

gamma-secretase cleaves p75NTR, releasing NRIF and TRAF6

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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

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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. [↗](#)
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Reactome database release: 88

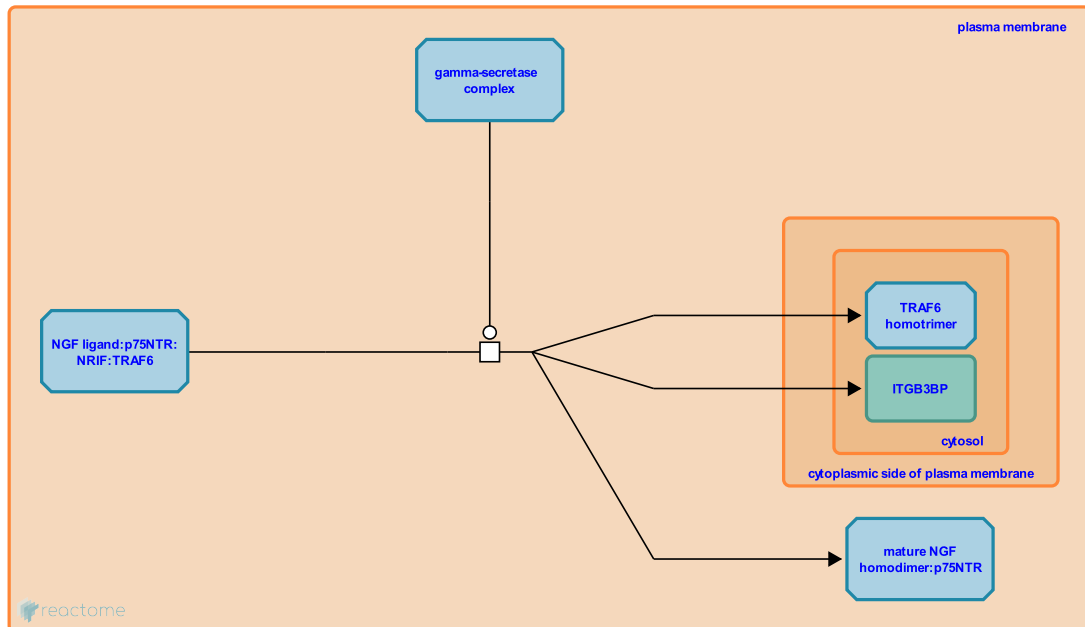
This document contains 1 reaction ([see Table of Contents](#))

gamma-secretase cleaves p75NTR, releasing NRIF and TRAF6 [↗](#)

Stable identifier: R-HSA-205112

Type: transition

Compartments: cytosol, plasma membrane



Neurotrophin or proneurotrophin signalling promotes p75NTR cleavage by gamma-secretase, allowing the release of p75 ICD and NRIF. This mechanism was shown in sympathetic neurons.

Gamma-secretase can be activated in a number of ways, including signalling via p75NTR. The phorbol ester PMA induces p75 cleavage, followed by NRIF nuclear translocation, after 30 min. Neurotrophin binding to p75, instead, triggers the same events only after 12 h.

Literature references

Kenchappa, RS., Carter, BD., Zampieri, N., Hempstead, BL., Barker, PA., Teng, HK. et al. (2006). Ligand-dependent cleavage of the P75 neurotrophin receptor is necessary for NRIF nuclear translocation and apoptosis in sympathetic neurons. *Neuron*, 50, 219-32. [↗](#)

Editions

2006-10-10	Authored	Annibali, D., Nasi, S.
2008-05-20	Reviewed	Friedman, WJ.
2008-05-20	Edited	Jassal, B.
2008-05-28	Reviewed	Chao, MV.