

Native Lys-N, Mass Spec Grade

Cat. No. Lys-N-40 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Description Lys-N is an innovative protease that specifically hydrolyzes peptide bonds at the N-terminal of lysine residues. This enzyme can be applied for post-translational modification (PTM) protein research, and it produces more b ions than y ions in the spectrometer. Combining the use of Lys-N with rTrypsin-N gives the best way for protein sequencing.

Form Lyophilized powder

Bio-activity 394 U/mg

Molecular Mass 18.4 kDa

Purity > 99.5 % peak area analyzed by HPLC at 280 nm.

Storage Store the lyophilized powder at -20 centigrade. Store reconstituted enzyme at -80 centigrade for up to 30 days.

EC No. EC 3.4.24.20

Shelf life 24 months at -80 centigrade.

Stability Maximally active in the pH range 7-9.

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Usage Notes	In-Solution Protein Digestion Protocol: 1. Resuspend 20 µg of Mass Spectrum Grade Lys-N in 40 µL resuspension buffer for maximum activity. 2. Add 50 mM ammonium bicarbonate or Tris-HCl (pH 8) to protein mixture (recommended). 3. Add 0.5 µg/µL Lys-N to reach a final enzyme to substrate ratio of 1: 30 to digest the samples. Mix well and incubate at 37 centigrade for 4 hours.
Specificity	< 5 % nonspecific cleavage with Escherichia Coli digests (digestion at 37 centigrade for 4 hours), analyzed by LCMS/MS.
Unit Definition	1 unit of proteolytic activity towards azocasein is defined as the amount of enzyme required for half-maximal OD366 after a 30 min incubation at 37 centigrade, pH 10, A366, and light path=1cm.
LC-MS/MS Analysis	Human serum albumin (HSA) was dissolved, denatured at 37 centigrade for 1 h, diluted at pH 8.0, and incubated with Lys-N for 4 hours. The digest was analyzed by LC-MS/MS. Experimental peptide results match the peptides generated in a theoretical digest of HSA by Lys-N.
Resuspension Buffer	50 µM Zinc Acetic buffer or Zinc Sulfate buffer.
MALDI-TOF Analysis	No impurity peak found of Lys-N, analyzed by MALDI-TOF