

Trypsin (MS)

R1374101

Storage at -20°C (24 months). Avoid freeze/thaw cycle.

Introduction:

Trypsin specifically cleaves peptide bonds at the C - terminus of lysine (K) and arginine (R). Due to the appropriate size of the generated peptide fragments, which are easy to be positively ionized, trypsin is the most commonly used tool protease in protein mass spectrometry characterization and proteomics research; it is also widely used in the production of peptide drugs. Aladdin's mass spectrometry - grade trypsin is recombinantly expressed in *Pichia pastoris* and purified by high - performance chromatographic methods. Meanwhile, trypsin is modified by methylation to avoid self - hydrolysis and digestion of trypsin, and to remove the activity of pseudo-chymotrypsin generated by self - cleavage.

Product Component Table:

R1374101	Component	100µg	Storage
R1374101A	Trypsin	100µg	-20°C. Avoid freeze/thaw cycle.
R1374101B	1mM HCl	300µl	-20°C. Avoid freeze/thaw cycle.

Main Product Information:

Product Information	Details
Product Form	Protein Lyophilized Powder
Protein Molecular Weight	23 kDa
Storage	Store the powder sample at -20°C
Dissolution Solution	1 mM HCl or 50 mM Acetic Acid
Enzymatic Digestion Buffer	50 mM Ammonium Bicarbonate or 50 mM Tris-HCl Solution with pH = 8.5
Shelf Life	At -20°C, 2 years
Activity	≥13000 U/mg protein
Definition of Enzyme Activity Unit	The difference in absorbance value per 0.001 at a wavelength of 253 nm per minute when trypsin reacts with substrate BAEE
pH Value	Applicable range: pH 8 - 9; pH < 3 will cause irreversible inactivation
Stability	Maximum concentrations tolerated by some reagents: 1% SDC, 0.1% SDS, 2 M Urea, 20% Acetonitrile
Enzymatic Digestion Site	Specifically hydrolyzes the peptide bond at the C - terminus of K and R amino acids in proteins

Usage method:

1. Dissolve the trypsin lyophilized powder with 1mM HCl solution. For example: add 100µl of 1mM HCl to 100µg of trypsin to dissolve, prepare a 1µg/µl trypsin solution, aliquot into 10 tubes, and store 10µl in each tube.
2. The working solution of trypsin is 50mM ammonium bicarbonate, and the usage ratio of trypsin to the target protein is 1:50, that is, 1µg of trypsin can digest 50µg of protein solution sample.
3. After enzymatic cleavage at 37°C overnight (16h), add formic acid to a concentration of 0.1% FA to terminate the enzymatic cleavage, and then perform subsequent mass spectrometry analysis.

Matters needing attention:

1. For long - term storage, it is recommended to aliquot the dissolved enzyme and store it in a -20°C refrigerator to avoid repeated freezing and thawing; for short - term storage: it can be stored at 4°C for 7 days without significant loss of activity.
2. This product is for research use only and not for clinical purposes.