

pro-HD5 is cleaved by trypsin

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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

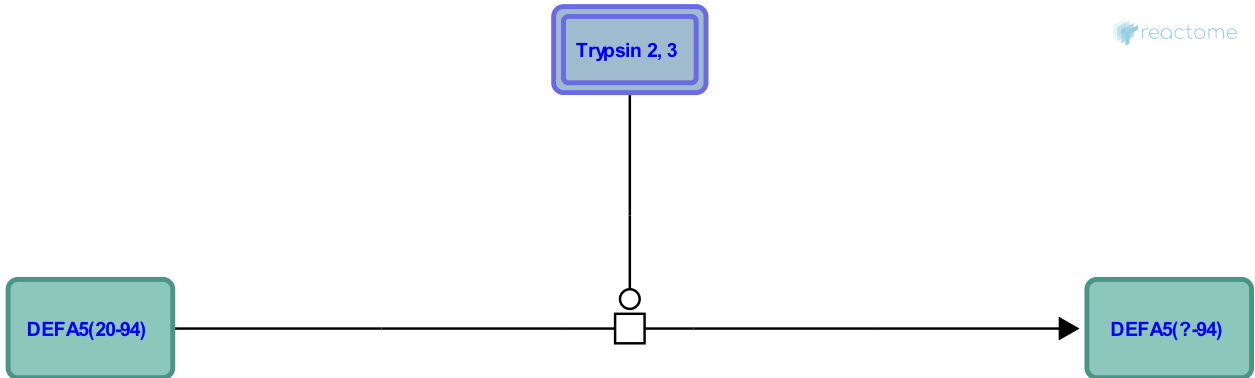
This document contains 1 reaction ([see Table of Contents](#))

pro-HD5 is cleaved by trypsin ↗

Stable identifier: R-HSA-1461993

Type: transition

Compartments: extracellular region



Pro HD5 is stored and secreted from granules of Paneth cells in the small intestine (Porter et al. 1997, Cunliffe et al. 2001). The serine protease trypsin colocalizes to these granules as the inactive zymogen trypsinogen. Removal of the defensin propiece occurs extracellularly after release in to the crypt lumen, and is mediated by trypsin 2 (anionic trypsin) and/or trypsin-3 (mesotrypsin) which are converted to their active forms by enteroprotease like enzymes or by autoactivation (Ghosh et al. 2002, Ouelette 2011).

Literature references

Crabb, JW., Ganz, T., Drazba, J., Porter, E., Wilk, D., Yadav, SP. et al. (2002). Paneth cell trypsin is the processing enzyme for human defensin-5. *Nat Immunol*, 3, 583-90. ↗

Editions

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