Interleukin-35 Signalling

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.

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https://reactome.org
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.

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Literature references


Reactome database release: 82

This document contains 1 pathway and 17 reactions (see Table of Contents)
Interleukin-35 Signalling

Stable identifier: R-DRE-8984722

Inferred from: Interleukin-35 Signalling (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.

<a href='/electronic_inference_compara.html' target = 'NEW'>More details and caveats of the event inference in Reactome. For details on PANTHER see also: <a href='http://www.pantherdb.org/about.jsp' target="NEW">http://www.pantherdb.org/about.jsp
**JAK1,JAK2 bound to IL27RA:IL12RB2 receptor are phosphorylated**

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8984012

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** JAK1,JAK2 bound to IL27RA:IL12RB2 receptor are phosphorylated (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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**Followed by:** STAT1,STAT3 associate with IL27RA:IL12RB2 receptor
STAT1,STAT3 associate with IL27RA:IL12RB2 receptor

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8984021

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** STAT1,STAT3 associate with IL27RA:IL12RB2 receptor (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/parologue (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:** JAK1,JAK2 bound to IL27RA:IL12RB2 receptor are phosphorylated

**Followed by:** JAK1,JAK2 bound to IL27RA:IL12RB2 receptor phosphorylate STAT1,STAT3
JAK1, JAK2 bound to IL27RA:IL12RB2 receptor phosphorylate STAT1, STAT3

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8984014

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** JAK1, JAK2 bound to IL27RA:IL12RB2 receptor phosphorylate STAT1, STAT3 (Homo sapiens)

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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.

For details and caveats of the event inference in Reactome. For details on PANTHER see also: [http://www.pantherdb.org/about.jsp](http://www.pantherdb.org/about.jsp)

**Preceded by:** STAT1, STAT3 associate with IL27RA:IL12RB2 receptor

**Followed by:** p-STAT1, p-STAT3 dissociate from IL27RA:IL12RB2 receptor
p-STAT1, p-STAT3 dissociate from IL27RA:IL12RB2 receptor

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8984023

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** p-STAT1, p-STAT3 dissociate from IL27RA:IL12RB2 receptor (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](http://www.pantherdb.org/about.jsp)

**Preceded by:** JAK1,JAK2 bound to IL27RA:IL12RB2 receptor phosphorylate STAT1,STAT3
JAK2 in IL12RB2:IL12RB2 receptor is phosphorylated

Location: Interleukin-35 Signalling

Stable identifier: R-DRE-8983870

Type: omitted

Compartments: plasma membrane, extracellular region, cytosol

Inferred from: JAK2 in IL12RB2:IL12RB2 receptor is phosphorylated (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: STAT4 binds IL12RB2:IL12RB2
**STAT4 binds IL12RB2:IL12RB2**

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8983876

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** STAT4 binds IL12RB2:IL12RB2 (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](http://www.pantherdb.org/about.jsp)

**Preceded by:** JAK2 in IL12RB2:IL12RB2 receptor is phosphorylated

**Followed by:** JAK2 bound to IL12RB2:IL12RB2 phosphorylate STAT4
JAK2 bound to IL12RB2:IL12RB2 phosphorylate STAT4

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8983872

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** JAK2 bound to IL12RB2:IL12RB2 phosphorylate STAT4 (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:** STAT4 binds IL12RB2:IL12RB2

**Followed by:** p-STAT4 dissociates from IL12RB2:IL12RB2 receptor
p-STAT4 dissociates from IL12RB2:IL12RB2 receptor

Location: Interleukin-35 Signalling

Stable identifier: R-DRE-8983878

Type: omitted

Compartments: plasma membrane, extracellular region, cytosol

Inferred from: p-STAT4 dissociates from IL12RB2:IL12RB2 receptor (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.

<a href='/electronic_inference_compara.html' target='NEW'>More details and caveats of the event inference in Reactome. For details on PANTHER see also: <a href='http://www.pantherdb.org/about.jsp' target='NEW'>http://www.pantherdb.org/about.jsp

Preceded by: JAK2 bound to IL12RB2:IL12RB2 phosphorylate STAT4
JAK1/JAK2/TYK2 bound to IL6ST:IL6ST are phosphorylated

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8983834

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** JAK1/JAK2/TYK2 bound to IL6ST:IL6ST are phosphorylated (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.

<a href='/electronic_inference_compara.html' target='NEW'>More details and caveats of the event inference in Reactome. For details on PANTHER see also: </a><a href='http://www.pantherdb.org/about.jsp' target='NEW'>http://www.pantherdb.org/about.jsp</a>

**Followed by:** STAT1 associates with IL6ST:IL6ST
STAT1 associates with IL6ST:IL6ST

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8983841

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** STAT1 associates with IL6ST:IL6ST (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:** JAK1/JAK2/TYK2 bound to IL6ST:IL6ST are phosphorylated

**Followed by:** JAK1/JAK2/TYK2 bound to IL6ST:IL6ST phosphorylate STAT1
**JAK1/JAK2/TYK2 bound to IL6ST:IL6ST phosphorylate STAT1**

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8983835

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** JAK1/JAK2/TYK2 bound to IL6ST:IL6ST phosphorylate STAT1 (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:** STAT1 associates with IL6ST:IL6ST

**Followed by:** p-STAT1 dissociates from IL6ST:IL6ST
p-STAT1 dissociates from IL6ST:IL6ST

Location: Interleukin-35 Signalling

Stable identifier: R-DRE-8983845

Type: omitted

Compartments: plasma membrane, extracellular region, cytosol

Inferred from: p-STAT1 dissociates from IL6ST:IL6ST (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: JAK1/JAK2/TYK2 bound to IL6ST:IL6ST phosphorylate STAT1
JAK1/JAK2 bound to IL35:IL6ST:IL12RB2 receptor are phosphorylated

Location: Interleukin-35 Signalling

Stable identifier: R-DRE-8950405

Type: omitted

Compartments: plasma membrane, extracellular region, cytosol

Inferred from: JAK1/JAK2 bound to IL35:IL6ST:IL12RB2 receptor are phosphorylated (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: STAT1 and STAT4 associate with IL12RB2:IL6ST receptor
STAT1 and STAT4 associate with IL12RB2:IL6ST receptor

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8983996

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** STAT1 and STAT4 associate with IL12RB2:IL6ST receptor (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:** JAK1/JAK2 bound to IL35:IL6ST:IL12RB2 receptor are phosphorylated

**Followed by:** JAK1/JAK2 bound to IL12RB2:IL6ST receptor phosphorylates STAT1 and STAT4
JAK1/JAK2 bound to IL12RB2:IL6ST receptor phosphorylates STAT1 and STAT4

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8950453

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** JAK1/JAK2 bound to IL12RB2:IL6ST receptor phosphorylates STAT1 and STAT4 (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.

[a href='/electronic_inference_compara.html' target = 'NEW']More details and caveats of the event inference in Reactome. For details on PANTHER see also: [a href='http://www.pantherdb.org/about.jsp' target='NEW']http://www.pantherdb.org/about.jsp

**Preceded by:** STAT1 and STAT4 associate with IL12RB2:IL6ST receptor

**Followed by:** p-STAT1 and p-STAT4 dissociate from IL12RB2:IL6ST receptor
p-STAT1 and p-STAT4 dissociate from IL12RB2:IL6ST receptor

**Location:** Interleukin-35 Signalling

**Stable identifier:** R-DRE-8983983

**Type:** omitted

**Compartments:** plasma membrane, extracellular region, cytosol

**Inferred from:** p-STAT1 and p-STAT4 dissociate from IL12RB2:IL6ST receptor (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:** JAK1/JAK2 bound to IL12RB2:IL6ST receptor phosphorylates STAT1 and STAT4

**Followed by:** p-STAT1:p-STAT4 translocates to the nucleus
p-STAT1:p-STAT4 translocates to the nucleus

Location: Interleukin-35 Signalling

Stable identifier: R-DRE-8950522

Type: omitted

Compartments: nucleoplasm, cytosol

Inferred from: p-STAT1:p-STAT4 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: p-STAT1 and p-STAT4 dissociate from IL12RB2:IL6ST receptor
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