

Recombinant Rat GRN Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52318

Size: 10ug, 100ug

Protein Name: Progranulin (PGRN) (Acrogranin) (Epithelin precursor) (Granulin precursor) (Proepithelin) (PEPI) [Cleaved into: Paragranulin; Granulin-1 (Granulin G); Granulin-2 (Granulin F); Granulin-3 (Epithelin-2) (Granulin B); Granulin-4 (Epithelin-1) (Granulin A); Granulin-5 (Granulin C); Granulin-6 (Granulin D); Granulin-7 (Granulin E)]

Synonym: Grn

UniProt ID: P23785

UniProt Link: www.uniprot.org/uniprotkb/P23785/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 588 AA

Molecular Weight: 63 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MWILVSWLALVARLVAGTQCPDGGQFCPVACCLDQGGANYSCCNPLLDTWPIITSRRLDGSCQIRDH
CPDGYSCLLTVSGTSSCCPFSEGVSCDDGQHCCPRGFHCSADGKSCSQISDSLLGAVQCPGSQFE
CPDSATCCIMIDGSWGCCPMPQASCCEDRVHCCPHGASCDLVHTRCISPTGTHPLLKKFPAQRTNR
AVASFSVVCDAKTQCPDDSTCCELPTGKYGCCPMPNAICCSDDLHCCPQDTVCDLIQSKCISKDYT
TDLMTKLPGYPVNEVKCDLEVSCPDGYTCCRLNTGAWGCCPFTKAVCCEDHIIHCCPAGFQCHTET
GTCELGLVLPVPMKKVTASLSLPDPQILKNDVPCDDFSSCPSNNTCCRLSSGDWGCCPMPEAVCC
LDHQHCCPQGFKCMDEGYCQKGD RMVAGLEKMPVRQTTLQHG DIGCDQHTSCPVGQTCCPSLK
GSWACCQLPHAVCCEDRQHCCPAGYTCNVKARTCEKDAGSVQPSMDLTFGSKVGNVECGAGHFC
HDNQSCCKDSQGGWACCPYVKGVC CRDGRHCCPIGFHCSAKG TKCLRKKTPRWDILLRDPAPRPL
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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 Progranulin (PGRN) (Acrogranin) (Epithelin precursor) (Granulin precursor) (Proepithelin) (PEPI) [Cleaved into: Paragranulin; Granulin-1 (Granulin G); Granulin-2 (Granulin F); Granulin-3 (Epithelin-2) (Granulin B); Granulin-4 (Epithelin-1) (Granulin A); Granulin-5 (Granulin C); Granulin-6 (Granulin D); Granulin-7 (Granulin E)] 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: Secreted protein that acts as a key regulator of lysosomal function and as a growth factor involved in inflammation, wound healing and cell proliferation (By similarity). Regulates protein trafficking to lysosomes, and also the activity of lysosomal enzymes (By similarity). Also facilitates the acidification of lysosomes, causing degradation of mature CTSD by CTSB (By similarity). In addition, functions as a wound-related growth factor that acts directly on dermal fibroblasts and endothelial cells to promote division, migration and the formation of capillary-like tubule structures (By similarity). Also promotes epithelial cell proliferation by blocking TNF-mediated neutrophil activation preventing release of oxidants and proteases (By similarity). Moreover, modulates inflammation in neurons by preserving neurons survival, axonal outgrowth and neuronal integrity (By similarity).; [Granulin-3]: Inhibits epithelial cell proliferation and induces epithelial cells to secrete IL-8.; [Granulin-7]: Stabilizes CTSD through interaction with CTSD leading to maintain its aspartic-type peptidase activity.

Subcellular Localization: Secreted . Lysosome . Note=Endocytosed by SORT1 and delivered to lysosomes. Targeted to lysosome by PSAP via M6PR and LRP1, in both biosynthetic and endocytic pathways (By similarity). Co-localized with GBA1 in the intracellular trafficking compartments until to lysosome (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.