Recombinant GRAA protein (His tag)

Catalog Number	542120
Synonyms	CTL tryptase; Cytotoxic T-lymphocyte proteinase 1; Fragmentin-1; Granzyme-1; Hanukkah factor; H factor; HF
Species	Human
Expression System	E. coli
Accession	P12544
Molecular Weight	Predictes a molecular mass of 27.50 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 28 kDa band.

Product Information

Sequence Region	29-262
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 29-262 aa (P12544) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Granzyme A (EC 3.4.21.78), a potent serine protease fragment (residues 29-262) that fully encompasses the Peptidase S1 domain. This high-purity fragment is ideal for investigating caspase-independent pyroptosis, cytotoxic immune responses, and substrate cleavage mechanisms in research applications. Granzyme A is an abundant protease stored in cytoplasmic granules of cytotoxic T-cells and natural killer (NK) cells. Upon delivery into target cells via the immunological synapse, it initiates caspase-independent pyroptosis by cleaving gasdermin-B (GSDMB), releasing its pore-forming moiety to trigger cell death. It exhibits trypsin-like specificity, cleaving after lysine or arginine residues, and additionally targets proteins like APEX1 (disrupting oxidative repair) and the nucleosome assembly protein SET (enabling DNA degradation). In vivo, Granzyme A is secreted and localizes to cytoplasmic granules, with its cytotoxic activity mediated by perforin-dependent translocation into target cells. This protein plays a critical role in immune-mediated elimination of infected or malignant cells.