



Product Information

Ecotin
from *E. Coli*, recombinant
overexpressed in *E. coli*

Product Number **E 1398**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS# 87928-05-0

Product Description

Ecotin is a dimeric periplasmic protein from *E. coli* with a molecular weight of 32 kDa. The sequence of ecotin has been determined and a leader sequence of 20 amino acids has been shown to be a signal peptide.¹ It is cleaved when the protein moves to the periplasmic space of the bacterium.

It is capable of inhibiting a broad range of serine proteases such as trypsin, chymotrypsin, elastase,² Factor Xa, Factor XIIa, and kallikrein.^{3,4} Due to the inhibition of the last three enzymes, ecotin shows a potent anticoagulant activity and may be useful in the study of inflammatory or thrombotic disorders such as sepsis or cardiopulmonary bypass.³ It may also be used for affinity purification of inactive precursors (zymogens) of serine proteases.

The homodimer binds 2 trypsin molecules to form a tetrameric complex in which the trypsin activity is completely inhibited.

The product is supplied as an essentially salt free lyophilized powder.

Specific Activity: minimum 2,000 units/mg protein

Unit definition: one unit will cause a 50% inhibition of the activity of 1 mg of trypsin, measured using $\text{N}\alpha$ -benzoyl-L-arginine p-nitroanilide (BAPNA) as the substrate at pH 8.2 at $37\text{ }^{\circ}\text{C}$.

Purity: minimum 90% (SDS-PAGE)

Precautions and Disclaimer

This product is for laboratory research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Ecotin is soluble in water (0.1 mg/ml).

Storage/Stability

It is recommended to store the product at $-20\text{ }^{\circ}\text{C}$.

References

1. McGrath, M.E., et al., J. Biol. Chem., **266**, 6620-6625 (1991).
2. Chung, C.H., et al., J. Biol. Chem., **258**, 11032-11038 (1983).
3. Ulmer, J.S., et al., FEBS Lett., **365**, 159-163 (1995).
4. Seymour, J.L., et al., Biochem., **33**, 3949-3958 (1994).
5. Seong, I.S., et al., J. Biol. Chem., **269**, 21915-21918 (1994).

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