

Recombinant Full Length Human GZMH Protein, C-His-tagged

Cat. No. GZMH-01HFL **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Full Length Human GZMH Protein, fused to His-tag at C-terminus, was expressed in NS0.
Species	Human
Source	NS0
ProteinLength	Glu19-Leu246
Description	Granzyme H is a member of the granzyme family of serine proteases found specifically in the cytotoxic granules of cytotoxic T lymphocytes (CTL) and natural killer (NK) cells (1, 2). Granzyme H's functions are largely unknown. The more abundant expression of Granzyme H than Granzyme B in NK cells suggests that Granzyme H may complement the pro-apoptotic function of Granzyme B in this cell type (3). Human Granzyme H shows the highest amino acid identity (71%) to mouse Granzyme C (4). Human Granzyme H is synthesized as a precursor (246 residues) with a signal peptide (residues 1-18), a propeptide (residues 19-20) and a mature chain (residues 21-246) (5-7). The pro-enzyme is expressed and purified. After being activated by active cathepsin C, rhGranzyme H cleaves a thioester substrate, which was described previously (8).
Conjugation/Label	Unconjugated
Form	Supplied as a 0.2 µm filtered solution in HEPES, NaCl and Brij-35.

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Bio-activity	Measured by its ability to cleave a peptide substrate, Succinyl-Phe-Leu-Phe-ThioBenzyl ester (Suc-FLF-SBzl), in the presence of 5,5'-Dithio-bis (2-nitrobenzoic acid) (DTNB). The specific activity is >5,000 pmol/min/μg, as measured under the described conditions.
Molecular Mass	Predicted Molecular Mass: 27 kDa SDS-PAGE: Multiple bands between 38-40 kDa, reducing conditions
Endotoxin	<1.0 EU per 1 μg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Applications	Enzyme Activity
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 6 months from date of receipt, -70 centigrade as supplied. 3 months, -70 centigrade under sterile conditions after opening.
Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
N-terminal Sequence	Glu19
References	1. Kam, C.-M. et al. (2000) Biochim. Biophys. Acta 1477:307. 2. Smyth, M.J. et al. (1996) J. Leukoc. Biol. 60:555. 3. Sedelies, K.A. et al. (2004) J. Biol. Chem. 279:26581. 4. Sattar, R. et al. (2003) Biochem. Biophys. Res. Comm. 308:726. 5. Meier, M. et al. (1990) Biochemistry 29:4042. 6. Haddad, P. et al. (1991) Int. Immunol. 3:57.

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7. Klein, J.L. et al. (1990) Tissue Antigens 35:220.
8. Edwards, K.M. et al. (1999) J. Biol. Chem. 274:30468.

GENE INFORMATION

Gene Name	GZMH granzyme H [Homo sapiens (human)]
Official Symbol	GZMH
Synonyms	GZMH; granzyme H; CCP-X; CGL-2; CSP-C; CTLA1; CTSL2; CGL2; CTSL2; GrzH
Gene ID	2999
mRNA Refseq	NM_033423.5
Protein Refseq	NP_219491.1
MIM	116831
UniProt ID	P20718

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