SPHK2 phosphorylates sphingoid

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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

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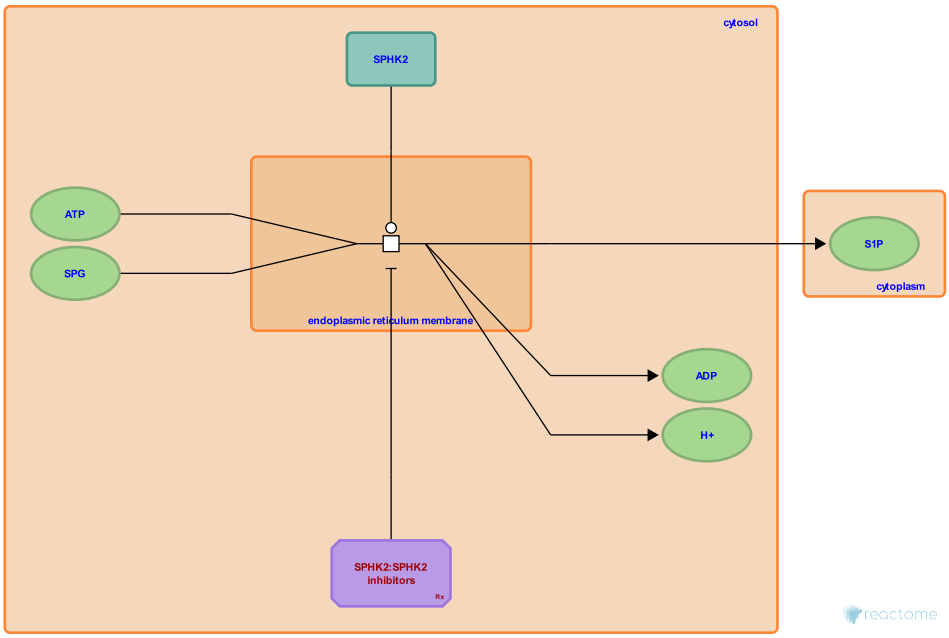
Stable identifier: R-HSA-9695949

Type: transition

Compartments: cytosol, endoplasmic reticulum membrane



The cytosolic enzyme sphingosine kinase 2 (SPHK2) catalyzes the phosphorylation of sphingoids (SPG) to sphingoid 1-phosphate (S1P). The main product is sphingosine 1-phosphate, a bioactive lipid that acts extracellularly on G protein-coupled receptors of the S1P1/EDG-1 subfamily (Liu et al., 2000; reviewed by Siow & Wattenberg, 2011). Through alternative splicing, the isoforms of SK2a and SK2b are produced that show functional differences in their activity (reviewed by Hatoum et al., 2017). In contrast to pro-survival SPHK1, the BH3-only protein SPHK2 inhibits cell growth and enhances apoptosis (Maceyka et al., 2005).

Literature references

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Editions

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