

# Dephosphorylation of inactive SRC by PT-

PB1

Garapati, P V., Shattil, SJ.

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 <u>Creative Commons Attribution 4.0 International (CC BY 4.0)</u>
<u>License</u>. For more information see our <u>license</u>.

16/05/2024

https://reactome.org

### 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 data-base: Efficient access to complex pathway data. *PLoS computational biology, 14*, e1005968.

Reactome database release: 88

This document contains 1 reaction (see Table of Contents)

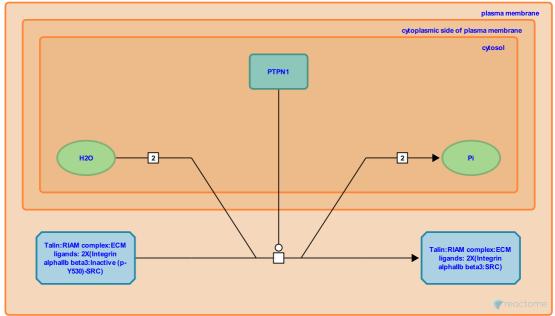
https://reactome.org Page 2

# **Dephosphorylation of inactive SRC by PTPB1**

**Stable identifier:** R-HSA-377643

Type: transition

Compartments: cytosol, plasma membrane



The integrin alphaIIb beta3:Inactive SRC complex recruits PTP1B protein tyrosine phosphatase resulting in the dephosphorylation of SRC tyrosine 530. The phosphorylated tail of SRC tail interacts with the SH2 domain thereby repressing kinase activity; removal of phosphorylation activates SRC kinase activity.

# Literature references

Furie, B., Dubois, C., Moran, B., Kasirer-Friede, A., Neel, BG., Arias-Salgado, EG. et al. (2005). PTP-1B is an essential positive regulator of platelet integrin signaling. *J Cell Biol*, 170, 837-45.

Shattil, SJ. (2005). Integrins and Src: dynamic duo of adhesion signaling. Trends Cell Biol, 15, 399-403.

## **Editions**

2008-06-16	Authored, Edited	Garapati, P V.
2008-09-16	Reviewed	Shattil, SJ.