

#### DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	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.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 351927
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Granzyme B Gly19-Tyr247 Accession # P10144
<b>Conjugate</b>	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

#### 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Intracellular Staining by Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	NK-92 human natural killer lymphoma cell line fixed with paraformaldehyde and permeabilized with saponin

#### PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

#### 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.
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.

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