

Direct-Blot™ HRP anti-Granzyme B Antibody

Catalog# / Size	674603 / 100 µL
Clone	M3304B06
Regulatory Status	RUO
Other Names	Granzyme 2, cytotoxic T-lymphocyte-associated serine esterase 1, GZMB, CCP1, Asp-ase, CSPB, CTLA-1, CGL-1, CGL1
Isotype	Mouse IgG1, κ
Description	Granzyme B is a serine protease that is mainly produced by cytotoxic T cells (CTL) and NK cells. It plays important roles in cytotoxic lymphocyte-mediated apoptosis, chronic inflammation, and impaired wound healing. Granzyme B is packaged in cytoplasmic granules that are exocytosed towards a bound target cell, and subsequently activates multiple protein substrates to induce apoptosis. Perforin facilitates the transfer of Granzyme B into the target cell. Most circulating CD56 ⁺ CD8 ⁻ NK cells and approximately half of circulating CD8 ⁺ T cells coexpress both Granzyme A and B. The activation of CD8 ⁺ and CD4 ⁺ T lymphocytes induces substantial expression of Granzyme B, but not Granzyme A. Recently, Granzyme B has been found to be produced by other cell types such as CD34 ⁺ hematopoietic progenitor cells, keratinocytes, basophils, mast cells, plasmacytoid dendritic cells, B cells, and smooth muscle cells. Elevated levels of Granzyme B are also found in some kinds of autoimmune diseases, type 1 diabetes, and cardiovascular diseases.

Product Details

Reactivity	Human
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Recombinant human Granzyme B produced in the 293E cell line.
Formulation	This antibody is provided in 50% glycerol in aqueous buffered solutions with preservatives.
Preparation	The antibody was purified by affinity chromatography and conjugated with HRP under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	Upon receipt, the antibody solution should be stored undiluted at -20°C, and protected from prolonged exposure to light.
Application	WB - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by Western blotting . For Western blotting, the suggested dilution is 1:1,000-1:10,000. The optimal dilution should be determined by titration for each individual assay of interest. 25 µl and 100 µl of Direct-Blot™ HRP antibody can be used for approximately 5 and 20 Western blots, respectively, at the recommended concentration/dilution.
Application Notes	This antibody can be used for at least 20 western blots.
RRID	AB_2687057 (BioLegend Cat. No. 674603)

Antigen Details

Structure	247 amino acids with a molecular weight of approximately 28 kD
Distribution	Cytotoxic T cells, NK cells, and neutrophils.

Function	Granzyme B is able to induce target cell apoptosis by activating caspase independent pathways. Granzyme B is induced in CD8 ⁺ T lymphocytes with ConA / IL-2 and CD4 ⁺ T lymphocytes with anti-CD3/CD28 or anti-CD3/CD46.
Interaction	Targets of CTL and NK cells.
Cell Type	B cells, Dendritic cells, Neutrophils, NK cells, T cells
Biology Area	Apoptosis/Tumor Suppressors/Cell Death, Cell Biology, Cell Cycle/DNA Replication, Immunology, Innate Immunity, Neuroscience, Signal Transduction
Molecular Family	Enzymes and Regulators, Proteases
Antigen References	<ol style="list-style-type: none"> 1. Edwards KM, <i>et al.</i> 1999. <i>J. Biol. Chem.</i> 274:30468. 2. Grossman WJ, <i>et al.</i> 2004. <i>Blood</i> 104:2840. 3. Heusel JW, <i>et al.</i> 1994. <i>Cell</i> 76:977. 4. Schmid J and Weissmann C. 1987. <i>J. Immunol.</i> 139:250. 5. Trapani JA, <i>et al.</i> 1988. <i>Proc. Natl. Acad. Sci. USA</i> 85:6924. 6. Hiebert PR and Granville DJ. 2012. <i>Trends Mol. Med.</i> 18:732. 7. Saito Y, <i>et al.</i> 2011. <i>J. Cardiol.</i> 57:141. 8. Ewen CL, <i>et al.</i> 2012. <i>Cell Death Differ.</i> 1:28.
Gene ID	3002

Related Protocols

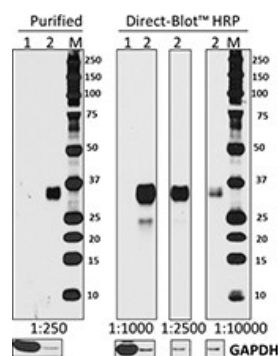
[Direct-Blot™ HRP Antibodies Save You Time - Video](#)

[Direct-Blot™ Western Blotting Protocol](#)

Other Formats

Purified anti-Granzyme B, Direct-Blot™ HRP anti-Granzyme B

Product Data



Total cell lysate from HeLa (lane 1, negative control) and PBMC (lane 2) (15 µg/lane) were resolved by electrophoresis (4-12% Bis-Tris), transferred to nitrocellulose, and probed with 1:250 purified anti-Granzyme B (clone M3304B06) and 1:1000, 1:2500 and 1:10000 Direct-Blot™ HRP anti-Granzyme B Antibody(upper) or loading control GAPDH (poly6314) antibody (lower). Proteins were visualized by chemiluminescence detection using a goat anti-mouse-IgG secondary antibody conjugated to HRP for the purified antibody, and a donkey anti-rabbit IgG Antibody conjugated to HRP for GAPDH. Lane M is the molecular weight ladder.

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BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587

