

Recombinant Rat Elane Protein(Fc Tag)

Catalog Number: PDMR100056

Note: Centrifuge before opening to ensure complete recovery of vial contents.

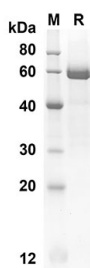
Description

Species	Rat
Source	Mammalian-derived Rat Elane protein Ser31-Asn271, with an C-terminal Fc
Mol_Mass	51.4 kDa
Accession	D4A488
Bio-activity	Not validated for activity

Properties

Purity	> 90% as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU/mg of the protein as determined by the LAL method
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 °C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Rat Elane proteins, 2 µg/lane of Recombinant Rat Elane proteins was resolved with an SDS-PAGE under reducing conditions, showing bands at 51.4 KD

Background

For Research Use Only

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Neutrophil elastase, also known as Elastase-2, Bone marrow serine protease, Medullasin, ELANE, and ELA2, is a serine proteinase in the same family as chymotrypsin and has broad substrate specificity. Secreted by neutrophils during inflammation, it destroys bacteria and host tissue. As with other serine proteinases, ELANE/ELA2 contains a charge relay system composed of the catalytic triad of histidine, aspartate, and serine residues that are dispersed throughout the primary sequence of the polypeptide but that are brought together in the three-dimensional conformation of the folded protein. ELANE/ELA2 is an important protease enzyme that when expressed aberrantly can cause emphysema or emphysematous changes. This involves breakdown of the lung structure and increased airspaces. Elastases form a subfamily of serine proteases that hydrolyze many proteins in addition to elastin. ELANE/ELA2 hydrolyzes proteins within specialized neutrophil lysosomes, called azurophilic granules, as well as proteins of the extracellular matrix following the protein's release from activated neutrophils. ELANE/ELA2 may play a role in degenerative and inflammatory diseases by its proteolysis of collagen-IV and elastin of the extracellular matrix. ELANE/ELA2 degrades the outer membrane protein A (OmpA) of *E. coli* as well as the virulence factors of such bacteria as *Shigella*, *Salmonella*, and *Yersinia*. Defects in ELANE are a cause of cyclic haematopoiesis (CH), also known as cyclic neutropenia. CH is an autosomal dominant disease in which blood-cell production from the bone marrow oscillates with a 21-day periodicity. Defects in ELANE are also the cause of autosomal dominant severe congenital neutropenia type 1 (SCN1) which is a heterogeneous disorder of hematopoiesis.

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