

SeO₃(²⁻) combines with GSH to form GSSeSG and GSSG

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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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- 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: 88

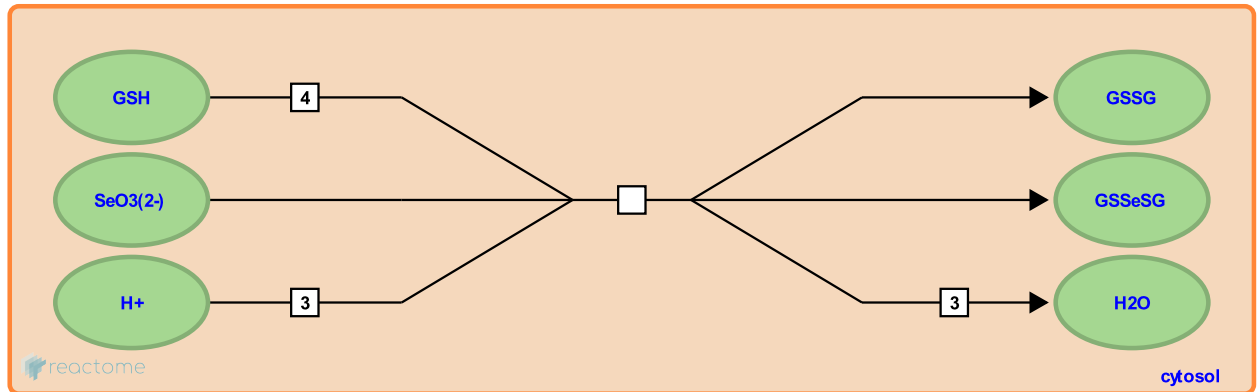
This document contains 1 reaction ([see Table of Contents](#))

SeO₃(²⁻) combines with GSH to form GSSeSG and GSSG ↗

Stable identifier: R-RNO-2408553

Type: transition

Compartments: cytosol



In the rat cytosol, selenite (SeO₃(²⁻)) and reduced glutathione (GSH) spontaneously react to form selenodiglutathione (GSSeSG) and glutathione disulfide (GSSG). This has been proposed to be the major form of entry of selenium compounds into metabolism (Bjornstedt et al. 1992).

Literature references

Björnstedt, M., Holmgren, A., Kumar, S. (1992). Selenodiglutathione is a highly efficient oxidant of reduced thioredoxin and a substrate for mammalian thioredoxin reductase. *J. Biol. Chem.*, 267, 8030-4. ↗

Editions

2014-05-06	Authored	Williams, MG.
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