

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Granzyme B in direct ELISAs and Western blots. Does not cross-react with recombinant human (rh) Granzyme A, rhGranzyme H, recombinant mouse (rm) Granzyme B, rmGranzyme C, rmGranzyme D, or rmGranzyme G.
Source	Monoclonal Mouse IgG _{2A} Clone # 351927
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Granzyme B Gly19-Tyr247 Accession # P10144
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human Granzyme B (Catalog # 2906-SE)
Immunocytochemistry	8-25 µg/mL	Immersion fixed human peripheral blood mononuclear cells
Intracellular Staining by Flow Cytometry	2.5 µg/10 ⁶ cells	NK-92 human natural killer lymphoma cell line fixed with paraformaldehyde and permeabilized with saponin

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Granzyme B is a member of the granzyme family of the serine proteases found specifically in the cytotoxic granules of cytotoxic T lymphocytes (CTL) and natural killer (NK) cells (1, 2). Granzyme B plays an essential role in granule-mediated apoptosis and may have additional roles in rheumatoid arthritis and in bacterial and viral infections (3). It activates various caspases and cleaves proteins such as aggrecan (3). Human Granzyme B is synthesized as a precursor (247 residues) with a signal peptide (residues 1-18), a pro peptide (residues 19-20), and a mature chain (residues 21-247) (4-6). The recombinant human (rh) Granzyme B consisting of residues 19-247 was expressed and purified. After being activated by active cathepsin C, rhGranzyme B cleaves a thioester substrate described previously (3).

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. Froelich, C.J. (2004) in *Handbook of Proteolytic Enzymes*, Barrett, A.J. *et al.*, eds., pp. 1549 - 1552.
4. Schmid, J. and C. Weissman (1987) *J. Immunol.* **139**:250.
5. Caputo, A. *et al.* (1988) *J. Biol. Chem.* **263**:6363.
6. Trapani, J.A. *et al.* (1988) *Proc. Natl. Acad. Sci. USA* **85**:6924.