

PRODUCT INFORMATION

Trypsin MS approved

Cat. No. 37286

Storage conditions	Trypsin MS approved should be stored in a dry state at -15 °C to -25 °C.
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Instructions for use:

General	Trypsin is used in proteomics for peptide mapping due to its highly specific cleavage resulting in a limited number of tryptic peptides.
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Digestion of proteins in solution	Lyophilized Trypsin MS approved is reconstituted in 50 mM acetic acid to a final concentration of 1 µg/µl. For digestion of the target protein add Trypsin to a final protease:protein ratio of 1:100 to 1:20 (w/w).
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In-gel protein digestion	Lyophilized Trypsin MS approved is reconstituted in 50 mM acetic acid to a final concentration of 1 µg/µl. Then add 25 mM NH ₄ HCO ₃ , pH 8 to make a concentration of 50 µg/ml. For the final use dilute Trypsin solution 1:2.5 with 25 mM NH ₄ HCO ₃ , pH 8 and use 10 to 20 µl for rehydration / digestion of each gel piece.
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Optional: To avoid clogging of the LC system clear the solution from the In-gel digest by centrifugation of extract the peptides, e.g. with acetic acid and acetonitrile.

Product Description:

General Trypsin MS approved is a serine endopeptidase which specifically cleaves at the carboxyl side of lysine, arginine and S-aminoethyl cysteine residues. There is little or no cleavage at arginyl-proline or lysyl-proline bonds. Cleavage may also be reduced when acidic residues are present on either side of a potentially susceptible bond [1].

Application Trypsin MS approved is specially designed for digestion of proteins prior to mass spectrometric analysis.

- Features**
- Source: porcine pancreas
 - Purity: > 90 %
 - Tryptic activity: > 6000 U/g*
 - No chymotryptic activity detectable
 - Modified by reductive methylation
 - Each lot qualified by in-gel digestion and mass spectrometric analysis
 - Quantity: ≥ 100 µg/vial, determined by measuring A₂₈₀.

*Unit definition: 1 U catalyzes the hydrolysis of 1 µmol Nα-Benzoyl-L-arginine-4-nitroanilide hydrochloride (BAPNA) per minute at 30 °C, pH 8.0.

Quality control

Each lot of Trypsin MS approved is qualified by in-gel digestion and mass spectrometric analysis. An example of a spectrogram is shown in figure 2. Lot specific generated spectrograms using bovine serum albumin (BSA) as substrate are available at tech.service@serva.de.

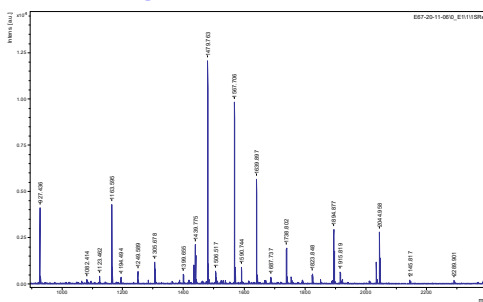


Fig. 1: Spectrogram of BSA digested with Trypsin MS approved. 300 ng BSA were separated by gel electrophoresis and digested with 10 ng/µl Trypsin MS approved in 50 mM NH₄HCO₃ at 37 °C overnight. The peptides generated were analyzed in reflectron mode using the Bruker Ultraflex MALDI-TOF/TOF mass spectrometer. Indicated mass values were identified as BSA protein using the Mascot search engine (Score >300). No tryptic autocatalytic digestion signals were identified (Ref. A. Pich, unpublished, Medical School Hanover (MH)).