

# FURIN cleaves 7K-BACE1 to 7K-BACE1(46-501)

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## 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.

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## 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

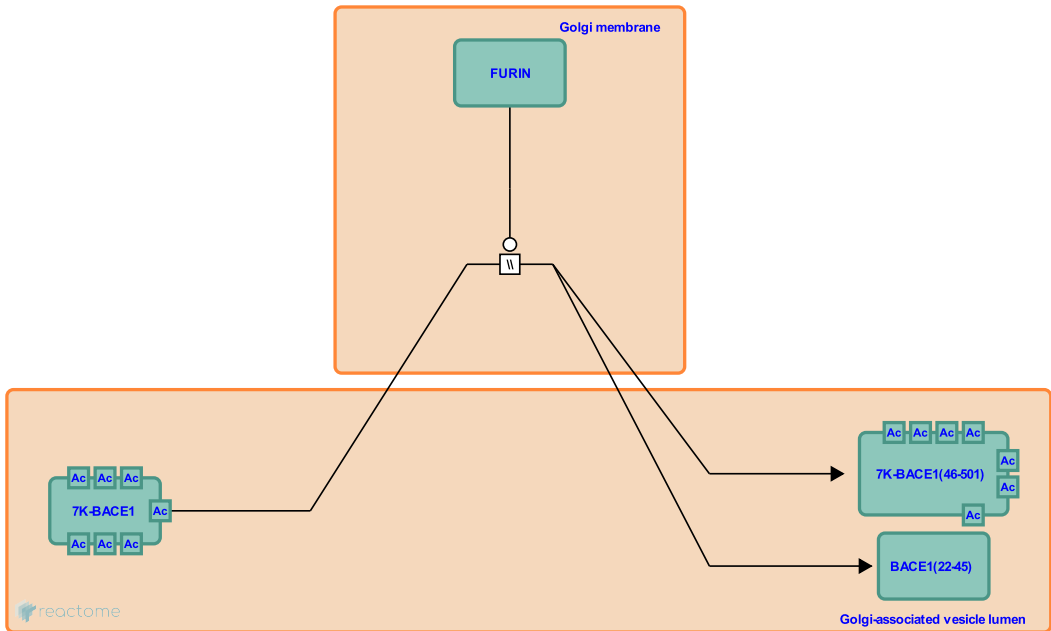
This document contains 1 reaction ([see Table of Contents](#))

**FURIN cleaves 7K-BACE1 to 7K-BACE1(46-501)** [↗](#)

**Stable identifier:** R-HSA-5693081

**Type:** omitted

**Compartments:** Golgi-associated vesicle lumen, Golgi membrane



FURIN is the most likely endopeptidase that cleaves the BACE propeptide domain (BACE1(22-45)) to form the mature enzyme (7K-BACE1(46-501)). Although the pro-enzyme possesses proteolytic activity, this activity is approximately doubled following removal of the prodomain (Bennett et al. 2000).

**Literature references**

Citron, M., Haniu, M., Denis, P., Teplow, DB., Vassar, R., Louis, JC. et al. (2000). A furin-like convertase mediates propeptide cleavage of BACE, the Alzheimer's beta -secretase. *J. Biol. Chem.*, 275, 37712-7. [↗](#)

**Editions**

2015-05-13	Authored, Edited	Jassal, B.
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