Synthesis of PC

24/09/2020

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. ↗
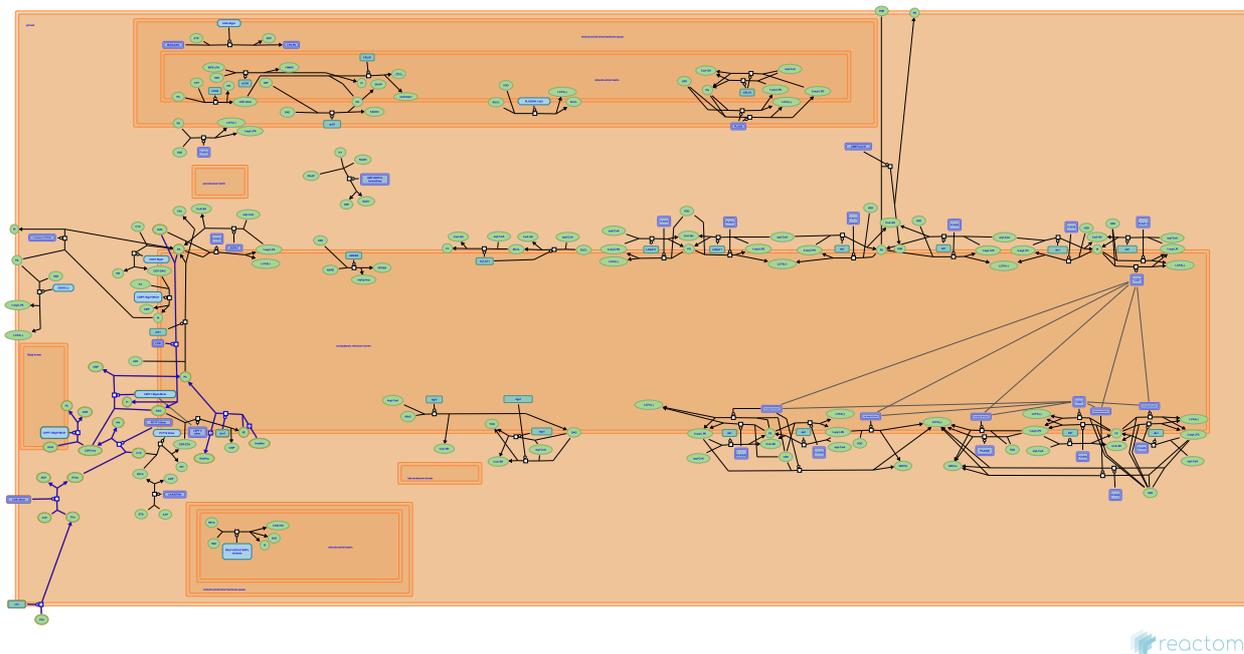
Reactome database release: 73

This document contains 1 pathway and 7 reactions (see Table of Contents)

Synthesis of PC ↗

Stable identifier: R-SPO-1483191

Inferred from: Synthesis of PC (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
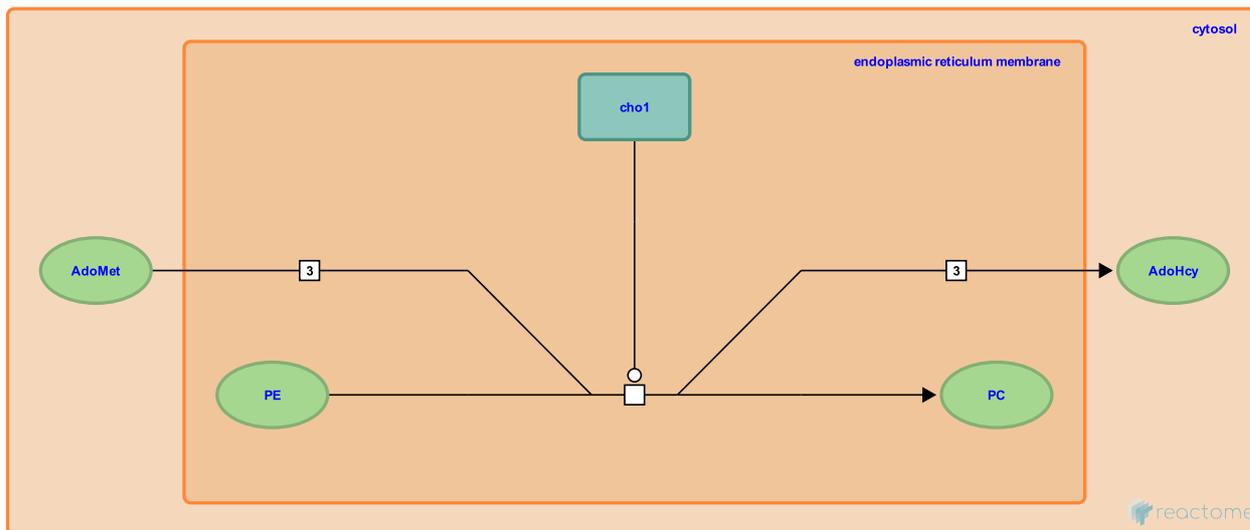
PE is methylated to PC by PEMT ↗

Location: Synthesis of PC

Stable identifier: R-SPO-1483174

Type: transition

Compartments: endoplasmic reticulum membrane, cytosol

Inferred from: PE is methylated to PC by PEMT (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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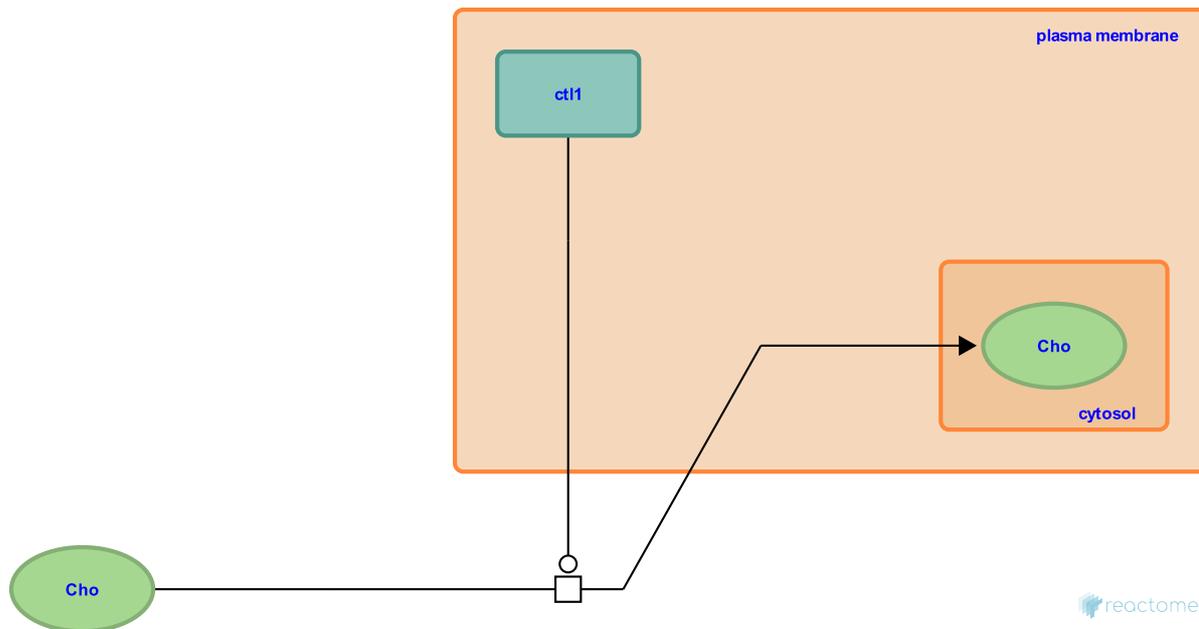## Cho transports from the extracellular space to the cytosol ↗

Location: Synthesis of PC

Stable identifier: R-SPO-444433

Type: transition

Compartments: extracellular region, plasma membrane, cytosol

Inferred from: Cho transports from the extracellular space to 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.

<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

Followed by: Cho is phosphorylated to PCho by CHK dimer

Cho is phosphorylated to PCho by CHK dimer ↗
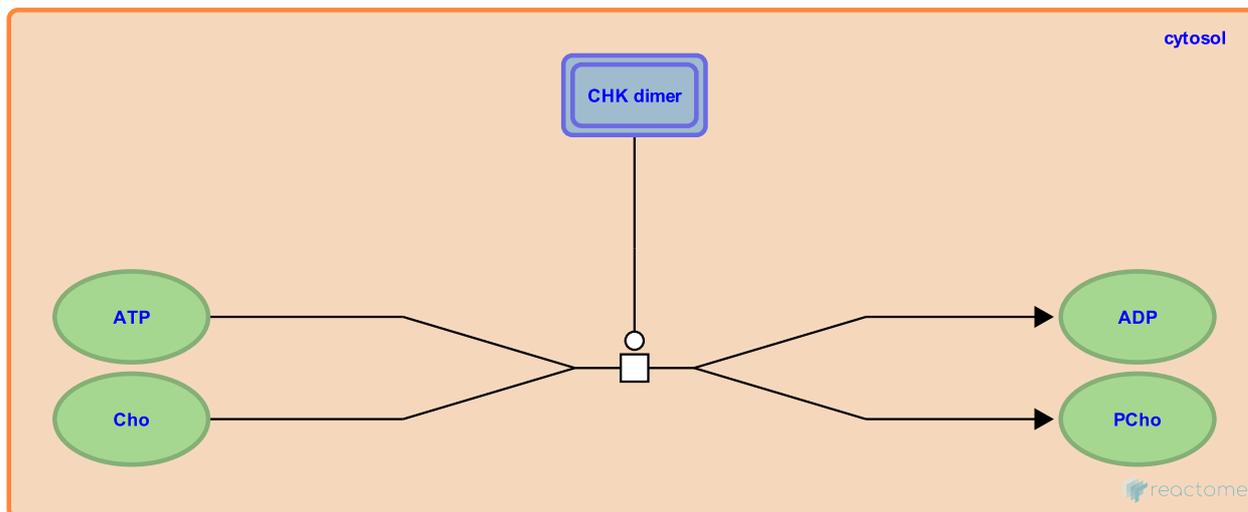
Location: Synthesis of PC

Stable identifier: R-SPO-1483004

Type: transition

Compartments: cytosol

Inferred from: Cho is phosphorylated to PCho by CHK 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.

<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: Cho transports from the extracellular space to the cytosol

Followed by: PCho and CTP are condensed to CDP-Cho by PCYT1 dimer

PCho and CTP are condensed to CDP-Cho by PCYT1 dimer ↗

Location: Synthesis of PC

Stable identifier: R-SPO-1483081

Type: transition

Compartments: endoplasmic reticulum membrane, cytosol

Inferred from: PCho and CTP are condensed to CDP-Cho by PCYT1 dimer (Homo sapiens)
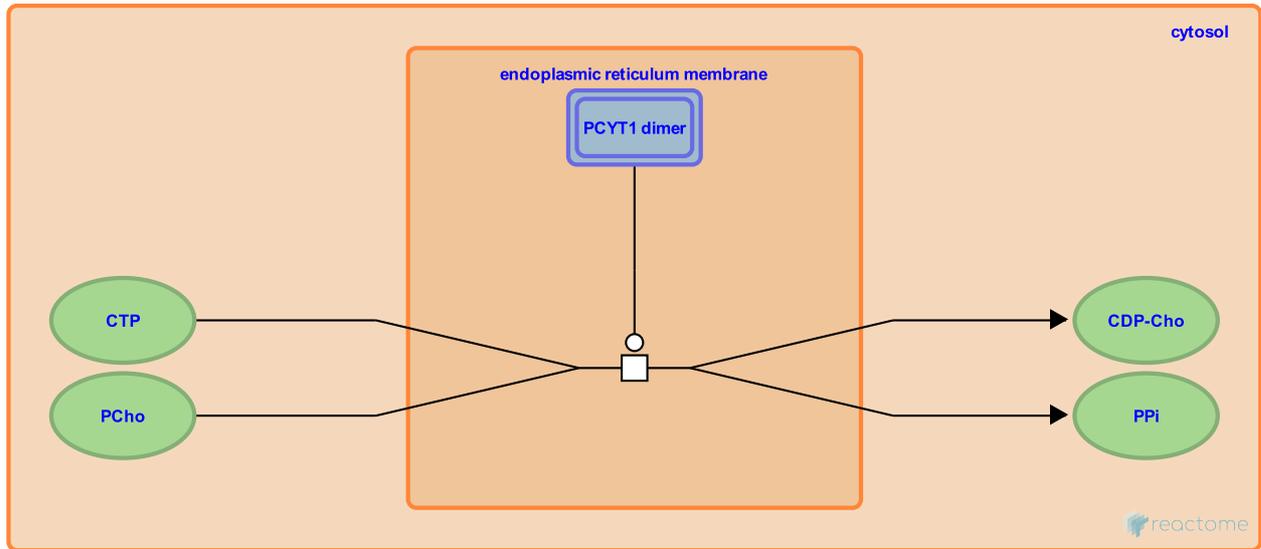
This event has been computationally inferred from an event that has been demonstrated in another species.

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.

<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: Cho is phosphorylated to PCho by CHK dimer

Followed by: CDP-Cho and DAG are converted to PC by CHPT1 at the Golgi membrane, CDP-Cho and DAG are converted to PC by CEPT1 at the ER membrane

PA is dephosphorylated to DAG by LPIN ↗

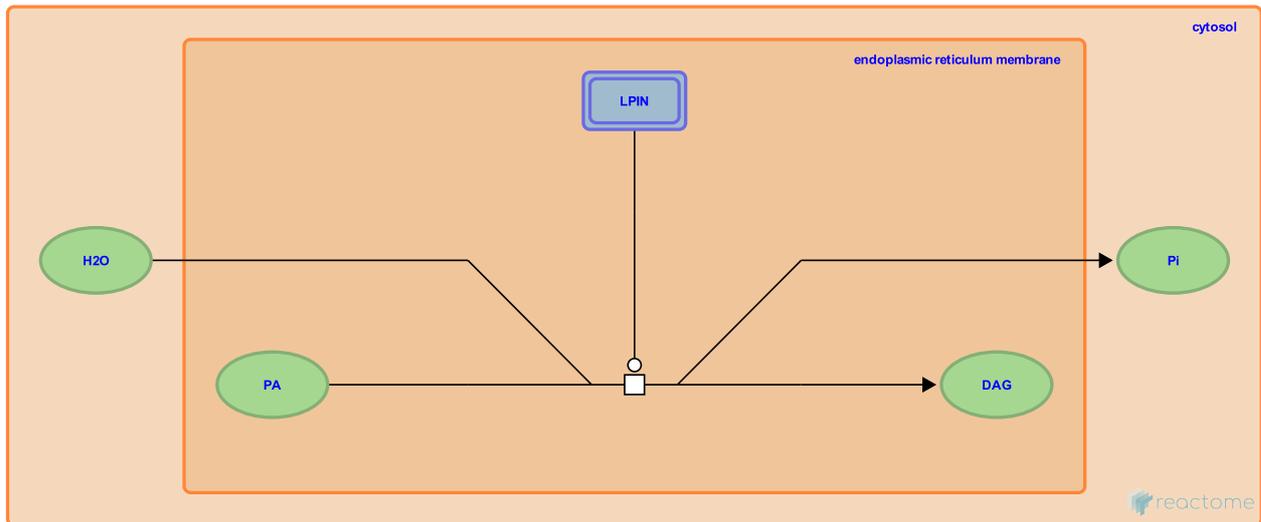**Location:** Synthesis of PC

Stable identifier: R-SPO-1483203

Type: transition

Compartments: endoplasmic reticulum membrane, cytosol

Inferred from: PA is dephosphorylated to DAG by LPIN (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

Followed by: CDP-Cho and DAG are converted to PC by CEPT1 at the ER membrane

CDP-Cho and DAG are converted to PC by CEPT1 at the ER membrane ↗

Location: Synthesis of PC

Stable identifier: R-SPO-1482961

Type: transition

Compartments: endoplasmic reticulum membrane, cytosol

Inferred from: CDP-Cho and DAG are converted to PC by CEPT1 at the ER 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.

<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: PCho and CTP are condensed to CDP-Cho by PCYT1 dimer, PA is dephosphorylated to DAG by LPIN

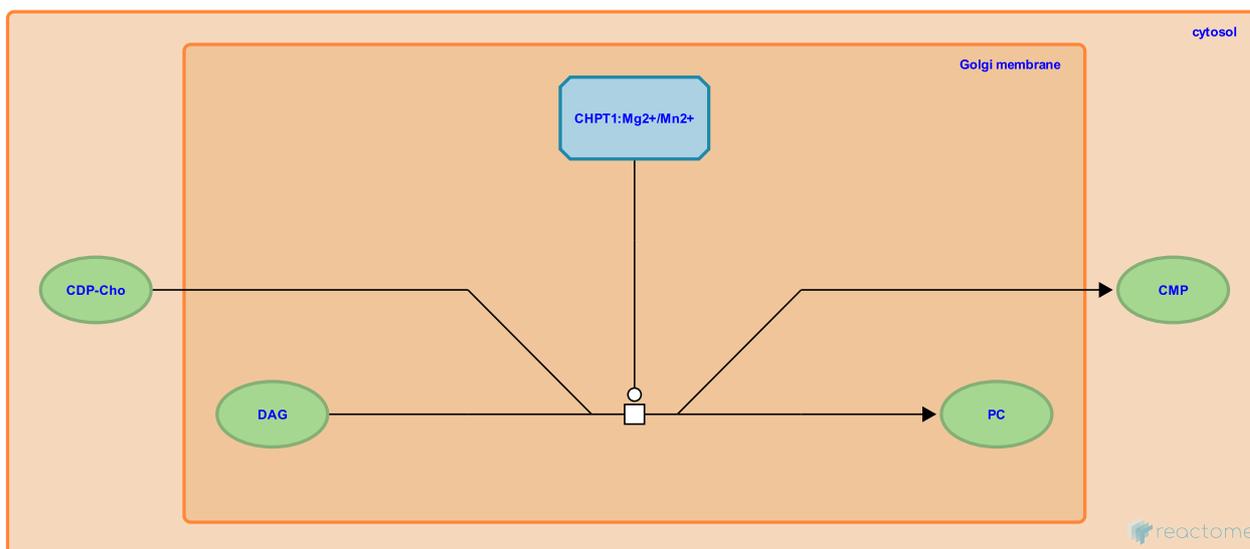## CDP-Cho and DAG are converted to PC by CHPT1 at the Golgi membrane ↗

Location: Synthesis of PC

Stable identifier: R-SPO-1482973

Type: transition

Compartments: Golgi membrane, cytosol

Inferred from: CDP-Cho and DAG are converted to PC by CHPT1 at the Golgi 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.

<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: PCho and CTP are condensed to CDP-Cho by PCYT1 dimer

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