

Animal Origin Free and Chymotrypsin free

Recombinant Porcine Trypsin

for Proteomics and Cell culture based Therapeutic Productions

Cat. No.

- **BG01TS25:**
In solution form,
recombinant trypsin
25 µg
- **BG01TS100:**
In solution form
recombinant trypsin
100 µg

BULK QUANTITIES

- For process scale quantities please contact us.

Why use Recombinant Trypsin?

Animal Origin Free Trypsin

The use of animal-derived components in biopharmaceutical manufacturing is coming under ever-increasing regulatory scrutiny. Thus, there is a significant need to develop a non-animal source of trypsin. A Recombinant Trypsin derived from a non-animal source serves as an excellent replacement for commonly used animal-derived trypsin (i.e. porcine and bovine Trypsin) and enhances the future of adherent mammalian cell culture technology in the biopharmaceutical industry.

Chymotrypsin Free Source

Notwithstanding much effort at purification, various lots of trypsin contain variable amounts of contaminating proteases. Chymotrypsin is frequently present in minimal amounts in animal origin based trypsin production lots. The presence of even a minor amount of a contaminating protease results in undesirable cleavage of various products when only the trypsin mediated cleavage is desired. Conversion of proinsulin to insulin via the action of trypsin is thus complicated by contaminants of other proteases. The use of recombinant trypsin solves the problem of contaminating protease contamination.

Advantages of Animal Origin Free , Recombinant Trypsin:

- High purity – provides increased specificity and eliminates contaminating activities found in lower purity enzymes
- Animal component-free – no risk of contamination with viruses, BSE, H1N1 virus or other adventitious agents
- Convenience – sterile solution is formulated at the optimal concentration for the required purpose

Recombinant Porcine Trypsin

Technical Data

SERVICES AVAILABLE

- Contract Research and Development
- Contract Manufacturing of Recombinant Biotech products
- Protein and Nucleic Acid Characterizations

CONTACT INFORMATION

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Product Specifications

- **Origin:** Recombinant Trypsin expressed in *Escherichia coli* and has amino acid sequence identical to porcine trypsin. Recombinant Trypsin preparation is generated from the recombinant *E.coli* strain and is thus free of chymotrypsin. It also exhibits extremely high specific activity.
- **Molecular weight:** 23,564 Da
- **Activity:** ≥ 40000 units/mg (G-P-R-pNA)
[Activity of trypsin expressed as units/mg of enzyme using Tos-Gly-Pro-Arg-pNA (Sigma) as substrate]
- **Unit definition:** one unit of Recombinant Trypsin produces 1.0 μ mole of p-nitroaniline from Gly-Pro-Arg-p nitroaniline per minute in 0.1M Tris/HCl at pH 8.0 at 25°C.
- **Specificity:** Recombinant Trypsin is a serine protease that specifically cleaves peptide bonds at the C-terminal side of lysine and arginine.
- **Purity:** Recombinant Trypsin is a highly purified enzyme preparation that is free of activity from other proteases, particularly chymotrypsin.

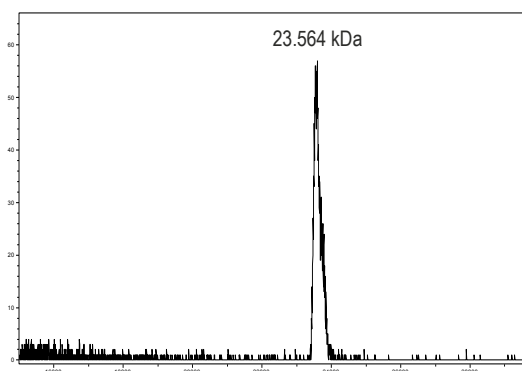


Figure 1: Purity profile of Recombinant Trypsin from BioGenomics. The spectrum shows a peak corresponding to 23.564 kDa.

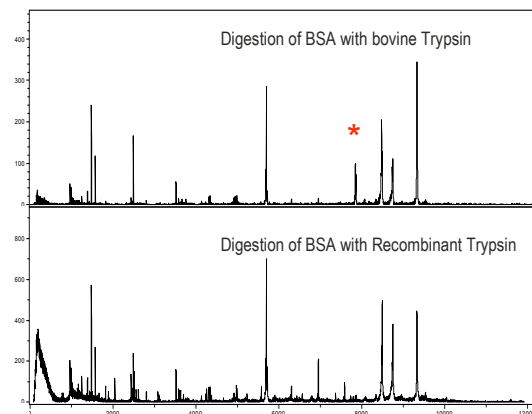


Figure 2: MALDI-MS spectra of trypsin digestion of BSA. The mass spectrum of peptides obtained on digestion of BSA using Recombinant Trypsin from BioGenomics was compared with that obtained using commercial porcine trypsin. BSA was digested with commercial porcine Trypsin and with Recombinant Trypsin at 37°C for 19 hours. The digestion products were analyzed on MALDI TOF MS. *The peak corresponding to 7841.43 Da is due to autolysis of commercial trypsin.

 **BioGenomics**
LIMITED

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