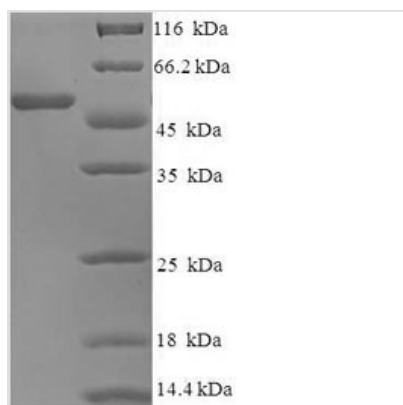




# Recombinant Human Neutrophil elastase (ELANE)

<b>Product Code</b>	CSB-EP007587HU
<b>Relevance</b>	Modifies the functions of natural killer cells, monocytes and granulocytes. Inhibits C5a-dependent neutrophil enzyme release and chemotaxis.
<b>Abbreviation</b>	Recombinant Human ELANE protein
<b>Storage</b>	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
<b>Uniprot No.</b>	P08246
<b>Alias</b>	Bone marrow serine protease;Elastase-2;Human leukocyte elastase ;HLEMedullasin;PMN elastase
<b>Product Type</b>	Recombinant Protein
<b>Immunogen Species</b>	Homo sapiens (Human)
<b>Purity</b>	Greater than 90% as determined by SDS-PAGE.
<b>Sequence</b>	IVGGRRARPHAWPFMVSLQLRGGHFCGATLIAPNFVMSAAHCVANVNVRAVR VVLGAHNLSRREPTRQVFVAVQRIFENGYPVNLLNDIVILQLNGSATINANVQV AQLPAQGRRLGNGVQCLAMGWLLGRNNGIASVLQELNVTVTSLCRRSNV CTLVGRGRQAGVCFGDSGSPVLCNGLIHGIAFVRGGCASGLYPDAFAPVAQF VNWIDSIIQRSEDNPCPHPRDPDPASRTH
<b>Research Area</b>	Signal Transduction
<b>Source</b>	E.coli
<b>Target Names</b>	ELANE
<b>Expression Region</b>	30-267aa
<b>Notes</b>	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
<b>Tag Info</b>	N-terminal GST-tagged
<b>Mol. Weight</b>	52.6kDa
<b>Protein Length</b>	Full Length of Mature Protein
<b>Image</b>	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

## Description

In expressing the recombinant human neutrophil elastase (ELANE), *E. coli* cells are transfected with a DNA expression vector that harbors the gene for the ELANE protein (30-267aa) along with the N-terminal GST-tag gene. The cultured cells then express the intended protein. The recombinant human ELANE protein is collected and purified from the cell lysate through affinity purification, achieving a purity surpassing 90%, as confirmed by SDS-PAGE.

ELANE is a serine protease predominantly found in mammalian granulocytes, particularly concentrated in granules that fuse with phagosomes [1]. ELANE plays a crucial role in various physiological and pathological processes. ELANE is secreted during airway inflammation, contributing to airway hyperreactivity [2]. ELANE regulates inflammation and is implicated in the pathogenesis of chronic obstructive pulmonary disease (COPD) [3][4][8]. ELANE can exert proinflammatory effects by degrading connective tissue components, attacking serum proteins, and altering cellular functions [5].

Studies suggest that ELANE is a potential therapeutic target for various diseases due to its role in promoting neointimal hyperplasia and tumorigenesis [6][7]. Elevated levels of ELANE have been associated with prehypertension, airflow limitation in obese women, and various other diseases [9]. ELANE is a major contributor to tissue destruction in chronic and inflammatory diseases [10]. ELANE is a key player in acute alveolar injury and interstitial edema, with studies highlighting its involvement in increasing vascular permeability in acute respiratory distress syndrome (ARDS) [11].

### References:

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## Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

## Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.