

DDR2 binds collagen type I, II, III, V, X fibrils

Jupe, S., Ricard-Blum, S.

European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

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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

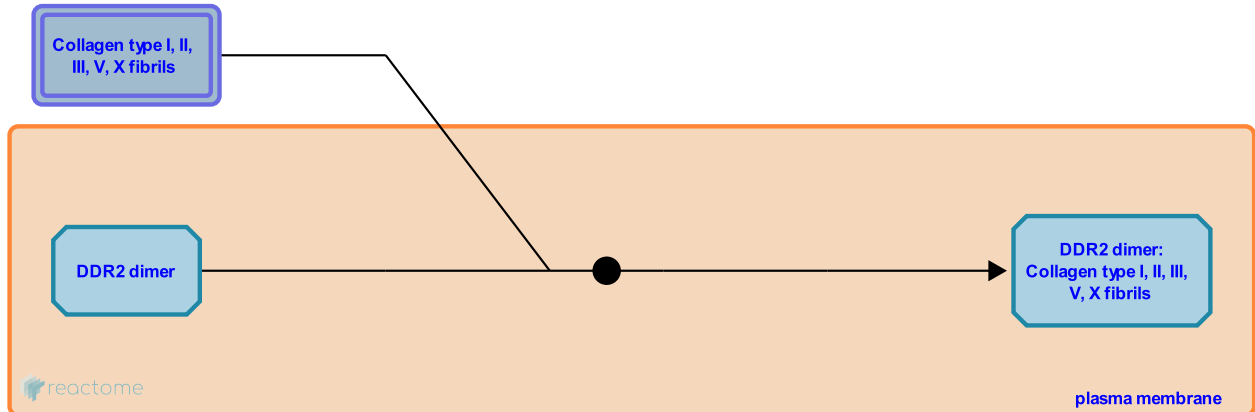
This document contains 1 reaction ([see Table of Contents](#))

DDR2 binds collagen type I, II, III, V, X fibrils [↗](#)

Stable identifier: R-HSA-2465890

Type: binding

Compartments: plasma membrane, extracellular region



Discoidin domain receptors (DDR) are a subfamily of receptor tyrosine kinases, the only members known to respond to an ECM component. DDR2 binds the major fibrillar collagens types I, II, III, and V) and the non-fibrillar collagen X (Shrivastava et al. 1997, Vogel et al. 1997, Leitinger & Kwan 2006). DDR proteins bind collagen as dimers (Leitinger 2003, 2011). DDR2 is confined to mesenchymal cells where it controls developmental processes and regulates cell adhesion, migration, proliferation, and remodelling of the extracellular matrix by controlling the expression and activity of matrix metalloproteinases (Leitinger & Hohenester 2007).

Literature references

Campbell, E., Kovac, L., Glass, DJ., Lemke, G., Goldfarb, MP., Radziejewski, C. et al. (1997). An orphan receptor tyrosine kinase family whose members serve as nonintegrin collagen receptors. *Mol. Cell*, 1, 25-34. [↗](#)

Kwan, AP., Leitinger, B. (2006). The discoidin domain receptor DDR2 is a receptor for type X collagen. *Matrix Biol.*, 25, 355-64. [↗](#)

Editions

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