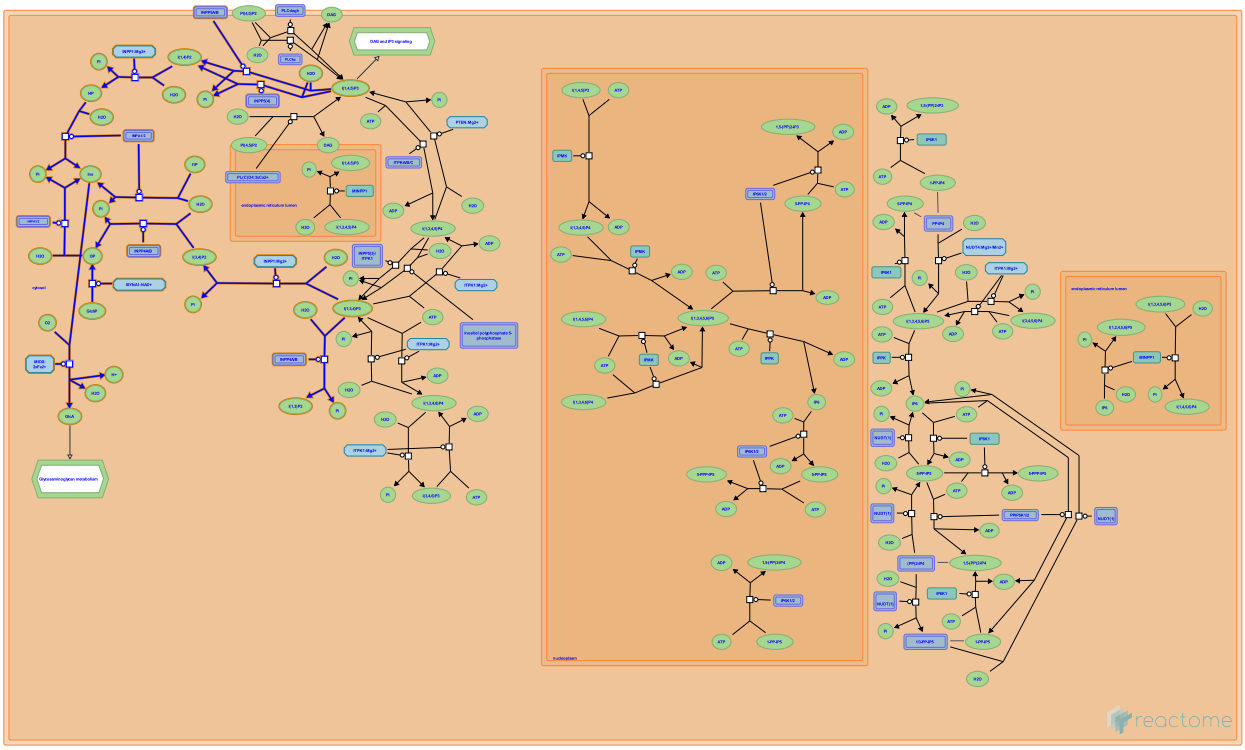
Synthesis of IP2, IP, and Ins in the cytosol



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

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.

04/05/2024

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.

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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. ↗

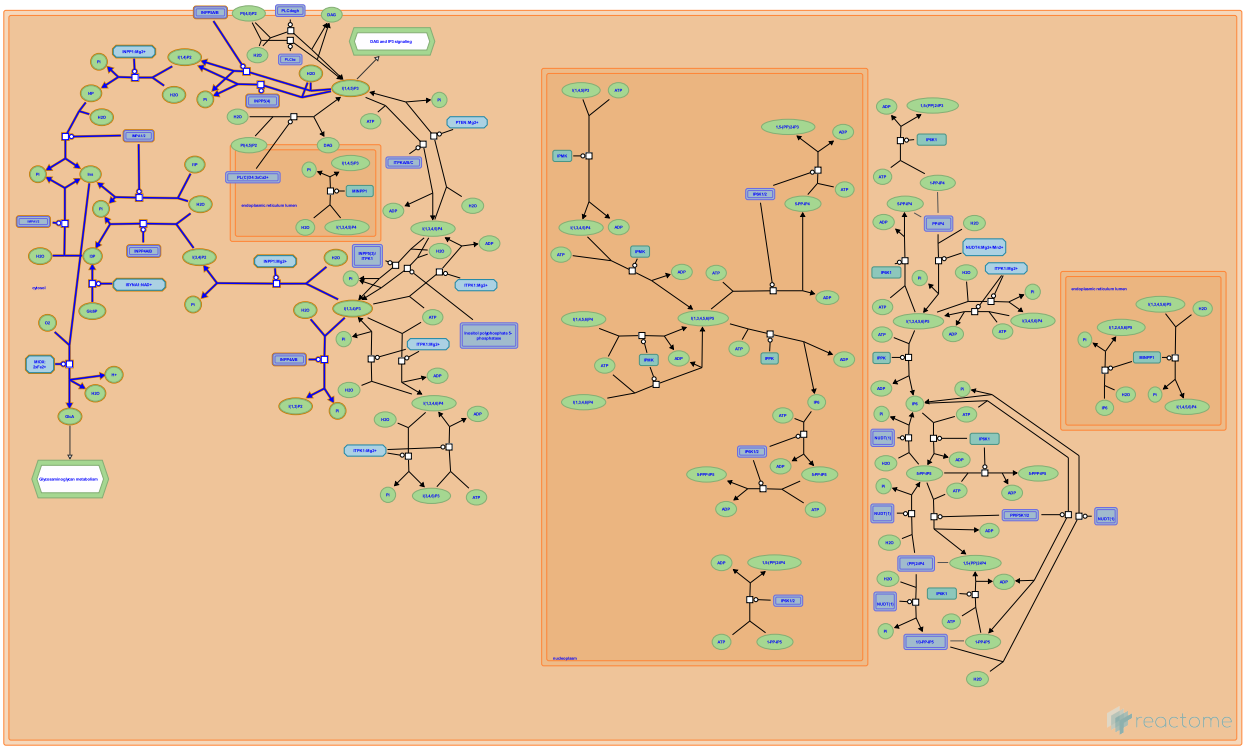
Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res, 46*, D649-D655. ↗

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. ↗

Synthesis of IP2, IP, and Ins in the cytosol ↗

Stable identifier: R-BTA-1855183

Inferred from: Synthesis of IP2, IP, and Ins in the cytosol (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

I(1,4,5)P3 is dephosphorylated to I(1,4)P2 by INPP5(4) in the cytosol ↗

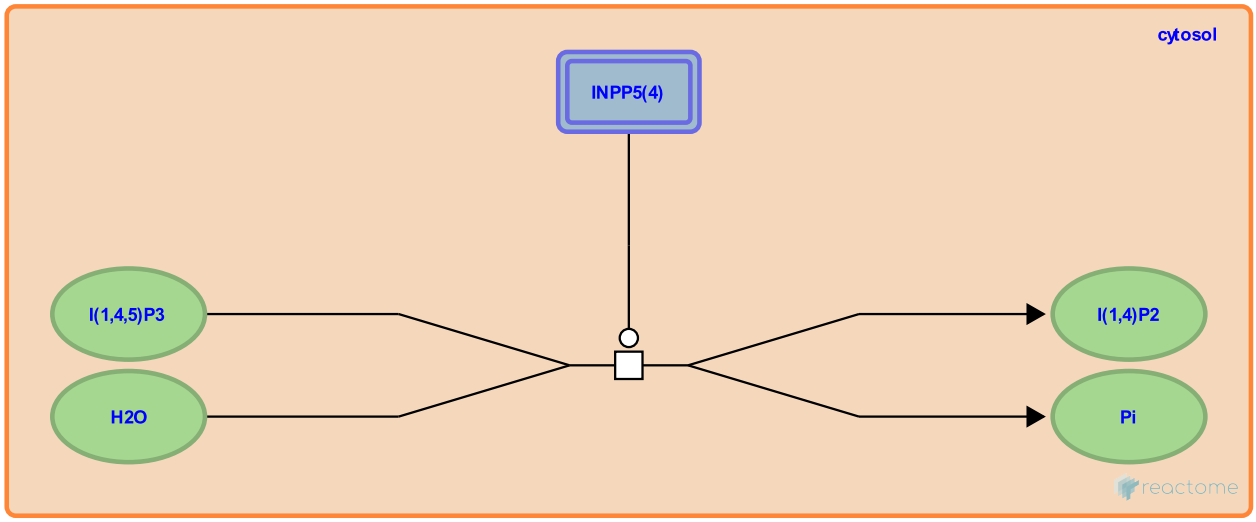
Location: Synthesis of IP2, IP, and Ins in the cytosol

Stable identifier: R-BTA-1855174

Type: transition

Compartments: cytosol

Inferred from: I(1,4,5)P3 is dephosphorylated to I(1,4)P2 by INPP5(4) in the cytosol (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: I(1,4)P2 is dephosphorylated to I4P by INPP1 in the cytosol

I(1,4,5)P3 is dephosphorylated to I(1,4)P2 by INPP5A/B at the plasma membrane ↗

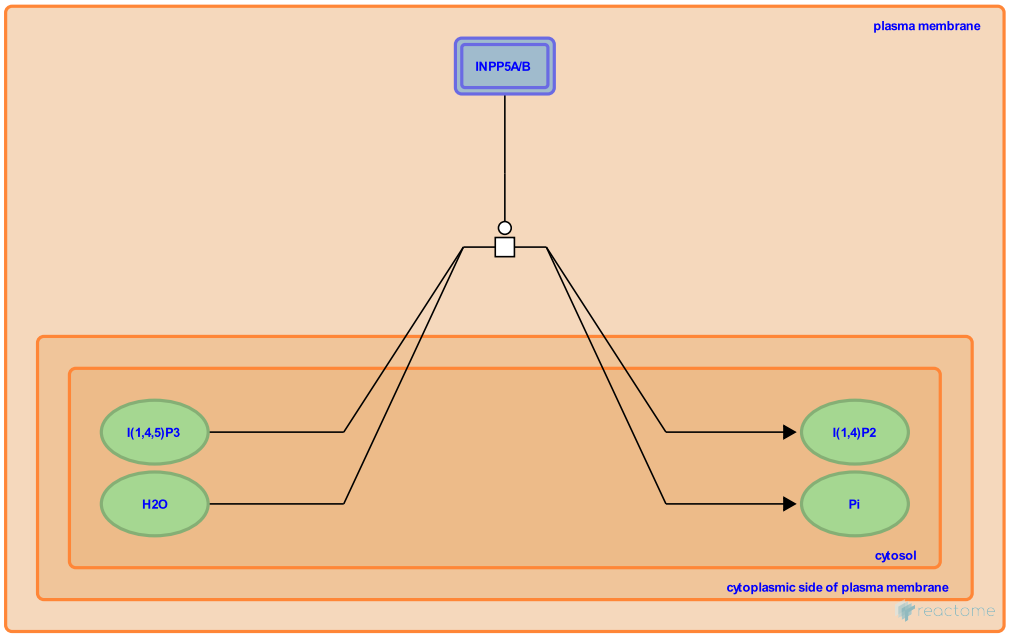
Location: Synthesis of IP2, IP, and Ins in the cytosol

Stable identifier: R-BTA-1855222

Type: transition

Compartments: plasma membrane, cytosol

Inferred from: I(1,4,5)P3 is dephosphorylated to I(1,4)P2 by INPP5A/B at the plasma membrane (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: I(1,4)P2 is dephosphorylated to I4P by INPP1 in the cytosol

I(1,4)P2 is dephosphorylated to I4P by INPP1 in the cytosol ↗

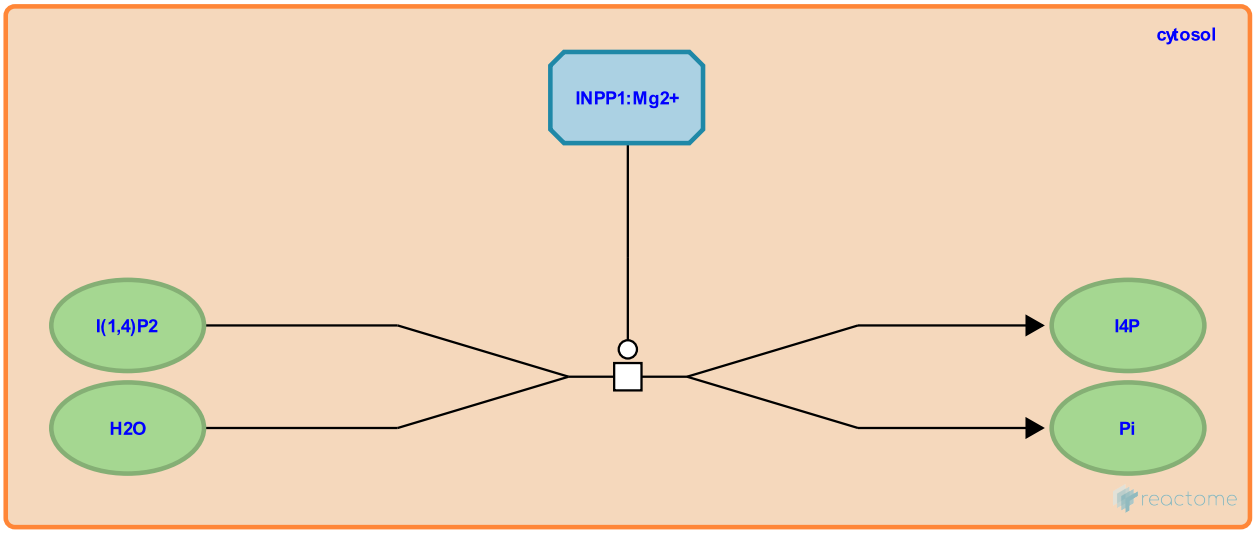
Location: Synthesis of IP2, IP, and Ins in the cytosol

Stable identifier: R-BTA-1855208

Type: transition

Compartments: cytosol

Inferred from: I(1,4)P2 is dephosphorylated to I4P by INPP1 in the cytosol (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: I(1,4,5)P3 is dephosphorylated to I(1,4)P2 by INPP5A/B at the plasma membrane, I(1,4,5)P3 is dephosphorylated to I(1,4)P2 by INPP5(4) in the cytosol

Followed by: I4P is dephosphorylated to Ins by IMPA1/2 in the cytosol

I4P is dephosphorylated to Ins by IMPA1/2 in the cytosol ↗

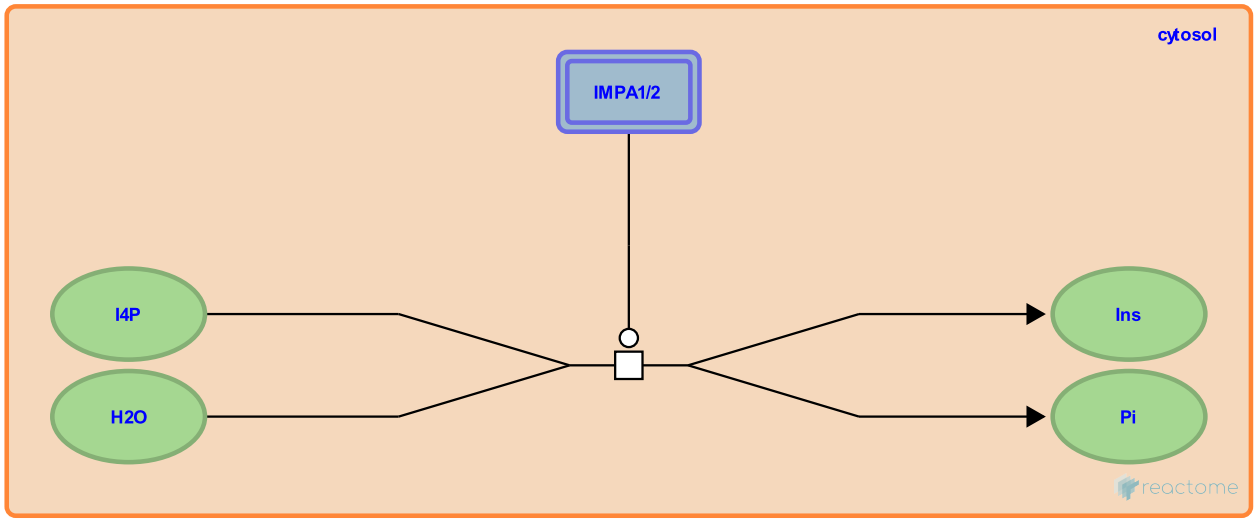
Location: Synthesis of IP2, IP, and Ins in the cytosol

Stable identifier: R-BTA-1855211

Type: transition

Compartments: cytosol

Inferred from: I4P is dephosphorylated to Ins by IMPA1/2 in the cytosol (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: I(1,4)P2 is dephosphorylated to I4P by INPP1 in the cytosol

I1P is dephosphorylated to Ins by IMPA1/2 in the cytosol ↗

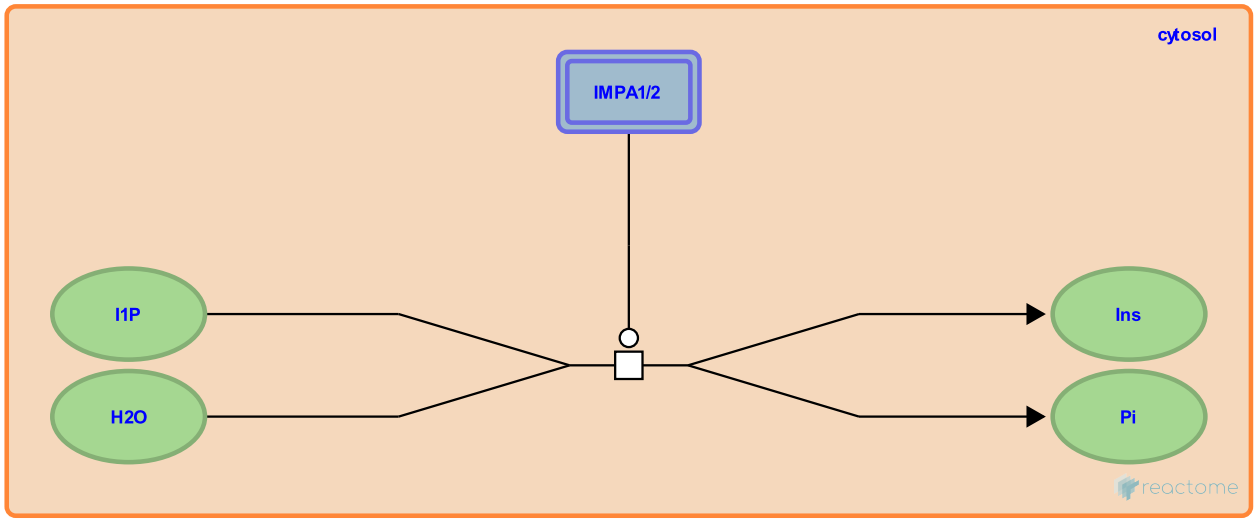
Location: Synthesis of IP2, IP, and Ins in the cytosol

Stable identifier: R-BTA-1855154

Type: transition

Compartments: cytosol

Inferred from: I1P is dephosphorylated to Ins by IMPA1/2 in the cytosol (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

I(1,3,4)P3 is dephosphorylated to I(1,3)P2 by INPP4A/B in the cytosol ↗

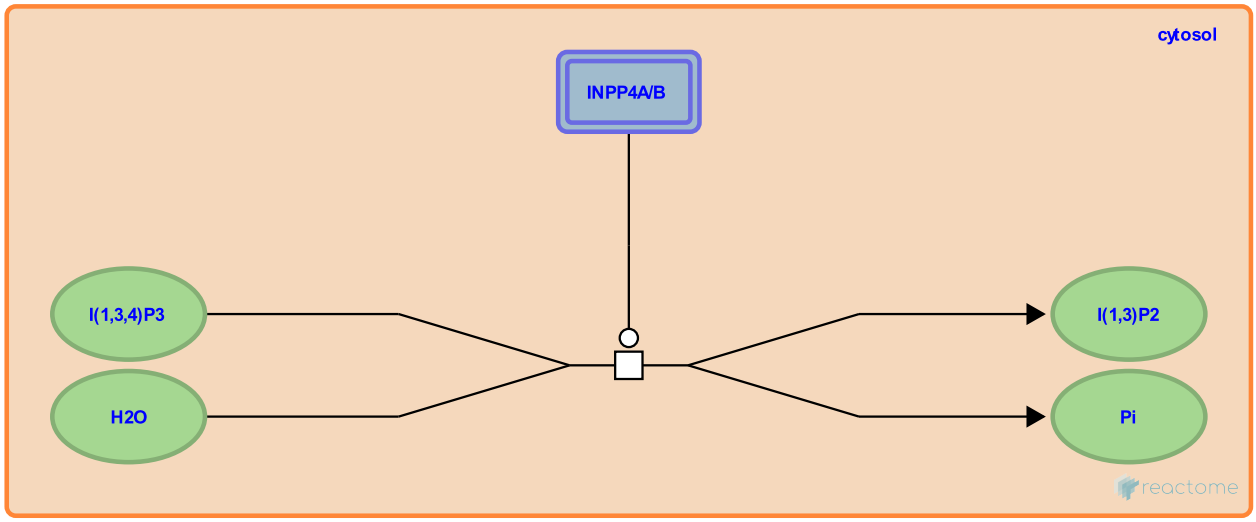
Location: Synthesis of IP2, IP, and Ins in the cytosol

Stable identifier: R-BTA-1855180

Type: transition

Compartments: cytosol

Inferred from: I(1,3,4)P3 is dephosphorylated to I(1,3)P2 by INPP4A/B in the cytosol (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

I(1,3,4)P3 is dephosphorylated to I(3,4)P2 by INPP1 in the cytosol ↗

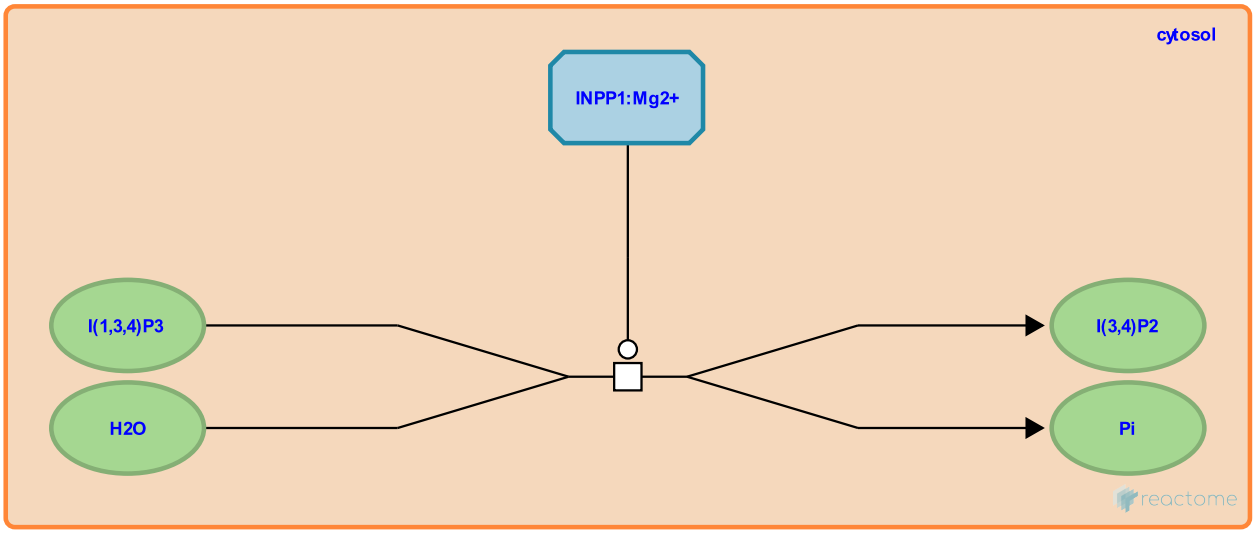
Location: Synthesis of IP2, IP, and Ins in the cytosol

Stable identifier: R-BTA-1855232

Type: transition

Compartments: cytosol

Inferred from: I(1,3,4)P3 is dephosphorylated to I(3,4)P2 by INPP1 in the cytosol (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: I(3,4)P2 is dephosphorylated to I3P by INPP4A/B in the cytosol

I(3,4)P2 is dephosphorylated to I3P by INPP4A/B in the cytosol ↗

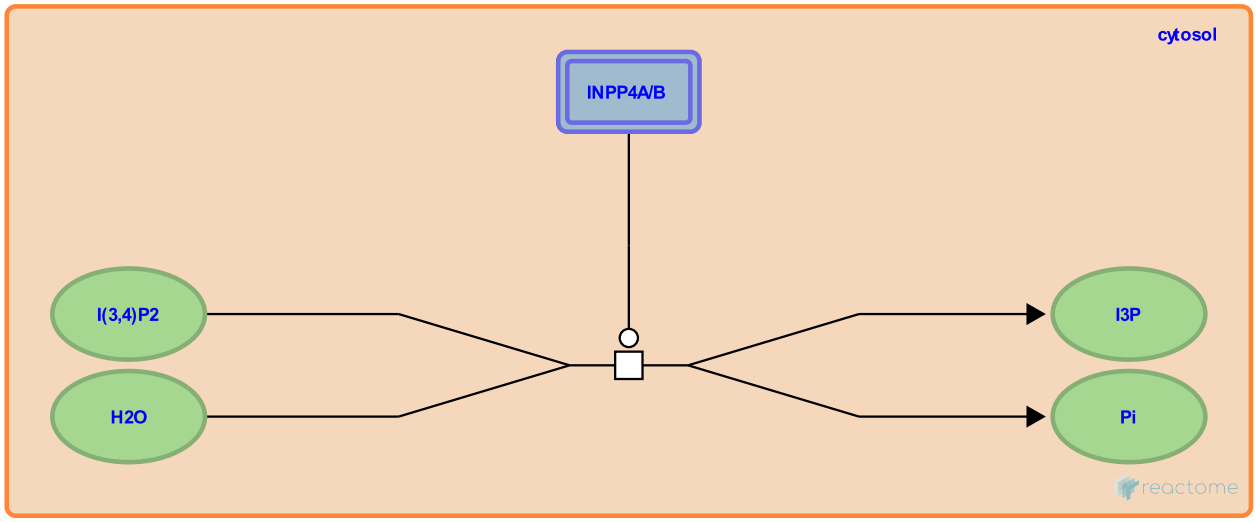
Location: Synthesis of IP2, IP, and Ins in the cytosol

Stable identifier: R-BTA-1855202

Type: transition

Compartments: cytosol

Inferred from: I(3,4)P2 is dephosphorylated to I3P by INPP4A/B in the cytosol (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: I(1,3,4)P3 is dephosphorylated to I(3,4)P2 by INPP1 in the cytosol

Followed by: I3P is dephosphorylated to Ins by IMPA1/2 in the cytosol

Glc6P is isomerised to I3P by ISYNA1 in the cytosol ↗

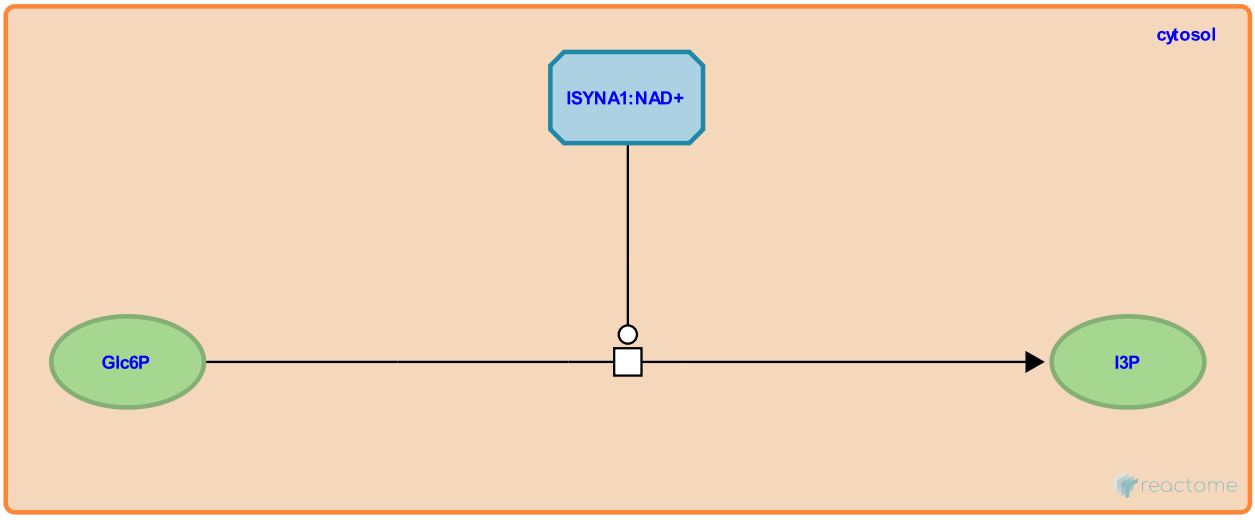
Location: Synthesis of IP2, IP, and Ins in the cytosol

Stable identifier: R-BTA-1855178

Type: transition

Compartments: cytosol

Inferred from: Glc6P is isomerised to I3P by ISYNA1 in the cytosol (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: I3P is dephosphorylated to Ins by IMPA1/2 in the cytosol

I3P is dephosphorylated to Ins by IMPA1/2 in the cytosol ↗

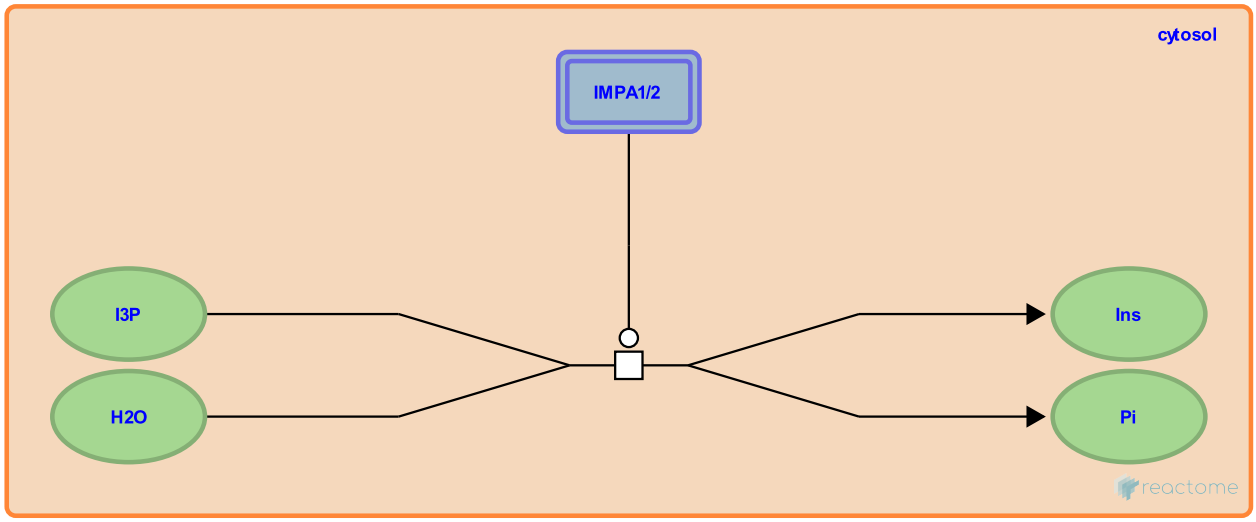
Location: Synthesis of IP2, IP, and Ins in the cytosol

Stable identifier: R-BTA-1855210

Type: transition

Compartments: cytosol

Inferred from: I3P is dephosphorylated to Ins by IMPA1/2 in the cytosol (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: I(3,4)P2 is dephosphorylated to I3P by INPP4A/B in the cytosol, Glc6P is isomerised to I3P by ISYNA1 in the cytosol

Followed by: MIOX oxidises Ins to GlcA

MIOX oxidises Ins to GlcA ↗

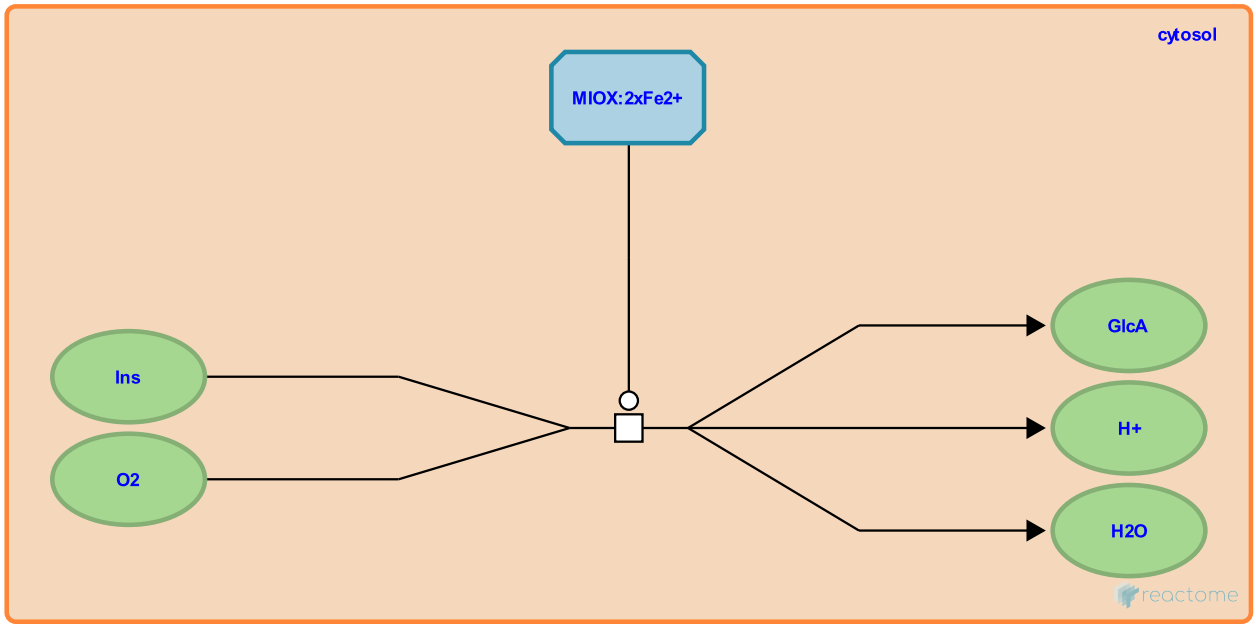
Location: Synthesis of IP2, IP, and Ins in the cytosol

Stable identifier: R-BTA-5678327

Type: transition

Compartments: cytosol

Inferred from: MIOX oxidises Ins to GlcA (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: I3P is dephosphorylated to Ins by IMPA1/2 in the cytosol

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