

IKBKB phosphorylates NFkB p105 within the NFkB p105:TPL2:ABIN2 complex

DeCicco-Skinner, KL., Jupe, S., Shamovsky, V.

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](https://creativecommons.org/licenses/by/4.0/). For more information see our [license](https://reactome.org/licenses/).

03/05/2024

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

- 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: 88

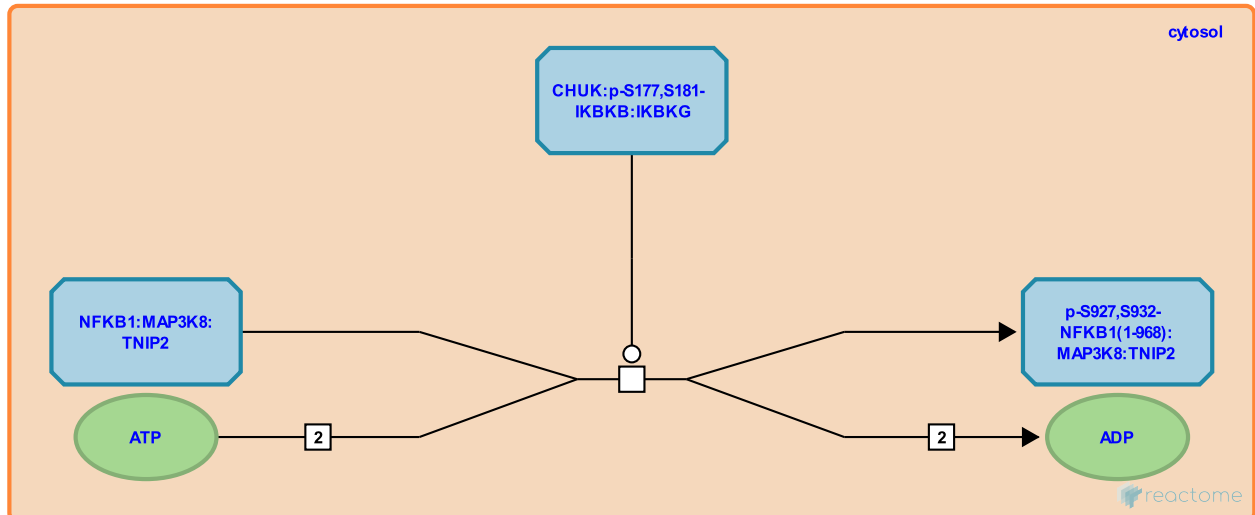
This document contains 1 reaction ([see Table of Contents](#))

IKKB phosphorylates NFkB p105 within the NFkB p105:TPL2:ABIN2 complex [↗](#)

Stable identifier: R-HSA-5684267

Type: transition

Compartments: cytosol



NFkappaB p105 protein (p105) is a precursor of the NFkappaB p50 subunit and an inhibitor of NFkappaB. The IkappaB kinase (IKK) complex phosphorylates p105 on S927 within the PEST region. TNF-alpha-induced p105 proteolysis additionally requires the phosphorylation of S932. Purified IKK (IKK1) or IKKB (IKK2) can phosphorylate both these regulatory serines in vitro.

Literature references

Ley, SC., Hay, RT., Janzen, J., Beinke, S., Salmeron, A., Lang, V. et al. (2003). betaTrCP-mediated proteolysis of NF-kappaB1 p105 requires phosphorylation of p105 serines 927 and 932. *Mol Cell Biol*, 23, 402-13. [↗](#)

Editions

2015-04-14	Reviewed	Jupe, S.
2015-05-13	Authored	Shamovsky, V.
2015-08-21	Reviewed	DeCicco-Skinner, KL.
2015-08-25	Edited	Shamovsky, V.