

# PRODUCT INFORMATION



## Enteropeptidase (bovine, recombinant)

Item No. 32087

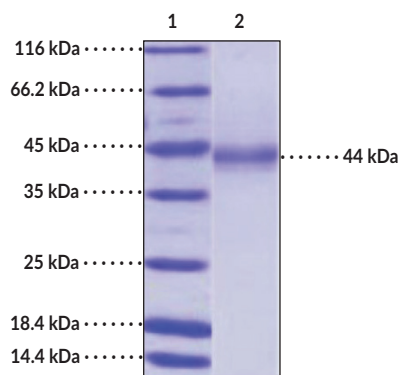
### Overview and Properties

**Synonyms:** Enterokinase, Serine Protease 7, Transmembrane Protease Serine 15  
**Source:** Recombinant bovine C-terminal His-tagged enterokinase expressed in yeast  
**Amino Acids:** 801-1,035  
**Uniprot No.:** P98072-1  
**Molecular Weight:** 27.1 kDa  
**Storage:** -80°C (as supplied)  
**Stability:** ≥1 year  
**Purity:** ≥95% estimated by SDS-PAGE  
**Supplied in:** Lyophilized from sterile 10 mM Tris-HCl, pH 7.2, with 2 mM calcium chloride, 100 mM sodium chloride, and 50% glycerol

**Endotoxin Testing:** <1.0 EU/μg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Image



Lane 1: MW Markers  
Lane 2: Enteropeptidase

**SDS-PAGE Analysis of Enteropeptidase.** This protein has a calculated molecular weight of 27.1 kDa. It has an apparent molecular weight of approximately 44 kDa by SDS-PAGE under reducing conditions due to glycosylation.

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

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## Description

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Enteropeptidase is a membrane-bound serine protease that converts the inactive enzyme trypsinogen to the active form trypsin, a protease that catalyzes the digestion of proteins in the gut.<sup>1</sup> It is composed of an N-terminal domain with a transmembrane segment that anchors enteropeptidase to the cell membrane and an extracellular C-terminal protease domain that contains the activation cleavage site for enteropeptidase activity and a catalytic aspartic acid-histidine-serine triad.<sup>1,2</sup> It is synthesized in the endoplasmic reticulum as a zymogen and transported to the brush border membrane of duodenal and jejunal enterocytes. Enteropeptidase activation occurs in a calcium- and pH-dependent manner and, upon activation, cleaves the Asp-Asp-Asp-Asp-Lys activation peptide on trypsinogen to produce trypsin.<sup>1,3</sup> Pharmacological inhibition of enteropeptidase activity decreases food intake, body weight gain, and liver triglyceride and total cholesterol levels in diet-induced obese mice and diabetic obese *ob/ob* mice.<sup>4</sup> Cayman's Enteropeptidase (bovine, recombinant) protein consists of 241 amino acids and has a calculated molecular weight of 27.1 kDa. By SDS-PAGE, under reducing conditions, the molecular weight of the protein is approximately 44 kDa due to glycosylation.

## References

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1. Zheng, X.L., Kitamoto, Y., and Sadler, J.E. Enteropeptidase, a type II transmembrane serine protease. *Front. Biosci. (Elite Ed.)* **1**, 242-249 (2009).
2. Antalis, T.M., Buggee, T.H., and Wu, Q. Membrane-anchored serine proteases in health and disease. *Proteases in Health and Disease*. Di Cera, E., editor, 1st edition, Elsevier Inc. (2011).
3. Sadler, J.E. Enteropeptidase. *Handbook of Proteolytic Enzymes*. Rawlings, N.D., and Salvesen, G., editors, 1st edition, Academic Press (2013).
4. Yashiro, H., Hamagami, K., Hiyoshi, H., et al. SCO-792, an enteropeptidase inhibitor, improves disease status of diabetes and obesity in mice. *Diabetes Obes. Metab.* **21(10)**, 2228-2239 (2019).

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM