Datasheet for ABIN967291

anti-GZMB antibody

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Overview

Quantity:	50 µg
Target:	GZMB
Reactivity:	Human, Rat
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This GZMB antibody is un-conjugated
Application:	Western Blotting (WB)

Product Details

Brand:	BD Pharmingen™
Clone:	2C5-F5
Isotype:	IgG2a
Characteristics:	1. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 2. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing. 3. Please refer to us for technical protocols.
Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Target Details

Target:	GZMB
Alternative Name:	Granzyme B (GZMB Products)
Background:	The primary mechanism by which cytotoxic T cells eliminate virally infected cells is by granule exocytosis. The release of cytotoxic granule contents by cytotoxic T lymphocytes (CTL) triggers apoptotic target cell death. CTL granules contain a poreforming protein, perforin, and a group of serine proteases called granzymes. In the classic model, perforins create holes in the target cell membrane, allowing entrance of the granzymes. Granzyme A and B are the predominant granzymes activated after CTL activation, but each act via an independent apoptotic pathway, granzyme B is activated immediately, while granzyme A acts hours later. The physiological substrates for granzyme A in the apoptotic pathway have not been identified. Studies involving mice which are deficient in both granzyme A and B suggest a model whereby the granzyme B pathway may have evolved as the major apoptotic pathway with the granzyme A pathway acting as a backup. Granzyme B has been shown to induce apoptosis and to cleave a number of substrates which are similar in specificity to those of the caspase family of proteinases. Granzyme B can cleave substrates, such as DNA-PKcs, and nuclear mitotic apparatus protein (NuMA). Furthermore, Granzyme B can also cleave substrates such as Bid and DFF45 in a caspase-independent fashion. However, further research is needed to delineate the exact role of caspases in cytotoxic T lymphocyte-induced apoptosis involving Granzyme B. Granzyme B migrates at approximately 32 kDa in SDS/PAGE. Clone 2C5/F5 recognizes human and rat granzyme B.
Molecular Weight:	32 kDa
Pathways:	Apoptosis, Caspase Cascade in Apoptosis

Application Details

Comment:	Related Products: ABIN967389
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	0.5 mg/mL
Buffer:	Aqueous buffered solution containing ≤0.09 % sodium azide.
Preservative:	Sodium azide

Handling

Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	4 °C
Storage Comment:	Store undiluted at 4°C.

Publications

Product cited in:

Pinkoski, Waterhouse, Heibein, Wolf, Kuwana, Goldstein, Newmeyer, Bleackley, Green: " Granzyme B-mediated apoptosis proceeds predominantly through a Bcl-2-inhibitable mitochondrial pathway." in: **The Journal of biological chemistry**, Vol. 276, Issue 15, pp. 12060-7, (2001) (PubMed).

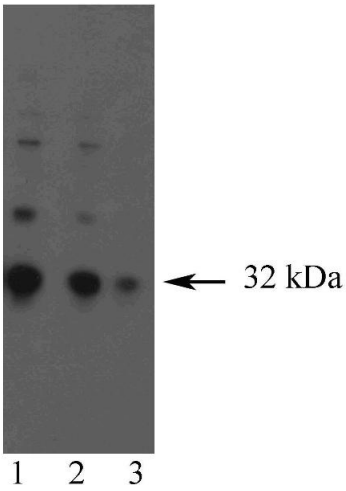
Rotonda, Garcia-Calvo, Bull, Geissler, McKeever, Willoughby, Thornberry, Becker: "The three-dimensional structure of human granzyme B compared to caspase-3, key mediators of cell death with cleavage specificity for aspartic acid in P1." in: **Chemistry & biology**, Vol. 8, Issue 4, pp. 357-68, (2001) (PubMed).

Sharif-Askari, Alam, Rhéaume, Beresford, Scotto, Sharma, Lee, DeWolf, Nuttall, Lieberman, Sékaly: "Direct cleavage of the human DNA fragmentation factor-45 by granzyme B induces caspase-activated DNase release and DNA fragmentation." in: **The EMBO journal**, Vol. 20, Issue 12, pp. 3101-13, (2001) (PubMed).

Barry, Heibein, Pinkoski, Lee, Moyer, Green, Bleackley: "Granzyme B short-circuits the need for caspase 8 activity during granule-mediated cytotoxic T-lymphocyte killing by directly cleaving Bid." in: **Molecular and cellular biology**, Vol. 20, Issue 11, pp. 3781-94, (2000) (PubMed).

Beresford, Xia, Greenberg, Lieberman: "Granzyme A loading induces rapid cytolysis and a novel form of DNA damage independently of caspase activation." in: **Immunity**, Vol. 10, Issue 5, pp. 585-94, (1999) (PubMed).

There are more publications referencing this product on: Product page



Western Blotting

Image 1. Western blot analysis of Granzyme B. A NK-92 cell lysate (Human natural killer cells derived from malignant non-Hodgkin's lymphoma donor, ATCC CRL-2407) was probed with the mouse anti-granzyme B antibody at concentrations of 0.125 µg/mL (lane 1), 0.0625 µg/mL (lane 2), and 0.03125 µg/mL (lane 3). Granzyme B is identified at ~32 kDa.