Active Recombinant Porcine Trypsin

Cat. No. Trypsin-21P **Lot. No.** (See product label)

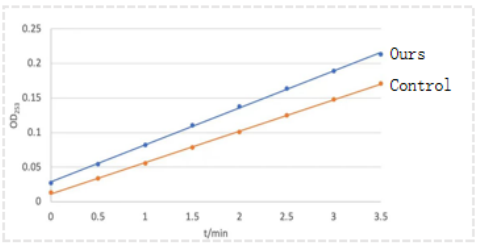
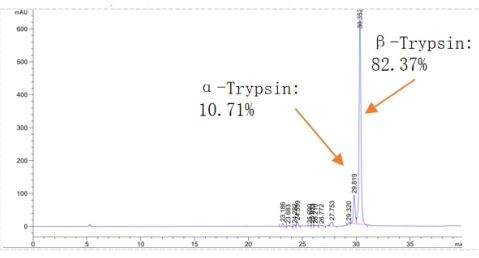
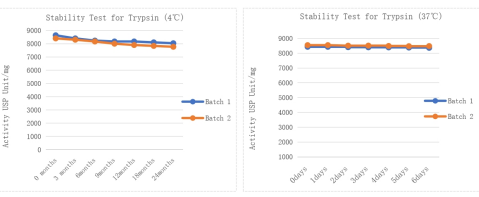
SPECIFICATION

Product Overview	This product is a recombinant porcine trypsin expressed by Pichia pastoris. It is produced in an environment compliant with GMP regulations, containing no animal-derived components and being free from animal - sourced viral contamination (such as swine influenza virus and porcine parvovirus). β-Trypsin: > 70% α-Trypsin: <20%
Species	Porcine
Source	Yeast
Description	Trypsin is a serine endopeptidase secreted by the pancreas. Its recognition sites are lysine or arginine in proteins, and the cleavage sites are at the carboxyl-terminal of lysine or arginine residues. Naturally, it lacks chymotrypsin activity. The activity of this product is inhibited by serine protease inhibitors such as PMSF and TLCK, as well as metal ion chelators such as EDTA.
Form	Lyophilized
Purity	≥ 95% by SDS-PAGE
Bio-activity	> 6200 USP U/mg
Protein Content	≥ 100 μg
Unit definition	One USP unit was defined as a 0.003 increase in absorption at 253 nm per minute of enzymatic digestion of BAEE in 3.2 mL of reaction system (1 cm optical path) at 25

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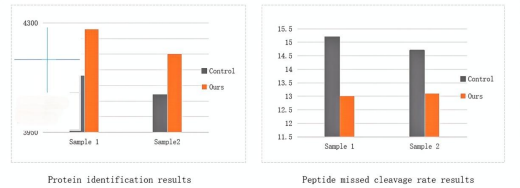
	centigrade, pH 7.6.
Usage	1. It is recommended to centrifuge at 100-200 g for 2 minutes before use. Then, carefully open the tube and add 50-100 µL of 1 mM HCl for reconstitution. Next, close the tube cap and invert the tube or shake it to ensure thorough mixing. After reconstitution, it can be stored at 4 centigrade or -20 centigrade for at least 12 months. If reconstituted with a slightly alkaline solution such as ammonium bicarbonate, it can be stored at 4 centigrade for 1-2 weeks. For long-term storage, it is recommended to aliquot and freeze at -20 centigrade, where it can be stored for at least 12 months. Note: If needed, the 1 mM HCl reconstitution solution can be provided. 2. After reconstitution, it can be directly used for protein digestion. Incubate the protein with trypsin at a protease to protein ratio of 1: 100 to 1: 50. 3. Digest at 37 centigrade overnight.
Applications	Protein analysis, such as protein mass spectrometry, sequencing, peptide mapping analysis.
Note	1. After reconstitution, try to avoid repeated freeze-thaw cycles for this product; 2. Please wear lab coat and disposable gloves when using; 3. This product should not be used directly for clinical diagnosis and treatment.
Stability	This product should be stored at 2-8 centigrade, where it can be preserved for at least 12 months.
Storage	At 2-8 centigrade
Shipping	Ice pack
Reconstitution	1 mM HCl

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High activity	 Comparison of enzyme activity (BAEE method) with a well-known brand Comparison of enzyme activity (BAEE method) with a well-known brand: Activity > 6200 USP U/mg
High purity	 HPLC of our recombinant trypsin: β-trypsin> 80%
High stablity	 Store at 4 centigrade for 24 months, or at 37 centigrade for 1 week, the enzyme still maintain high enzyme activity.

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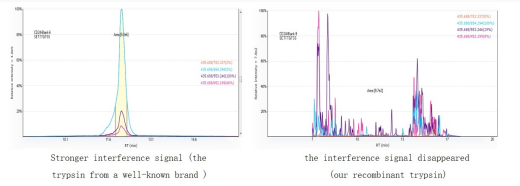
Proteomics



Protein identification results　　Peptide missed cleavage rate results

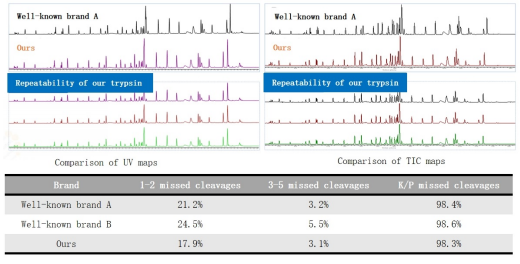
Design: After the samples are pretreated, they should be digested separately with our trypsin and that from a well-known brand at 37 centigrade overnight. The peptides were desalted and then analyzed by LC-MS/MS. RESUIL: Our recombinant trypsin showed excellent performance in both the number of identified proteins and the missed cleavage rate of peptide fragments.

Characteristic peptide analysis



Stronger interference signal (the trypsin from a well-known brand)　　the interference signal disappeared (our recombinant trypsin)

Peptide analysis



Comparison of UV maps　　Comparison of TIC maps

Brand	1-2 missed cleavages	3-5 missed cleavages	K/P missed cleavages
Well-known brand A	21.2%	3.2%	98.4%
Well-known brand B	24.5%	5.5%	98.6%
Ours	17.9%	3.1%	98.3%

Design: After the samples are pretreated, they should be digested separately with our trypsin and that from well-known brands at 37 centigrade for 4h. The peptides were desalted and then analyzed by LC-MS/MS. RESUIL: The peptide map analysis of samples digested by our trypsin was basically consistent with well-known brands, showing good repeatability and lower missed cleavage rate.

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Sequence coverage and PTM analysis

Brand	are					Number of peaks	Area of peaks	Sequence coverage
	M+ Oxidation	N+ Deamidation	N+ Asu	D+ H_2O loss on D	W+ Oxidation			
Well-known brand	2.16	0.22	0.15	0.44	0.23	241	47%	88%
Ours	2.13	0.24	0.15	0.43	0.25	245	47%	89%

Design: After pretreatment of double-clonal antibody, they should be digested separately with our trypsin and that from a well-known brand. RESUIL: Compared with well-known brand, our trypsin showed excellent performance in terms of sequence coverage, and there were no differences in common PTMs.

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