

# KLK5 cleaves and activates CELA2

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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

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Reactome database release: 88

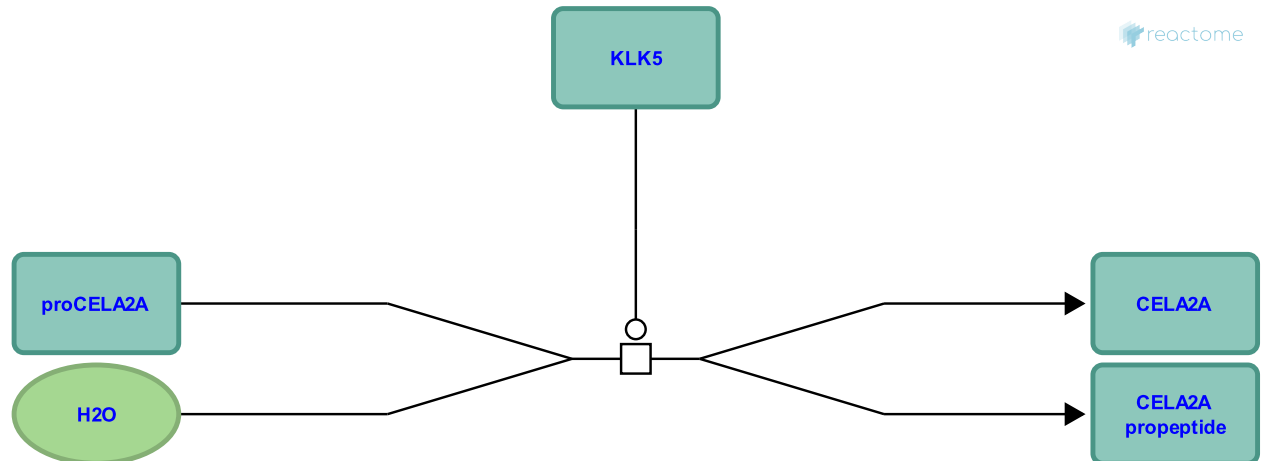
This document contains 1 reaction ([see Table of Contents](#))

## KLK5 cleaves and activates CELA2 [↗](#)

**Stable identifier:** R-HSA-8849857

**Type:** transition

**Compartments:** extracellular region



In the low-pH environment of the upper layers of the stratum corneum, KLK5 (Kallikrein 5) dissociates from its complex with SPINK5 (Serine protease inhibitor kazal-type 5) (Deraison et al. 2007) and is free to cleave proCELA2 (Elastase 2), activating it (Bonnart et al. 2010).

### Literature references

Hovnanian, A., Robin, A., Besson, C., Deraison, C., Briot, A., Bonnart, C. et al. (2010). Elastase 2 is expressed in human and mouse epidermis and impairs skin barrier function in Netherton syndrome through filaggrin and lipid misprocessing. *J. Clin. Invest.*, 120, 871-82. [↗](#)

Hovnanian, A., Jayakumar, A., Wagberg, F., Besson, C., Deraison, C., Bonnart, C. et al. (2007). LEKTI fragments specifically inhibit KLK5, KLK7, and KLK14 and control desquamation through a pH-dependent interaction. *Mol. Biol. Cell*, 18, 3607-19. [↗](#)

### Editions

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