GZMA/Granzyme A Protein, Mouse (His-B2M)

Cat. No.:	HY-P72220
Synonyms:	Gzma; Ctla-3; Ctla3; Mtsp-1; Granzyme A; EC 3.4.21.78; Autocrine thymic lymphoma granzyme-like serine protease; CTLA-3; Fragmentin-1; T cell-specific serine protease 1; TSP-1
Species:	Mouse
Source:	E. coli
Accession:	P11032 (I29-V260)
Gene ID:	14938
Molecular Weight:	Approximately 39.6 kDa

PROPERTIES

AA Sequence	I I G G D T V V P H S R P Y M A L L K L S S N T I C A G A L I E K N W V L T A A H C N V G K R S K F I L G A H S I N K E P E Q Q I L T V K K A F P Y P C Y D E Y T R E G D L Q L V R L K K K A T V N R N V A I L H L P K K G D D V K P G T R C R V A G W G R F G N K S A P S E T L R E V N I T V I D R K I C N D E K H Y N F H P V I G L N M I C A G D L R G G K D S C N G D S G S P L L C D G I L R G I T S F G G E K C G D R R W P G V Y T F L S D K H L N W I K K I M K G S V
Biological Activity	Measured by its ability to cleave a colorimetric peptide substrate, N-carbobenzyloxy-Gly-Arg-ThioBenzyl ester (Z-GR-SBzl), in the presence of 5,5'Dithio-bis (2-nitrobenzoic acid) (DTNB). The specific activity is 7995.363 pmol/min/μg, as measured under the described conditions.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm sterile filtered PBS, 6% Trehalose, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Granzyme A (GZMA) is a highly abundant protease found in the cytosolic granules of cytotoxic T-cells and natural killer cells, playing a crucial role in immune defense mechanisms. When delivered into the target cell through the immunological synapse, GZMA activates caspase-independent pyroptosis. It exhibits a substrate specificity for cleavage after lysine or

arginine residues. Notably, GZMA cleaves APEX1 after 'Lys-31,' disrupting its oxidative repair activity. Additionally, it targets the nucleosome assembly protein SET, cleaving it after 'Lys-189.' This cleavage event disrupts SET's nucleosome assembly activity and facilitates the translocation of the SET complex into the nucleus, where it is involved in nicking and degrading DNA. The multifunctional activities of GZMA underscore its significance in orchestrating diverse cellular processes during immune responses.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA