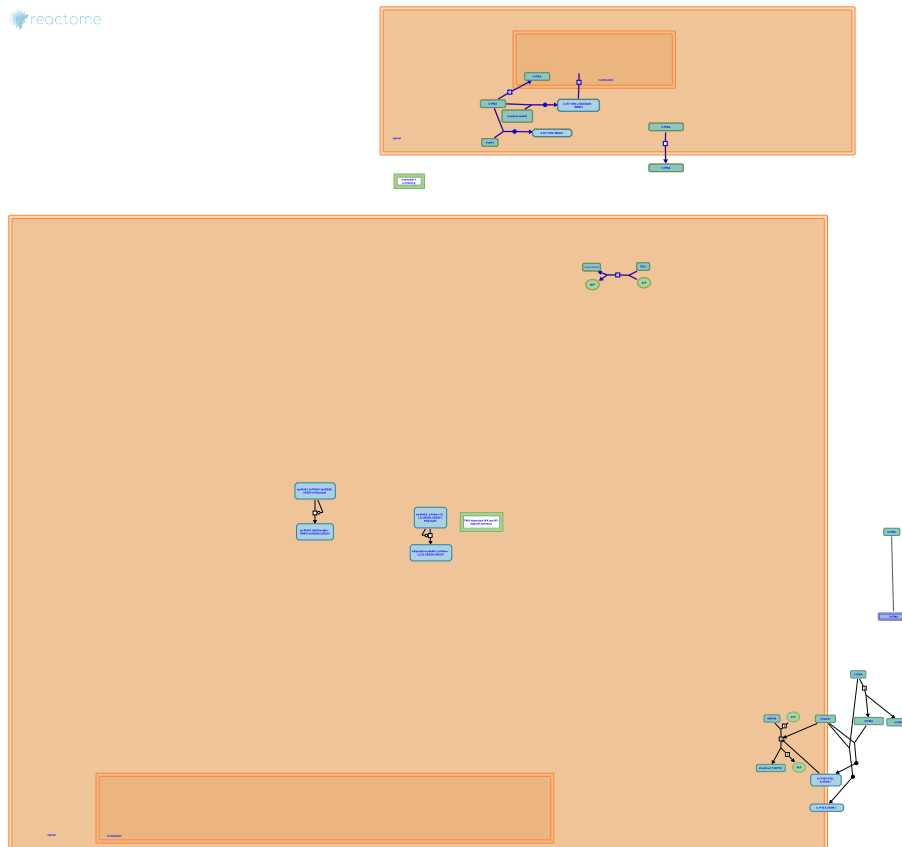


# Interleukin-37 signaling



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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- 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

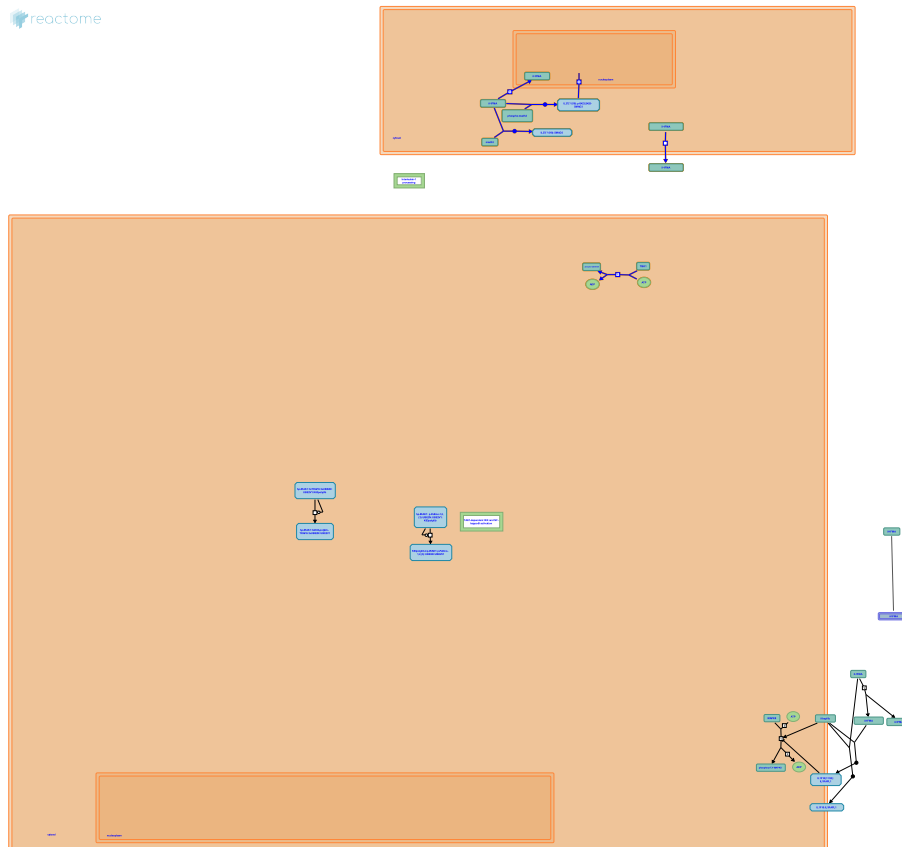
This document contains 1 pathway and 6 reactions ([see Table of Contents](#))

## Interleukin-37 signaling ↗

**Stable identifier:** R-DRE-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(?-218) translocates from the cytosol to the nucleus ↗

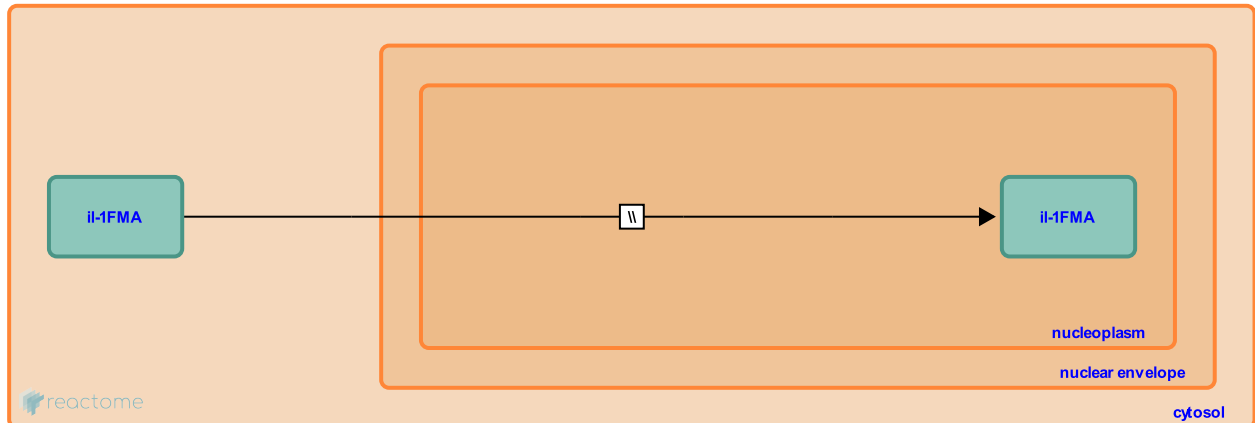
**Location:** [Interleukin-37 signaling](#)

**Stable identifier:** R-DRE-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.

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## IL37(?-218) binds p-S423,S425-SMAD3 ↗

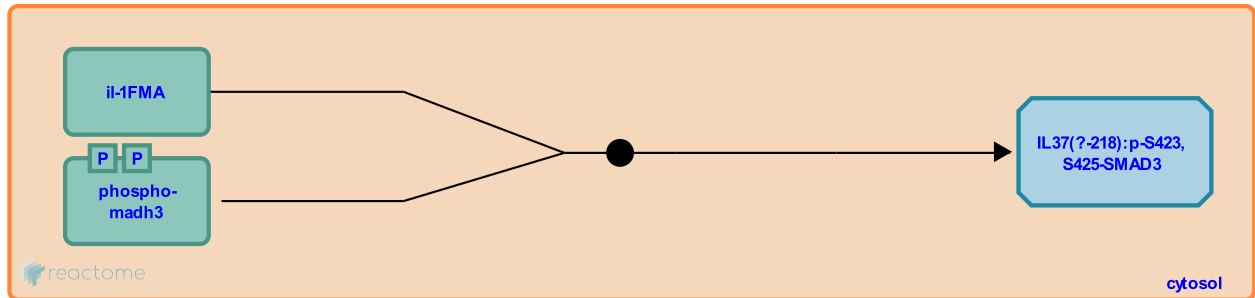
**Location:** [Interleukin-37 signaling](#)

**Stable identifier:** R-DRE-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>

**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 ↗

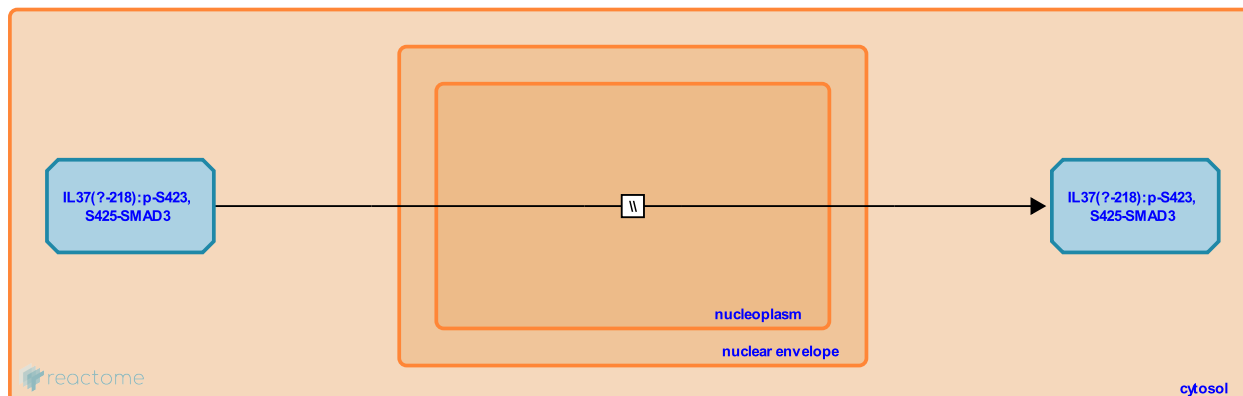
**Location:** [Interleukin-37 signaling](#)

**Stable identifier:** R-DRE-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 ↗

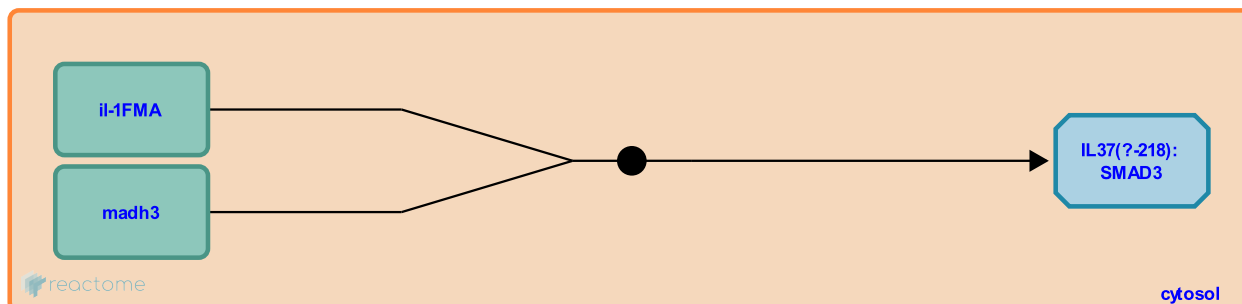
**Location:** [Interleukin-37 signaling](#)

**Stable identifier:** R-DRE-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\(?-218\) binds p-S423,S425-SMAD3](#)

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

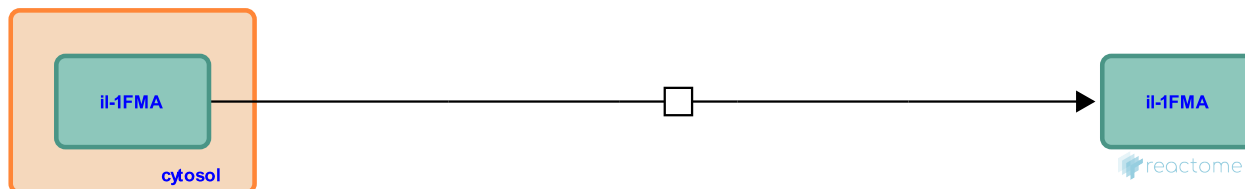
**Location:** [Interleukin-37 signaling](#)

**Stable identifier:** R-DRE-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.

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## TBK1 phosphorylation ↗

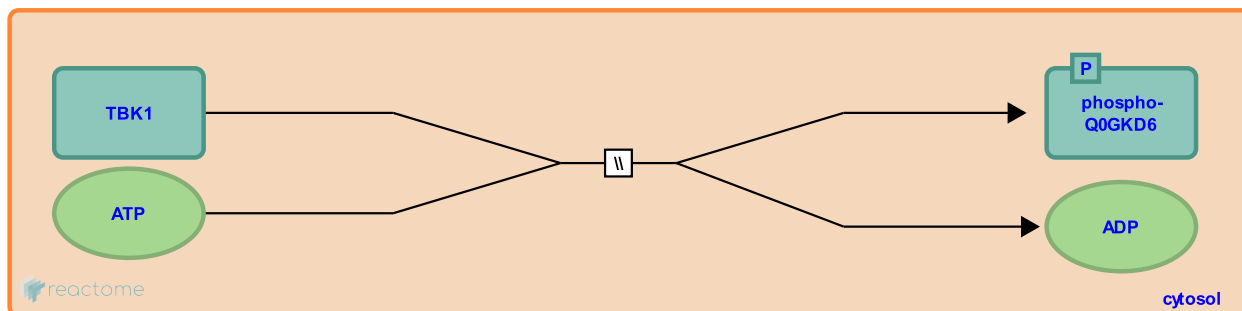
**Location:** [Interleukin-37 signaling](#)

**Stable identifier:** R-DRE-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>

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