

Collagen type IV sulfilimine cross-linking by peroxidasin

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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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Reactome database release: 88

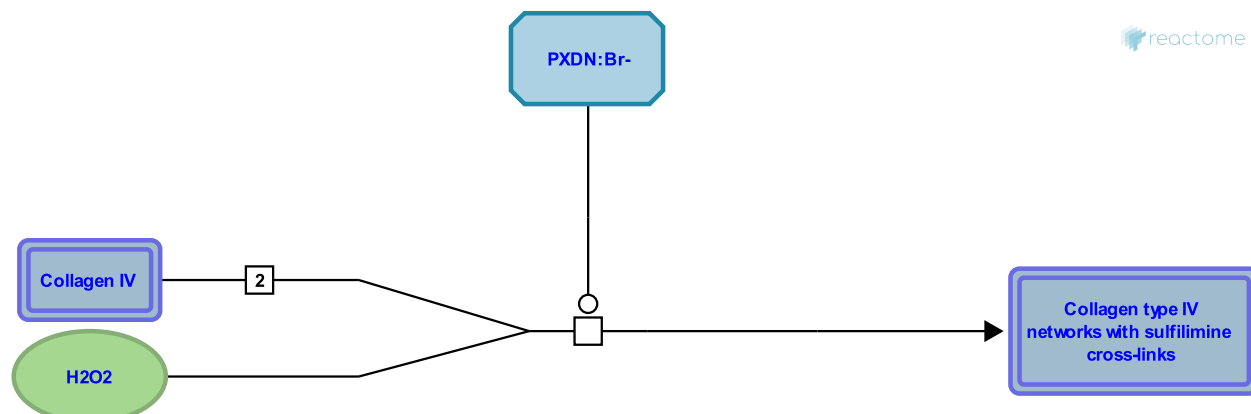
This document contains 1 reaction ([see Table of Contents](#))

Collagen type IV sulfilimine cross-linking by peroxidasin [↗](#)

Stable identifier: R-HSA-2559639

Type: transition

Compartments: extracellular region



A recently discovered sulfilimine (S=N) bond between a methionine sulfur and hydroxylysine nitrogen reinforces the collagen IV network (Vanacore et al. 2005, 2009). Peroxidasin, an enzyme found in basement membranes, indirectly catalyzes formation of the sulfilimine bond by producing the reactive intermediates hypobromous acid from peroxide and free Br⁻ (Bhave 2012, MacCall et al. 2014).

Literature references

Hudson, BG., Ero-Tolliver, IA., Fessler, JH., Vanacore, RM., Kang, JS., Cummings, CF. et al. (2012). Peroxidasin forms sulfilimine chemical bonds using hypohalous acids in tissue genesis. *Nat. Chem. Biol.*, 8, 784-90. [↗](#)

Sharpless, KB., Hudson, BG., Veenstra, TD., Voehler, M., Vanacore, RM., Dawson, PE. et al. (2009). A sulfilimine bond identified in collagen IV. *Science*, 325, 1230-4. [↗](#)

Editions

2012-11-05	Authored	Jupe, S.
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2017-02-03	Reviewed	Vanacore, RM.