Recombinant Trypsin Solution

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Product information

Product	Cat. No	Size
Recombinant Trypsin Solution (EC 3.4.21.4)	HBP000201	0.1g
	HBP000202	1g
	HBP000203	10g
	HBP000204	100g

Product introduction

Trypsin specifically cleaves C-terminal peptide bonds of lysine and arginine, which can degrade intercellular binding proteins. The amino acid sequence of the recombinant trypsin produced by Hzymes Biotech is the same as that of porcine pancreas-derived trypsin, and is produced by recombinant *Escherichia coli* expression. It can replace traditional extraction of trypsin for cell digestion in vaccines, stem cells, immune cell therapy, drug screening, antibodies and other fields. Aprotinin, soybean trypsin inhibitor, etc. can distinctly inhibit enzyme activity.

Recombinant trypsin has the same properties as naturally extracted trypsin. This product is manufactured in a GMP grade workshop. No animal origin raw materials are used in the fermentation, purification and final ingredients. At the same time, the production and quality control processes are validated, resulting in a high level of consistency between batches.

Product features

CAS	9002-07-7
EC	3.4.21.4
Appearance	Colorless to light yellow transparent liquid
Molecular weight	24kDa
Isoelectric point	8.26
pH	1.5-2.5
Purity (RP-HPLC)	β-trypsin≥70% α-Trypsin≤20%
Specific Activity	≥3800U/mg Protein (BAEE)
Identification	Purple
Protein concentration	70 ± 10 mg/mL
Bioburden	≤100CFU/mL
E. Coli host Cell protein residue	≤0.01%
Host Cell DNA residues	≤10ng/mg
Endotoxin (LAL-Test)	≤20EU/mg

Storage condition

Storage stability: Recombinant trypsin solution is stored at -25 ~ -15°C for 24 months.

Transportation stability: Dry ice is transported with heat preservation and will not melt during transportation.

Unit definition

25°C, pH 7.6, 3.2ml reaction solution(1cm light path), one trypsin unit (U) was defined as an increase of 0.003 in the absorption value at 253nm by enzymatic hydrolysis of BAEE per minute.

Quality control

• **Activity:** Determination the activity of trypsin by Pharmacopoeia of the People's Republic of China Volume 4 (2020 Edition).

• **Concentration**: Pharmacopoeia of the People's Republic of China Volume 4 (2020 Edition)-the 6th General Rules for protein content (0731).

• ***E. Coli* host Cell protein residue**: ELISA Kit. Pharmacopoeia of the People's Republic of China Volume 4 (2020 Edition) -*E. Coli* host Cell protein residue (3412).

• **Protein purity**: Pharmacopoeia of the People's Republic of China Volume 4 (2020 Edition)-General Rules for HPLC Method (0512).

• **Bioburden**: Pharmacopoeia of the People's Republic of China Volume 4 (2020 Edition)-General Rules for Sterility Test (1101).

• **Host Cell DNA residues**: Pharma-copoeia of the People's Republic of China Volume 4 (2020 Edition) Host Cell DNA residues (3407).

• **Endotoxin**: Pharmacopoeia of the People's Republic of China Volume 4 (2020 Edition)-General Rules for LAL-Test (1143).

Product instruction

1. Solution preparation: Melt the recombinant trypsin at room temperature, take an appropriate amount of trypsin according to the protein content of COA, and add HBSS equilibration solution (or other buffer suitable for cell digestion. If necessary, add EDTA to a final concentration of 0-1mM, it is best not to exceed 2mM). The recommended trypsin concentration is about 0.1-0.3mg/mL (concentration adjusted according to different cells), and gently mixed; this step can be operated at room temperature.

2. Use a 0.22μm filter to filter the trypsin solution and transfer it to a sterile container; this step can be operated at room temperature.

3. The filtered trypsin solution should be used directly as required on the day (for example, adding 1mL to T25 bottles, digesting cells at 37°C), and the liquid can be stored at 2-8°C for 1-2 weeks.

4. Long-term storage: If the prepared recombinant cell digestion solution needs to be stored for a long time, it can be stored stably at -25 ~ -15°C for 12 months.

Product usage

For cell culture

• Tissue block digestion, primary cell acquisition.
• Passage digestion of adherent cells.
• Cell culture by microcarrier method.
• Gently digesting stem cells.
• Immune cell therapy, etc.

For recombinant protein

• Recombinant insulin production.
• Protein sequencing, peptide mapping.
• Specific proteolytic processes such as proteomics research.

Product advantage

• **No animal origin**: recombinant production, no

exogenous virus contamination, production process does not use any animal raw materials.

• **High purity**: high β-trypsin ratio and protein purity.

• **Better process control**: low content of *E. Coli* host Cell protein, host Cell DNA, bioburden, metal ions and endotoxin.

• **Stable quality**: stable batch production can ensure continuous batch production; no difference between batch and batch.

Precautions

• Recombinant trypsin solution is stored at -25 ~ -15℃, avoid freeze-thaw.

• Avoid contact with other protein products.

• For your safety and health, please wear lab coat and gloves for operating.