Native Porcine Trypsin, Mass Spec Grade

Cat. No. Trypsin-35 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Mass Spec Grade Modified Trypsin is porcine trypsin modified by reductive methylation, rendering it resistant to proteolysis digestion.
Species	Porcine
Description	Trypsin specifically hydrolyzes peptide bonds at the carboxyl side of lysine and arginine residues. Unmodified trypsin is subject to auto-proteolysis, generating fragments that can interfere with protein sequencing or HPLC peptide analysis. In addition, autoproteolysis can result in the generation of pseudo trypsin, which has been shown to exhibit chymotrypsin-like specificity. In enzymatic stability tests, modified trypsin was not found to self-hydrolysis and retain higher the activity of general trypsin.
Form	Trypsin Resuspension Buffer is composed of 1 mM hydrochloric acid.
Bio-activity	13397 U/mg
Molecular Mass	23 kDa
Purity	> 99.5 % pure by the HPLC at 280nm.
Storage	Store the lyophilized powder at -20 centigrade. Store reconstituted enzyme at -70 centigrade.
CAS No.	9002-07-7

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Shelf life	24 months at -20 centigrade
Stability	Modified trypsin is maximally active in the pH range of 7-9 and reversibly inactivated at pH 4.
Usage Notes	1. For maximum activity, resuspend Trypsin in the Resuspension Buffer provided, and heat at 30 centigrade for 15 minutes before use. 2. Thaw the reconstituted trypsin at room temperature, placing on ice immediately after thawing. 3. A protease:protein ratio of 1:100 to 1:25 (w/w) is recommended for protein identification for 4 hours at 37 centigrade
Specificity	Using HSA as a substrate, a comparison of digestion products at 16 hours of incubation at 37 centigrade and digestion products at 1 hour, show <5 % nonspecific cleavage by LC /MS/MS.
Unit Definition	One unit is the amount of Mass spectrum Grade Modified Trypsin required to produce a ΔA253 of 0.001 per minute at 37 centigrade with the substrate Nα-benzoyl-L-arginine ethyl ester (BAEE).
LC-MS/MS Analysis	HSA is dissolved and denatured for 1 hour at 37 centigrade, the denatured HSA is diluted at pH 8.0 and incubated with Trypsin or 4hours, the digest is analyzed by LC-MS/MS, Peptides results match the peptides generated in a theoretical digest of HSA by Trypsin.
Resuspension Buffer	Trypsin Resuspension Buffer is composed of 1mM hydrochloric acid.
MALDI-TOF Analysis	Trypsin is analyzed by Maldi TOF, impurity peak is not found.

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