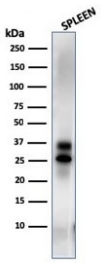
Granzyme B Antibody / Cytotoxic Lymphocyte Marker Antibody [clone GZMB/3014] (V8027)

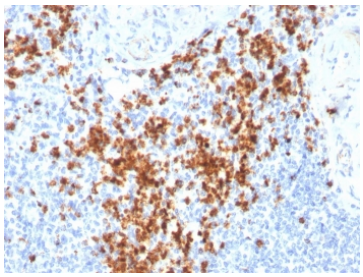
Catalog No.	Formulation	Size
V8027-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8027-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8027SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

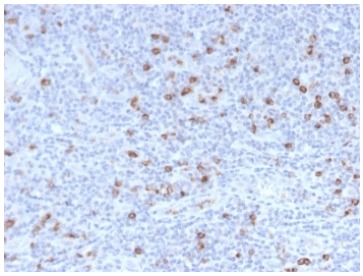
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	GZMB/3014
Purity	Protein G affinity chromatography
UniProt	P10144
Localization	Cytoplasmic
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This Granzyme B Antibody / Cytotoxic Lymphocyte Marker Antibody is available for research use only.



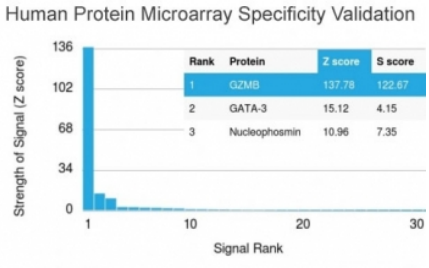
Granzyme B Antibody Human Spleen WB. Western blot analysis of human spleen lysate using Granzyme B Antibody. An HRP-conjugated secondary antibody with ECL substrate was used for detection. Granzyme B Antibody, a Cytotoxic Lymphocyte Marker Antibody, detects bands at approximately 29-37 kDa, consistent with the expected molecular weight range of granzyme B. The higher molecular weight band likely represents the precursor form, while the lower band is consistent with proteolytic processing to the mature active enzyme.



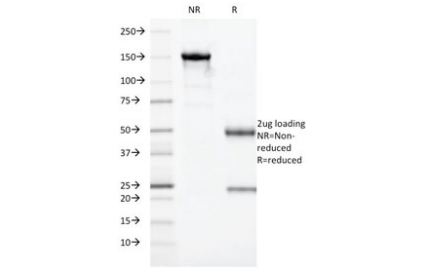
Granzyme B Antibody Human Spleen IHC. Immunohistochemical staining of FFPE human spleen tissue using Granzyme B Antibody. HIER was performed in pH 9 Tris-EDTA buffer. An HRP-conjugated secondary antibody with DAB substrate was used for detection. Granzyme B Antibody, a Cytotoxic Lymphocyte Marker Antibody, demonstrates strong granular cytoplasmic staining in numerous lymphocytes within the splenic white pulp, consistent with granzyme B expression in activated cytotoxic T lymphocytes and natural killer cells.



Granzyme B Antibody Human Tonsil IHC. Immunohistochemical staining of FFPE human tonsil tissue using Granzyme B Antibody. HIER was performed in pH 9 Tris-EDTA buffer. An HRP-conjugated secondary antibody with DAB substrate was used for detection. Granzyme B Antibody, a Cytotoxic Lymphocyte Marker Antibody, demonstrates strong granular cytoplasmic staining in scattered lymphocytes within the tonsillar lymphoid tissue, consistent with granzyme B expression in activated cytotoxic T lymphocytes and natural killer cells.



Granzyme B Antibody Protein Microarray Validation. Protein microarray specificity analysis of Granzyme B Antibody (clone GZMB/3014) was performed using the HuProtâ„¢ Human Protein Microarray containing more than 19,000 full-length human proteins. Granzyme B Antibody, a Cytotoxic Lymphocyte Marker Antibody, demonstrated exceptional specificity for GZMB with a Z-score of 137.78 and an S-score of 122.67, indicating highly selective target recognition with minimal cross-reactivity. The Z-score reflects binding signal strength above the array mean, while the S-score measures specificity by comparing the intended target with the next highest-ranking proteins.



SDS-PAGE analysis of purified, BSA-free Granzyme B antibody (clone GZMB/3014) as confirmation of integrity and purity.

Description

Granzyme B Antibody recognizes granzyme B (GZMB), a trypsin-like serine protease that serves as one of the principal effector molecules of cytotoxic T lymphocytes and natural killer (NK) cells. Following immune synapse formation, granzyme B is released from cytotoxic granules together with perforin and enters target cells, where it initiates apoptosis through cleavage of multiple intracellular substrates, including caspases, BID, PARP, and other proteins involved in programmed cell death. This highly regulated cytotoxic mechanism is essential for eliminating virus-infected cells, intracellular pathogens, and malignant cells. Consequently, Granzyme B Antibody is widely used to investigate cell-mediated immunity, immune surveillance, and cytotoxic lymphocyte function.

Granzyme B expression is largely restricted to activated CD8-positive cytotoxic T lymphocytes, natural killer cells, natural killer T cells, and subsets of activated cytotoxic immune cells. Because granzyme B production reflects cytotoxic activation rather than simple lymphocyte presence, it has become an important functional biomarker for evaluating immune responses in infectious disease, transplantation, autoimmune disorders, and cancer. As a Cytotoxic Lymphocyte Marker Antibody, Granzyme B Antibody is valuable for identifying activated cytotoxic immune cells within tissues and for studying immune-mediated target cell killing.

In oncology, granzyme B has become an increasingly important biomarker for assessing antitumor immunity and

predicting responses to immunotherapy. High densities of granzyme B-positive lymphocytes often correlate with active immune infiltration and favorable responses to immune checkpoint inhibitors, adoptive cell therapies, and cancer vaccines. Granzyme B expression is therefore routinely evaluated in studies of the tumor microenvironment, immune cell activation, and mechanisms of immune escape. Beyond oncology, abnormal granzyme B activity has also been implicated in chronic inflammatory diseases, graft rejection, autoimmune disorders, and tissue remodeling, further expanding its value as both a biomarker and a therapeutic target.

This mouse monoclonal Granzyme B Antibody (clone GZMB/3014) has been validated by protein microarray analysis, demonstrating exceptional target specificity against thousands of human proteins. HuPro(TM) validation provides independent confirmation of antibody specificity, making this antibody particularly well suited for studies requiring high confidence in target recognition. Granzyme B Antibody, a Cytotoxic Lymphocyte Marker Antibody, is an excellent tool for investigating immune cell activation, cytotoxic effector function, tumor immunology, infectious disease, and immunotherapeutic mechanisms.

Explore additional Immunology Antibodies for targets involved in cytotoxic lymphocyte function, immune cell activation, NK cell biology, and cell-mediated immunity.

Application Notes

Optimal dilution of the Granzyme B Antibody / Cytotoxic Lymphocyte Marker Antibody should be determined by the researcher.

Immunogen

A recombinant human partial protein (amino acids 73-187) was used as the immunogen for the Granzyme B antibody.

Storage

Store the Granzyme B antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

GZMB Antibody, Cytotoxic T Cell Granule Protein Antibody, CTLA1 Antibody, Serine Protease Granzyme B Antibody, Granzyme-2 Antibody, NK Cell Granule Protein Antibody