Vitamin C (ascorbate) metabolism

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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: 72

This document contains 1 pathway and 9 reactions (see Table of Contents)
Vitamin C (ascorbate) metabolism

**Stable identifier:** R-HSA-196836

Vitamin C (ascorbate) is an antioxidant and a cofactor in reactions catalyzed by Cu+-dependent monooxygenases and Fe++-dependent dioxygenases. Many mammals can synthesize ascorbate de novo; humans and other primates cannot due to an evolutionarily recent mutation in the gene catalyzing the last step of the biosynthetic pathway. Reactions annotated here mediate the uptake of ascorbate and its fully oxidized form, dehydroascorbate (DHA) by cells, and the reduction of DHA and monodehydroascorbate to regenerate ascorbate (Linster and Van Schaftingen 2007).

**Literature references**


**Editions**

2007-04-24  Authored  Jassal, B.
SLC2A1,3 transports DeHA from extracellular region to cytosol

Location: Vitamin C (ascorbate) metabolism

Stable identifier: R-HSA-198818