

# Proteasomal cleavage of exogenous antigen

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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

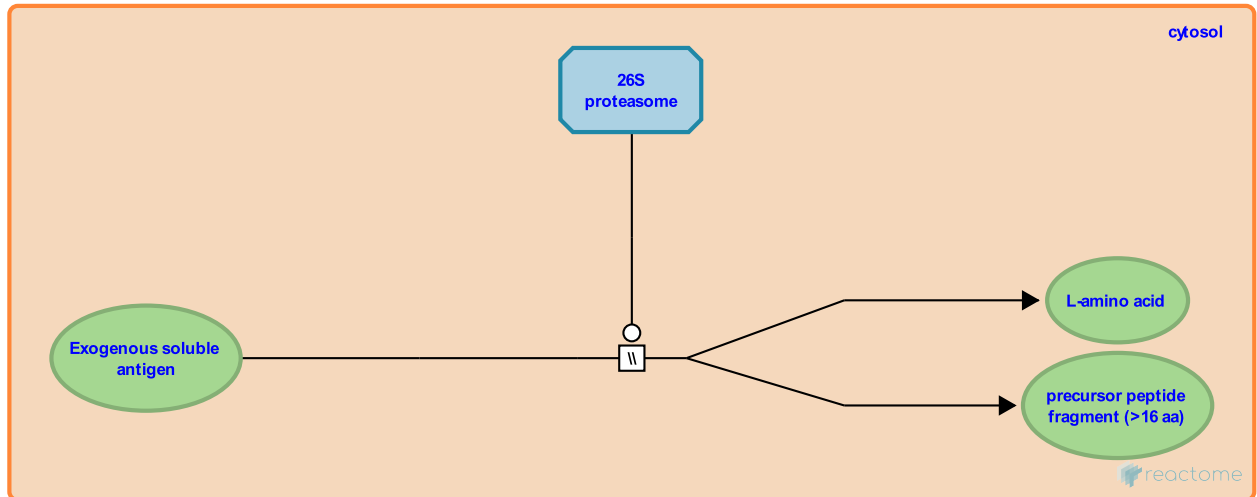
This document contains 1 reaction ([see Table of Contents](#))

## Proteasomal cleavage of exogenous antigen [↗](#)

**Stable identifier:** R-HSA-1236970

**Type:** omitted

**Compartments:** cytosol



Exogenous antigens are thought to be processed for cross-presentation in much the same manner as endogenous proteins once they enter the cytosolic pathway (Rock et al. 2010). Immunoproteasome components are the major proteases involved in generating the antigenic fragments. The precursor peptides are further trimmed by cytosolic aminopeptidases and shuttled to ER through TAP for MHC class I loading.

### Literature references

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Rock, KL., Farfán-Arribas, DJ., Shen, L. (2010). Proteases in MHC class I presentation and cross-presentation. *J Immunol*, 184, 9-15. [↗](#)

### Editions

2011-03-28	Authored, Edited	Garapati, P V.
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