Store at -20°C

#72969

PTMScan® Trypsin, Mass Spectrometry Grade

20 µg (1 x 20 µg)
100 µg (5 x 20 µg)

Cell Signaling TECHNOLOGY®

Support: +1-978-867-2388 (U.S.)
www.cellsignal.com/support

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New 08/18

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

Description: Trypsin is a serine endopeptidase derived from its inactive pancreatic zymogen, trypsinogen, when the N-terminal 6 amino acid leader sequence is enzymatically removed. Activated trypsin cleaves amide and ester bonds of lysine and arginine and this mass spectrometry grade Trypsin is intended for use in protein sequencing, and proteomics applications.

Background: Trypsin digests polypeptides by hydrolysis at the carboxyl side of unmodified arginine and lysine residues (1). Proteolysis is slower when the cleavage site is flanked by acidic residues and will not occur if the lysine or arginine is followed by a proline (2-5). Trypsin's activity is optimal at pH 8.0 and is inhibited to varying degrees by organophosphorus compounds such as diisopropyl fluorophosphate, as well as EDTA, aprotinin, Ag^+, and benzamidine (6-8).

Background References:

(1) Brown, W.E. and Wold, F. (1973) *Biochemistry* 12, 828-34.

(2) Rodriguez, J. et al. (2008) *J Proteome Res* 7, 300-5.

(3) Leiros, H.K. et al. (2004) *Protein Sci* 13, 1056-70.

(4) Rawlings, N.D. and Barrett, A.J. (1994) *Methods Enzymol* 244, 19-61.

(5) Perona, J.J. and Craik, C.S. (1995) *Protein Sci* 4, 337-60.

(6) KOSTKA, V. and CARPENTER, F.H. (1964) J *Biol Chem* 239, 1799-803.

(7) Levilliers, N. et al. (1970) *Arch Biochem Biophys* 140, 474-83.

(8) Polgár, L. (2005) *Cell Mol Life Sci* 62, 2161-72.

Source/Purification: Isolated from bovine (Bos taurus) pancreas.

Directions for Use: PTMScan® Trypsin, Mass Spectrometry Grade is provided for use with Cell Signaling Technology's patented PTMScan® protocol in the Trypsin Digestion of Enriched Peptides step. Reconstitute the lyophilized trypsin with 40ul of mass spectrometry grade water to make a 0.5 ug/ul stock. Use immediately or aliquot and store at -80°C. Consult the specific PTMScan® kit and protocol for more details.

Storage: Store lyophilized trypsin powder at -20ºC protected from moisture. Once reconstituted, store trypsin solutions at -80ºC. Lyophilized trypsin has a shelf life of 1 year at -20ºC and solutions are stable for 6 months at -80ºC.

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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.