3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Enterokinase
bovine, recombinant
expressed in *E. coli*

Catalog Number **E4906**
Storage Temperature –20 °C

CAS RN 9014-74-8
EC 3.4.21.9
Synonym: Enteropeptidase

Product Description

Enterokinase is a member of the S1 "trypsin-like" endo proteinase family. Native enterokinase is composed of an 800 amino acid heavy chain and a 235 amino acid light chain. This product (E4906) is supplied as the 28 kDa catalytic light chain.

Enterokinase is a highly specific serine protease and, *in vivo,* enterokinase specifically hydrolyzes the lysine-isoleucine bond of the activation peptide in trypsinogen to yield active trypsin. The specific recognition sequence for enterokinase is:

X-Asp-Asp-Asp-Asp-Lys-↓-Not Proline-X
(X=any amino acid)

The FLAG® protein expression system is based on the fusion of the 8 amino acid FLAG tag to the recombinant protein of choice. The rare 5 amino acid recognition sequence of the enterokinase cleavage site is incorporated into the FLAG tag. The FLAG sequence is:

N-Asp-Tyr-Lys-Asp-Asp-Asp-Asp-Lys-C

Cleavage by enterokinase removes the FLAG tag from the fusion protein.

The product is supplied as ~0.2 unit in a solution of 20 mM Tris-HCl with 200 mM NaCl, 2mM $CaCl_2$, and 50% glycerol

Specific Activity: ≥20 units/mg protein

Unit Definition: One unit will produce 1.0 nmole of trypsin from trypsinogen per minute at pH 5.6 at 25 °C.

Purity: ≥95% (SDS–PAGE)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The product ships on wet ice and storage at –20 °C is recommended. It is stable for at least 1 year when stored properly.

Procedure

Typical conditions for fusion protein cleavage:

1. Adjust the concentration of the fusion protein solution to 1.5 mg/ml and to a pH between 7.0–8.0 with 500 mM Tris-HCl, pH 8.0, 2.0 mM $CaCl_2$, and 1% TWEEN® 20.
2. Add enterokinase to fusion protein solution at a ratio of ~0.02 units per 1 mg of fusion protein and mix.
3. Incubate reaction mixture at ~25 °C for 16 hours.

References

1. Huang, H., *et al*., Cloning and Fusion Expression of Bovine Enterokinase Light Chain Gene in *Escherichia Coli*. *HEREDITAS*(Beijing), **25**(6), 685–690 (2003).

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