

Native α -Chymotrypsin, Mass Spec Grade

Cat. No. α -Chymotrypsin-43 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Description	Chymotrypsin is a serine endoprotease that specifically cleaves the C-terminal peptide bonds of Tyr, Phe, Trp, and Leu. It also cleaves some C-terminal peptide bonds of Met, Ala, Asp, and Glu. The residual trypsin can be inactivated by TLCK and purified. The protease can be activated and stabilized by Ca^{2+} ions.
Form	Lyophilized powder
Bio-activity	70 U/mg
Molecular Mass	25 kDa
Purity	> 99.0 % peak area analyzed by HPLC at 280 nm.
Applications	Chymotrypsin specifically hydrolyzes and denatures protein Y, F, W, and L positions.
Storage	Store freeze-dried powder at -20 centigrade refrigerator; store dissolved enzyme at -20 centigrade, valid for 3 months.
EC No.	EC 3.421.1
Shelf life	Lyophilized powder 24 months at -20 centigrade.
Usage Notes	In-Solution Protein Digestion Protocol: Use α -chymotrypsin at a protease to protein

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ratio of 1: 50 (w/w), and perform digestion in 100 mM Tris-HCl (pH 7.8) containing 10 mM CaCl₂ at 30 centigrade for 2-12 hours. Tips: 1. The protease will self-hydrolyze if the water bath temperature is higher than 37 centigrade. 2. Preferably < 1M urea or guanidine hydrochloride concentration during the sample digestion.

Specificity

For human serum albumin samples, > 95.0 % specificity of ESI-MS/MS for Y, F, W and L terminus.

Unit Definition

The amount of 1.0 μmol BTEE protein hydrolyzed by chymotrypsin per minute at pH 7.8 at 25 centigrade.

Resuspension Buffer

Reconstitute lyophilized powder in 100 μL 1 mM hydrochloric acid containing 2 μM CaCl₂ (recommended).

MALDI-TOF Analysis

No impurity protein peaks were found in the purified protease using matrix laser desorption mass spectrometry.

pH Range

Maximally active in the pH range of 7.8.

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