

Recombinant Mouse ELNE Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51596

Size: 10ug, 100ug

Protein Name: Neutrophil elastase (EC 3.4.21.37) (Elastase-2) (Leukocyte elastase)

Synonym: Elane, Ela2

UniProt ID: Q3UP87

UniProt Link: www.uniprot.org/uniprotkb/Q3UP87/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 265 AA

Molecular Weight: 29 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MALGRLSSRTLAAMLLALFLGGPALASEIVGGRPARPHAWPFMASLQRRGGHFCGATLIARNFVMS
AAHCVNGLNFRSVQVVLGAHDLRRQERTRQTFSVQRIFENGFDPSQLLNDIVIIQLNGSATINANVQV
AQLPAQGQGVGDRTPCLAMGWGRLGTNRPSVQLQELNVTVVVTNMCRRRVNVCTLVPRRQAGICF
GDSGGPLVCNNLVQGIDSFIRGGCGSGLYPDAFAPVAEFADWINSIIRSHNDHLLTHPKDREGRTN

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Neutrophil elastase (EC 3.4.21.37) (Elastase-2) (Leukocyte elastase) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Serine protease that modifies the functions of natural killer cells, monocytes and granulocytes (PubMed:10947984). Shows microbicidal activity in neutrophils by mediating cleavage and degradation of bacterial proteins (By similarity). Capable of killing E.coli but not S.aureus in vitro; digests outer membrane protein A (ompA) in E.coli and K.pneumoniae (PubMed:10947984). Involved for the formation of neutrophil extracellular traps (NETs): translocates into the nucleus downstream of MPO and mediates degradation of histone H4, thereby participating to chromatin decondensation (PubMed:20974816, PubMed:32045782). NETs are mainly composed of DNA fibers and are released by neutrophils to trap pathogens during inflammation (By similarity). Inhibits C5a-dependent neutrophil enzyme release and chemotaxis (By similarity). Promotes cleavage of GSDMB, thereby inhibiting pyroptosis (By similarity). Promotes blood coagulation (PubMed:20676107). Through the activation of the platelet fibrinogen receptor integrin alpha-IIb/beta-3, potentiates platelet aggregation induced by a threshold concentration of cathepsin G (CTSG) (By similarity). Cleaves and thus inactivates tissue factor pathway inhibitor (TFPI) (By similarity).

Subcellular Localization: Cytoplasmic vesicle, phagosome . Lysosome . Cytolytic granule . Nucleus . Note=Localizes to azurophil granules, a type of primary lysosome found in neutrophils and monocytes that contains antimicrobial proteins (By similarity). Translocates from azurophil granules to the nucleus downstream of MPO during formation of neutrophil extracellular traps (NETs), and is present in released NETs (PubMed:32045782). Localized in phagolysosomes following ingestion of E.coli by neutrophils (By similarity).

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.