

SMAD7:SMURF1 complex is exported to the cytosol

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17/05/2024

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

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- 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: 88

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

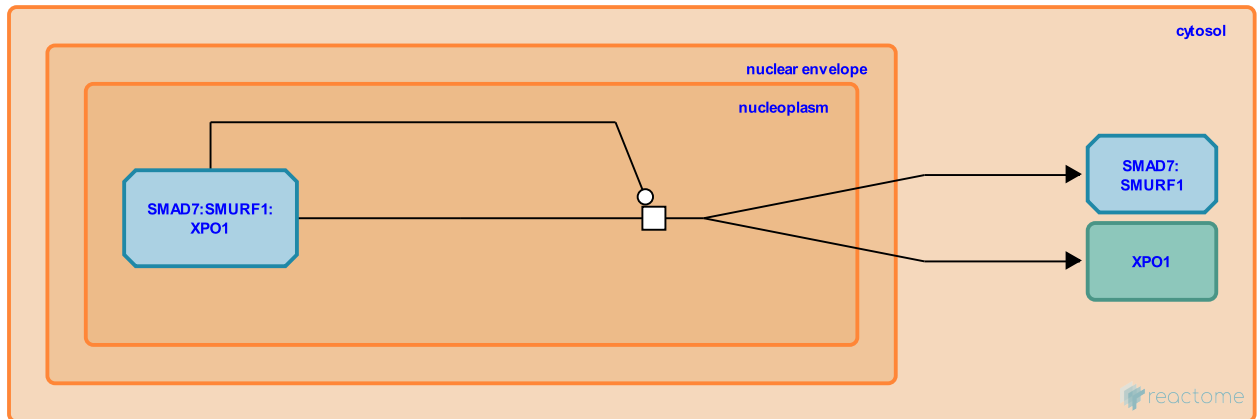
SMAD7:SMURF1 complex is exported to the cytosol ↗

Stable identifier: R-HSA-178215

Type: transition

Compartments: nucleoplasm, cytosol

Inferred from: [Smad7:SMURF1 complex translocates to the cytosol \(Homo sapiens\)](#)



After SMAD7:SMURF1 complex binds to XPO1 (CRM1) through the nuclear export signal (NES) in the C-terminus of SMURF1, XPO1 enables transport of SMAD7:SMURF1 to the cytosol (Suzuki et al. 2002, Tajima et al. 2003). A recombinant mouse Smad7 and recombinant human SMURF1 were used in these experiments.

Literature references

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Miyazono, K., Murakami, G., Shimanuki, T., Fukuchi, M., Shikauchi, Y., Imamura, T. et al. (2002). Smurf1 regulates the inhibitory activity of Smad7 by targeting Smad7 to the plasma membrane. *J Biol Chem*, 277, 39919-25. ↗

Editions

2006-02-02	Authored	Jassal, B., Heldin, CH., Moustakas, A., Huminiecki, L.
2012-04-05	Revised	Orlic-Milacic, M.
2012-04-10	Edited	Jassal, B.
2012-05-14	Reviewed	Huang, T.