

Store at
-20°C

PTMScan® Lys-C Protease



Cell Signaling
TECHNOLOGY®

#39003

1.2 mg

Support: +1-978-867-2388 (U.S.)
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New 10/18

For Research Use Only. Not For Use In Diagnostic Procedures.

Description: Lysl-endopeptidase (Lys-C) hydrolyzes amide and peptide ester bonds on the carboxyl side of lysine residues and hydrolyzes S-aminoethylcysteine residues.

Background: Lysl-endopeptidase (Lys-C) cleaves proteins on the carboxyl side of lysine residues. This makes it a useful tool in protein sequencing and proteomic applications. The enzyme was originally purified from the Gram-negative soil bacteria *Achromobacter lyticus* (1). PTMScan® Lys-C is produced recombinantly in *E. coli*. It has been found to work optimally at the temperatures of 30-37°C and pH ranges from 9.0-9.5 but will undergo degradation at temperatures of 50°C and higher. Activity is maintained in 4M urea or 0.1% SDS solutions for up to 6 hours at 30°C. Inhibitors of the enzyme include PMSF, DFP, and TLCK.

Background References:

(1) Soejima, M. and Masaki, T. (1984) *Tanpakushitsu Kakusan Koso* 29, 1532-7.

Source/Purification: Lys-C was produced recombinantly in *E. coli*, purified and is provided lyophilized in 25 mM Tris-HCl and mannitol. Purity is >90% by SDS-PAGE. One amidase unit (AU) is the amount of enzyme that produces 1 micromole of Ac-Lys-pNA hydrochloride salt per minute at pH 9.5 at 30°C.

Specificity/Sensitivity: The activity of Lys-C is ≥ 3 AU/mg.

Directions for Use: For PTMScan® protocols we recommend making a 5 mg/ml stock solution by resuspending 1.2 mg in 0.24 ml of 20 mM HEPES pH 8.0, aliquot for single use and store at -80°C. See the PTMScan® protocol for further details.

Storage: Store lyophilized Lys-C at -20°C. Once reconstituted, the enzyme can be aliquoted and stored at -80°C to help avoid damaging freeze thaw cycles. Lyophilized Lys-C has a shelf life of 1 year at -20°C and solutions are stable for 6 months at -80°C.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.