

Gelatin degradation by MMP1, 2, 3, 7, 8, 9, 12, 13

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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

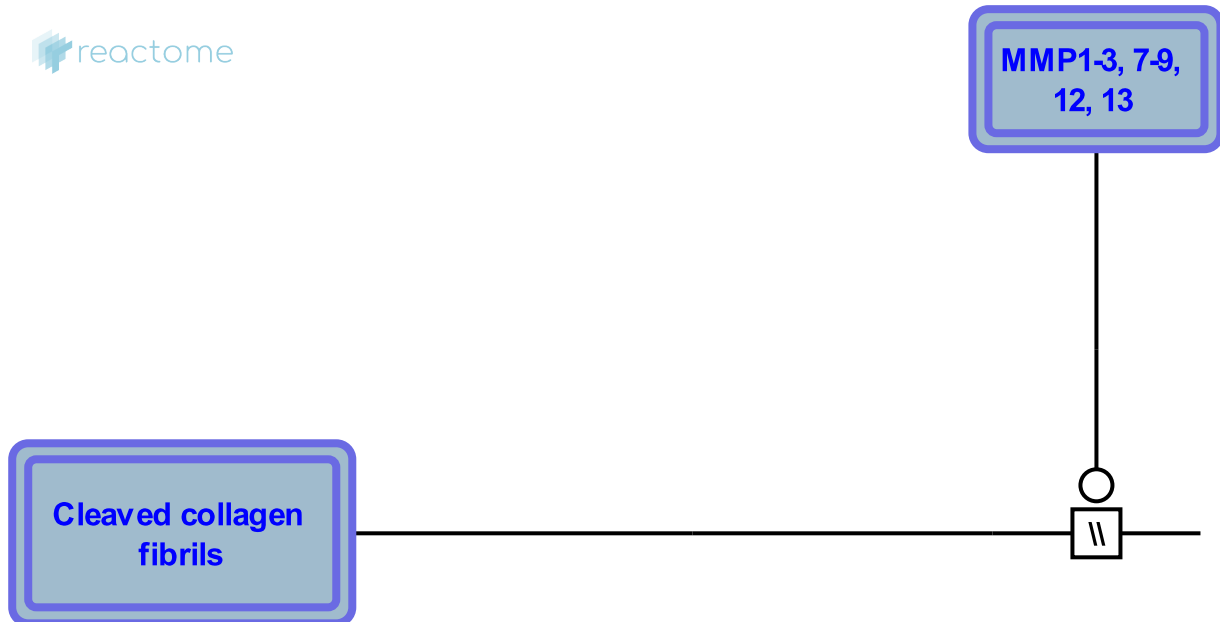
This document contains 1 reaction ([see Table of Contents](#))

Gelatin degradation by MMP1, 2, 3, 7, 8, 9, 12, 13 ↗

Stable identifier: R-HSA-1454757

Type: omitted

Compartments: extracellular region



Gelatin is formed when collagen becomes partly or completely uncoiled when compared with the regular triple helix structure of fibrillar collagen. In vivo, once collagens are initially cleaved into classical 3/4 and 1/4 fragments (by collagenases) they rapidly denature at body temperature and are degraded by gelatinases and other nonspecific tissue proteinases (Chung et al. 2004) to a semi-solid colloid gel. MMP2 and MMP9 are the major gelatinases (Collier et al. 1988, Wilhelm et al. 1989) often referred to respectively as Gelatinase A and Gelatinase B (Murphy & Crabbe 1995). However many other MMPs have gelatinase activity, including MMP1 (Murphy et al. 1982, Isaksen & Fagerhol 2001, Chung et al. 2004), MMP3 (Chin et al. 1985, Isaksen & Fagerhol 2001), MMP7 (Isaksen & Fagerhol 2001), MMP8 (Isaksen & Fagerhol 2001) MMP10 (Sanches-Lopez et al. 1993), MMP12 (Chandler et al. 1996), MMP13 (Knäuper et al. 1993, Isaksen & Fagerhol 2001), MMP16 (Shofuda et al. 1997), MMP17 (Wang et al. 1999), MMP18 (Spinucci et al. 1988), MMP19 (Stracke et al. 2000) and MMP22 (Yang & Kurkinen 1998).

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Editions

2011-07-12	Authored	Jupe, S.
2012-10-08	Reviewed	Sorsa, T.
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