

Recombinant Human GRAB Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50387

Size: 10ug, 100ug

Protein Name: Granzyme B (EC 3.4.21.79) (C11) (CTLA-1) (Cathepsin G-like 1) (CTSG1) (Cytotoxic T-lymphocyte proteinase 2) (Lymphocyte protease) (Fragmentin-2) (Granzyme-2) (Human lymphocyte protein) (HLP) (SECT) (T-cell serine protease 1-3E)

Synonym: GZMB, CGL1, CSPB, CTLA1, GRB

UniProt ID: P10144

UniProt Link: www.uniprot.org/uniprotkb/P10144/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 247 AA

Molecular Weight: 28 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MQPILLLLAFLLLPRADAGEIIGGHEAKPHSRPYMAYLMIWDQKSLKRCGGFLIRDDFVLTAHCWGS
SINVTLGAHNIKEQEPTQQFIPVKRPIPHPAYNPKNFSNDIMLLQLERKAKRTRAVQPLRLPSNKAQV
KPGQTCVAGWGQTAPLGKHSHTLQEVKMTVQEDRKCESDLRHYYDSTIELCVGDPEIKKTSFKGD
SGGPLVCNKVAQGIVSYGRNNGMPRACTKVSSFVHWIKTKMKRY

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 Granzyme B (EC 3.4.21.79) (C11) (CTLA-1) (Cathepsin G-like 1) (CTSG1) (Cytotoxic T-lymphocyte proteinase 2) (Lymphocyte protease) (Fragmentin-2) (Granzyme-2) (Human lymphocyte protein) (HLP) (SECT) (T-cell serine protease 1-3E) 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: Abundant protease in the cytosolic granules of cytotoxic T-cells and NK-cells which activates caspase-independent pyroptosis when delivered into the target cell through the immunological synapse (PubMed:1985927, PubMed:3262682, PubMed:3263427). It cleaves after Asp (PubMed:1985927, PubMed:8258716). Once delivered into the target cell, acts by catalyzing cleavage of gasdermin-E (GSDME), releasing the pore-forming moiety of GSDME, thereby triggering pyroptosis and target cell death (PubMed:31953257, PubMed:32188940). Seems to be linked to an activation cascade of caspases (aspartate-specific cysteine proteases) responsible for apoptosis execution. Cleaves caspase-3, -9 and -10 (CASP3, CASP9 and CASP10, respectively) to give rise to active enzymes mediating apoptosis (PubMed:9852092). Cleaves and activates CASP7 in response to bacterial infection, promoting plasma membrane repair (By similarity).

Subcellular Localization: Secreted . Cytolytic granule . Note=Delivered into the target cell by perforin (PubMed:20038786).

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.