

Recombinant E.coli Ecotin, His-tagged

Cat. No. Ecotin-87E **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant E. coli Ecotin is produced with our E. coli expression system. The target protein is expressed with sequence (Met1-Arg162) of E.coli Ecotin fused with a His tag at the C-terminus.
Species	E.coli
Source	E.coli
ProteinLength	1-162 a.a.
Description	Ecotins are dimeric periplasmic proteins from Escherichia coli and related Gram-negative bacteria that have been shown to be potent and general inhibitors of many trypsin-fold serine proteases of widely varying substrate specificity, which belong to MEROPS peptidase family S1. Ecotin protein inhibits chymotrypsin, trypsin, elastases, factor X, kallikrein as well as a variety of other proteases and has been characterized as an extremely potent anticoagulant and reversible tight-binding inhibitor of human factor Xa (FXa). The power of inhibition is not linked to a specific protease specificity. Immobilized ecotin has been used to affinity-purify recombinant trypsinogen, indicating that it may also be used to purify additional serine protease zymogens. Compared to other serine protease inhibitors such as members of the serpin family, the reactive site of ecotin is Met104 (P1). Phylogenetic analysis suggested that ecotin has an exogenous target, possibly neutrophil elastase. Ecotin from E. coli, Yersinia pestis, and Pseudomonas aeruginosa, all species that encounter the mammalian immune system, inhibit neutrophil elastase strongly while

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ecotin from the plant pathogen *Pantoea citrea* inhibits neutrophil elastase 1000-fold less potently. Ecotins all potently inhibit pancreatic digestive peptidases trypsin and chymotrypsin, while showing more variable inhibition of the blood peptidases Factor Xa, thrombin, and urokinase-type plasminogen activator. Ecotin is synthesized as a 162 amino acid precursor with a 20 amino acid signal peptide necessary to direct it to the periplasmic space. The mature protein (residues 21 - 162) is expressed and purified.

Form	Lyophilized from a 0.2 μ M filtered solution of 20mM Tris-HCl, 300mM NaCl, pH 8.5
AA Sequence	AESVQPLEKIAPYPQAEKGMKRQVIQLTPQEDESTLKVELLIGQTLEVDCNLHRLGG KLENKTLE GWGYDYYVFDKVSSPVSTMMACPDGKKEKKFVTAYLGDAGMLRYNSK LPIVVYTPDNVDVKYRVW KAEKIDNAVVRLEHHHHHH
Endotoxin	Less than 0.1 ng/ μ g (1 IEU/ μ g).
Purity	Greater than 95% as determined by SEC-HPLC and reducing SDS-PAGE.
Storage	Lyophilized protein should be stored at < -20°C, though stable at room temperature for 3 weeks. Reconstituted protein solution can be stored at 4-7°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Reconstitution	Always centrifuge tubes before opening. Do not mix by vortex or pipetting. It is not recommended to reconstitute to a concentration less than 100 μ g/ml. Dissolve the lyophilized protein in 1X PBS. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.