

Granzyme B Recombinant Protein | GZMB recombinant protein

Recombinant Human Granzyme B (GZMB)

CATALOG # AAA114085	HOST E Coli or Yeast or Baculovirus or Mammalian Cell
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PRODUCT SYNONYMS

Granzyme B; Recombinant Human Granzyme B (GZMB); C11; CTLA-1; Cathepsin G-like 1; CTSL1; Cytotoxic T-lymphocyte proteinase 2; Lymphocyte protease; Fragmentin-2; Granzyme-2; Human lymphocyte protein; HLP; SECT; T-cell serine protease 1-3E; GZMB recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE.
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Sequence Positions	21-247aa; Full Length of Mature Protein
Sequence	IIGGHEAKPH SRPYMAYLMI WDQKSLKRCG GFLIRDDFVL TAAHCWGSSI NVTLGAHNIK EQEPTQQFIP VKRPIHPAY NPKNFSNDIM LLQLERKAKR TRAVQPLRLP SNKAQVKPGQ TCSVAGWGQT APLGKHSHTL QEVKMTVQED RKCESDLRHY YDSTIELCVG DPEIKKTSFK GDSGGPLVCN KVAQGIVSYG RNNGMPPRAC TKVSSFVHWI KKTMKRY
Preparation and Storage	Store at -20 degree C, for extended storage, conserve at -20 degree C or -80 degree C.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for GZMB recombinant protein	This enzyme is necessary for target cell lysis in cell-mediated immune responses. It cleaves after Asp. Ses to be linked to an activation cascade of caspases (aspartate-specific cysteine proteases) responsible for apoptosis execution. Cleaves caspase-3, -7, -9 and 10 to give rise to active enzymes mediating apoptosis.
Product Categories/Family for GZMB recombinant protein	Immunology

References

Induction of mRNA for a serine protease and a beta-thromboglobulin-like protein in mitogen-stimulated human leukocytes.Schmid J., Weissmann C.J. Immunol. 139:250-256(1987) Structure and differential mechanisms of regulation of expression of a serine esterase gene in activated human T lymphocytes.Caputo A., Fahey D., Lloyd C., Vozab R., McCairns E., Rowe P.B.J. Biol. Chem. 263:6363-6369(1988) Molecular cloning of an inducible serine esterase gene from human cytotoxic lymphocytes.Trapani J.A., Klein J.L., White P.C., Dupont B.Proc. Natl. Acad. Sci. U.S.A. 85:6924-6928(1988) Genomic organization and chromosomal assignment for a serine protease gene (CSPB) expressed by human cytotoxic lymphocytes.Klein J.L., Shows T.B., Dupont B., Trapani J.A.Genomics 5:110-117(1989) Nucleotide sequence and genomic organization of a human T lymphocyte serine protease gene.Caputo A., Sauer D.E., Rowe P.B.J. Immunol. 145:737-744(1990) Structural organization of the hCTLA-1 gene encoding human granzyme B.Haddad P., Clement M.-V., Bernard O., Larsen C.-J., Degos L., Sasportes M., Mathieu-Mahul D.Gene 87:265-271(1990) The DNA sequence and analysis of human chromosome 14.Heilig R., Eckenberg R., Petit J.-L., Fonknechten N., Da Silva C., Cattolico L., Levy M., Barbe V., De Berardinis V., Ureta-Vidal A., Pelletier E., Vico V., Anthouard V., Rowen L., Madan A., Qin S., Sun H., Du H., Pepin K., Artiguenave F., Robert C., Cruaud C., Bruels T., Jaillon O., Friedlander L., Samson G., Brottier P., Cure S., Segurens B., Aniere F., Samain S., Crespeau H., Abbasi N., Aiach N., Boscus D., Dickhoff R., Dors M., Dubois I., Friedman C., Gouyvenoux M., James R., Madan A., Mairey-Estrada B., Mangenot S., Martins N., Menard M., Oztas S., Ratcliffe A., Shaffer T., Trask B., Vacherie B., Bellemere C., Belser C., Besnard-Gonnet M., Bartol-Mavel D., Boutard M., Briez-Silla S., Combette S., Dufosse-Laurent V., Ferron C., Lechaplais C., Louesse C., Muselet D., Magdelenat G., Pateau E., Petit E., Sirvain-Trukniewicz P., Trybou A., Vega-Czarny N., Bataille E., Bluet E., Bordelais I., Dubois M., Dumont C., Guerin T., Haffray S., Hammadi R., Muanga J., Pellouin V., Robert D., Wunderle E., Gauguier G., Roy A., Sainte-Marthe L., Verdier J., Verdier-Discale C., Hillier L.W., Fulton L., McPherson J., Matsuda F., Wilson R., Scarpelli C., Gyapay G., Wincker P., Saurin W., Quetier F., Waterston R., Hood L., Weissenbach J.Nature 421:601-607(2003) Isolation of a cDNA clone encoding a novel form of granzyme B from human NK cells and mapping to chromosome 14.Dahl C.A., Bach F.H., Chan W., Huebner K., Russo G., Croce C.M., Herfurth T., Cairns J.S.Hum. Genet. 84:465-470(1990) Characterization of three serine esterases isolated from human IL-2 activated killer cells.Hameed A., Lowrey D.M., Lichtenheld M., Podack E.R.J. Immunol. 141:3142-3147(1988) Characterization of granzymes A and B isolated from granules of cloned human cytotoxic T lymphocytes.Kraehenbuhl O., Rey C., Jenne D.E., Lanzavecchia A., Groscurth P., Carrel S., Tschopp J.J. Immunol. 141:3471-3477(1988) Human granzyme B degrades aggrecan proteoglycan in matrix synthesized by chondrocytes.Froelich C.J., Zhang X., Turbov J., Hudig D., Winkler U., Hanna W.L.J. Immunol. 151:7161-7171(1993) Human cytotoxic lymphocyte granzyme B. Its purification from granules and the characterization of substrate and inhibitor specificity.Poe M., Blake J.T., Boulton D.A., Gammon M., Sigal N.H., Wu J.K., Zweerink H.J.J. Biol. Chem. 266:98-103(1991) Signal peptide prediction based on analysis of experimentally verified cleavage sites.Zhang Z., Henzel W.J.Protein Sci. 13:2819-2824(2004) Crystal structure of the caspase activator human granzyme B, a proteinase highly specific for an Asp-P1 residue.Estebanez-Perpina E., Fuentes-Prior P., Belorgey D., Braun M., Kiefersauer R., Maskos K., Huber R., Rubin H., Bode W.Biol. Chem. 381:1203-1214(2000) The three-dimensional structure of human granzyme B compared to caspase-3, key mediators of cell death with cleavage specificity for aspartic acid in P1.Rotonda J., Garcia-Calvo M., Bull H.G., Geissler W.M., McKeever B.M., Willoughby C.A., Thornberry N.A., Becker J.W.Chem. Biol. 8:357-368(2001) Catalog of 680 variations among eight cytochrome p450 (CYP) genes, nine esterase genes, and two other genes in the Japanese population.Saito S., Iida A., Sekine A., Kawauchi S., Higuchi S., Ogawa C., Nakamura Y.J. Hum. Genet. 48:249-270(2003)

NCBI AND UNIPROT INFORMATION

NCBI GI #	221625528
NCBI GeneID	3002
NCBI Accession #	NP_004122.2
NCBI GenBank Nucleotide #	NM_004131.4
UniProt Accession #	P10144; Q8N1D2; Q9UCC1
Molecular Weight	27.5 kDa
NCBI Official Full Name	granzyme B
NCBI Official Synonym Full Names	granzyme B
NCBI Official Symbol	GZMB
NCBI Official Synonym Symbols	HLP; CCPI; CGL1; CSPB; SECT; CGL-1; CSP-B; CTLA1; CTSG1
NCBI Protein Information	granzyme B

UniProt Protein Name	Granzyme B
UniProt Gene Name	GZMB
UniProt Synonym Gene Names	CGL1; CSPB; CTLA1; GRB; CTSG1; Lymphocyte protease; HLP
UniProt Entry Name	GRAB_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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