

BGN binds Collagen types II, III

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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

- 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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- 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](#))

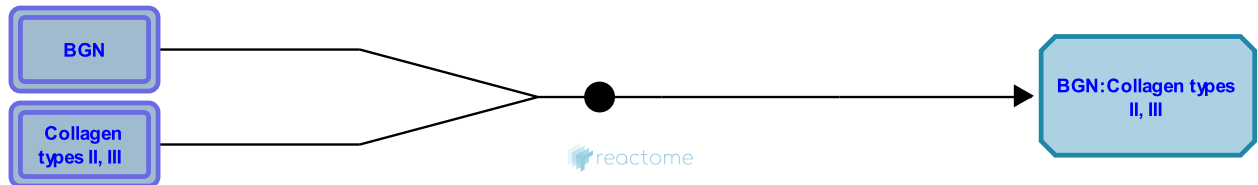
BGN binds Collagen types II, III [↗](#)

Stable identifier: R-HSA-2466238

Type: binding

Compartments: extracellular region

Inferred from: [BGN binds Collagen types II, III, IV \(Bos taurus\)](#)



Biglycan (BGN) is a member of the small leucine-rich repeat proteoglycan family (SLRPs) which also includes decorin, fibromodulin (Hedlund et al. 1994 - binding to collagen II), lumican and asporin (Hedbom & Heinegard 1993, Ezura et al. 2000). All appear to be involved in collagen fibril formation and matrix assembly (Ameys & Young 2002).

BGN-deficient mice exhibit larger and irregular fibrils leading to thin dermis and reduced bone mass (Corsi et al. 2002, Xu et al. 1998). BGN binds collagen types I (Schönherr et al. 1995), II (Bovine, using pig BGN - Vynios et al. 2001, Bovine, using bovine BGN - Douglas et al. 2008), III (Bovine, using bovine BGN - Douglas et al. 2008), VI (Wiberg et al. 2001) and IX (Chen et al. 2006 - species source of collagen/BGN unknown).

Editions

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