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# Granzyme B

Catalog # PVGS1418

## Product Information

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| **Primary Accession** | P04187 |
| **Species** | Mouse |
| **Sequence** | Ile21-Ser247 |
| **Purity** | > 98% as analyzed by SDS-PAGE |
| **Endotoxin Level** | |
| **Expression System** | CHO |
| **Formulation** | Lyophilized after extensive dialysis against PBS. |
| **Reconstitution** | It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in $ddH_2O$ or PBS up to 100 □g/ml. |
| **Storage & Stability** | Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles. |

## Additional Information

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| **Gene ID** | 14939 |
| **Other Names** | Granzyme B(G, H), 3.4.21.79, CTLA-1, Cytotoxic cell protease 1, CCP1, Fragmentin-2, Gzmb, Ctla-1, Ctla1 |
| **Target Background** | Granzyme B is a serine protease most commonly found in the granules of cytotoxic lymphocytes (CTLs), natural killer cells (NK cells) and cytotoxic T cells. It is secreted by these cells along with the pore forming protein perforin to mediate apoptosis in target cells.Granzyme B has also recently been found to be produced by a wide range of non-cytotoxic cells ranging from basophils and mast cells to smooth muscle cells. The secondary functions of granzyme B are also numerous. Granzyme B has been shown to be involved in inducing inflammation by stimulating cytokine release and is also involved in extracellular matrix remodeling. |

## Protein Information

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| **Name** | Gzmb |

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| **Synonyms** | Ctla-1, Ctla1 |
| **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:3555842, PubMed:35705808). It cleaves after Asp (PubMed:35705808). 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 (By similarity). Seems to be linked to an activation cascade of caspases (aspartate-specific cysteine proteases) responsible for apoptosis execution (By similarity). Cleaves caspase-3 and -9 (CASP3 and CASP9, respectively) to give rise to active enzymes mediating apoptosis (PubMed:35705808). Cleaves and activates CASP7 in response to bacterial infection, promoting plasma membrane repair (PubMed:35705808). |
| **Cellular Location** | Secreted {ECO:0000250\|UniProtKB:P10144}. Cytolytic granule. Note=Delivered into the target cell by perforin. {ECO:0000250\|UniProtKB:P10144} |