

# Interaction of integrin alphaVbeta3 with Fibrillin

Garapati, P V., Geiger, B., Horwitz, AR., Humphries, MJ., Hynes, R., Yamada, KM.

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

The contents of this document may be freely copied and distributed in any media, provided the authors, plus the institutions, are credited, as stated under the terms of [Creative Commons Attribution 4.0 International \(CC BY 4.0\) License](#). For more information see our [license](#).

## 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. [↗](#)
- Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics*, 33, 3461-3467. [↗](#)
- Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res*, 46, D649-D655. [↗](#)
- 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: 70

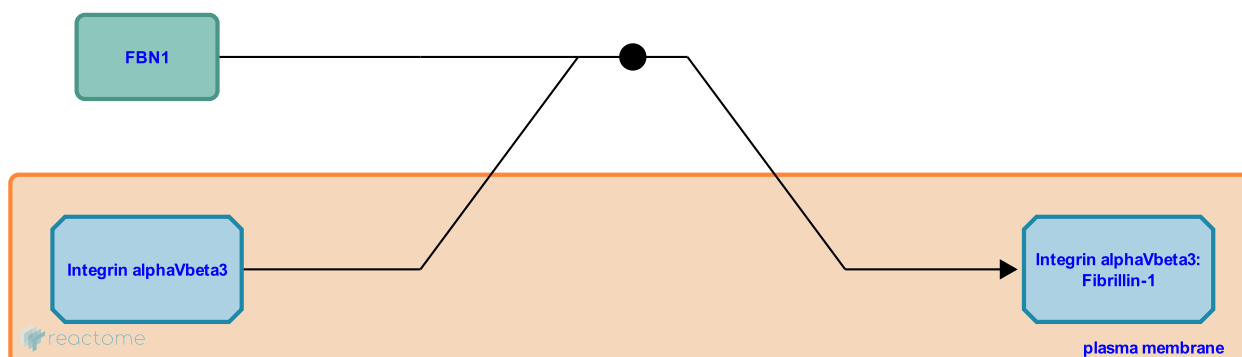
This document contains 1 reaction ([see Table of Contents](#))

## Interaction of integrin alphaVbeta3 with Fibrillin [↗](#)

**Stable identifier:** R-HSA-265423

**Type:** binding

**Compartments:** extracellular region, plasma membrane



Fibrillins are the main constituents of the extracellular microfibrils that form a template for tropoelastin during elastic fibrillogenesis. Fibrillins polymerize extracellularly as parallel bundles of head-to-tail monomers. The integrin receptor alphaVbeta3 is the major receptor for the fibrillin ligands and influences cell shape and migration, focal complex formation, signaling and ECM deposition.

### Literature references

Bax, DV., Bernard, SE., Lomas, A., Morgan, A., Humphries, J., Shuttleworth, CA. et al. (2003). Cell adhesion to fibrillin-1 molecules and microfibrils is mediated by alpha 5 beta 1 and alpha v beta 3 integrins. *J Biol Chem*, 278, 34605-16. [↗](#)

### Editions

2008-03-11	Edited	Garapati, P V.
2008-05-07	Authored	Geiger, B., Horwitz, AR.
2008-05-07	Reviewed	Humphries, MJ., Yamada, KM., Hynes, R.