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

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08/09/2021

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.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

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. ↗

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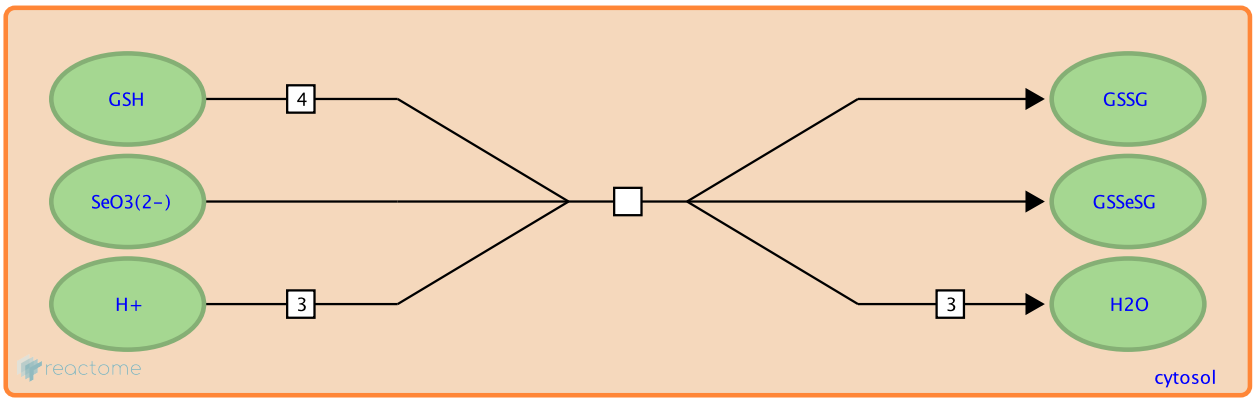
Stable identifier: R-HSA-2408556

Type: transition

Compartments: cytosol

Inferred from: SeO3(2-) combines with GSH to form GSSeSG and GSSG (Rattus norvegicus)



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. This reaction is inferred from the event in rat (Bjornstedt et al. 1992).

Literature references

Björnstedt, M., Kumar, S., Holmgren, A. (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.
2015-08-29	Edited	D'Eustachio, P.
2015-08-30	Reviewed	Rush, MG.