

## Brilliant Violet 421™ anti-human Perforin Antibody

<b>Catalog# / Size</b>	308121 / 25 tests 308122 / 100 tests
<b>Clone</b>	dG9
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	PRF1, P1, PFP, HPLH2
<b>Isotype</b>	Mouse IgG2b, κ
<b>Description</b>	Perforin is a 70 kD cytolytic protein that is expressed in the cytoplasmic granules of cytotoxic T lymphocytes (CTLs) and natural killer (NK) cells. Perforin is one of the major effector molecules used by cytotoxic T cells and NK cells to mediate targeted cell lysis.

### Product Details

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<b>Verified Reactivity</b>	Human
<b>Reported Reactivity</b>	Cow
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Purified granules from the human lymphoma cell line
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 421™ under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">ICFC - Quality tested</a>
<b>Recommended Usage</b>	<p>Each lot of this antibody is quality control tested by <a href="#">intracellular immunofluorescent staining with flow cytometric analysis</a>. For flow cytometric staining, the suggested use of this reagent is 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood.</p> <p>Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd.</p> <p><a href="#">Learn more about Brilliant Violet™.</a></p> <p>This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.</p>
<b>Excitation Laser</b>	Violet Laser (405 nm)
<b>Application Notes</b>	<p>Clone dG9 primarily recognizes perforin associated with cytotoxic granules<sup>9</sup>. Additional reported applications (for the relevant formats) include: immunoprecipitation, intracellular flow cytometric analysis and immunofluorescence microscopy<sup>5,7</sup>, and immunohistochemical staining of acetone-fixed frozen tissue sections and formalin-fixed paraffin-embedded tissue sections<sup>1,4</sup>.</p> <p>Does not cross-react with mouse<sup>1</sup>.</p>
<b>Application References</b>	

1. Hameed A, *et al.* 1992. *Am. J. Pathol.* 140:1025. (IHC)
2. Schaerli P, *et al.* 2004. *J. Exp. Med.* 199:1265.
3. Watanabe N, *et al.* 1997. *Blood* 90:3662.
4. Mauad T, *et al.* 2004. *Pediatr. Pulmonol.* 38:233. (IHC)
5. Barrat FJ, *et al.* 1999. *P. Natl. Acad. Sci. USA* 96:8645. (IF)
6. Chen H, *et al.* 2005. *J. Immunol.* 175:591.
7. Bryceson YT, *et al.* 2007. *Blood* doi:10.1182/blood-2007-02-074468. (IF)
8. Wood SM, *et al.* 2009. *Blood* 114:4117. [PubMed](#)
9. Makedonas G, *et al.* 2010. *PLoS Pathog.* 6:e1000798.

#### Product Citations

1. Park SY, *et al.* 2022. *NPJ Vaccines.* 7:123. [PubMed](#)
2. Caduff N, *et al.* 2021. *Cell Reports.* 35(5):109056. [PubMed](#)
3. Hubrack S, *et al.* 2021. *Sci Rep.* 11:14090. [PubMed](#)
4. Singh KS, *et al.* 2021. *Nature.* 589:597. [PubMed](#)
5. Seo IH, *et al.* 2021. *Cell Reports.* 36(4):109438. [PubMed](#)
6. Chen YP, *et al.* 2020. *Cell Res.* 30:1024. [PubMed](#)

#### RRID

AB\_2566203 (BioLegend Cat. No. 308121)  
 AB\_2566204 (BioLegend Cat. No. 308122)

## Antigen Details

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<b>Structure</b>	70 kD
<b>Distribution</b>	CTL, NK (cytoplasmic granules)
<b>Function</b>	Mediates targeted cell lysis
<b>Cell Type</b>	NK cells, T cells
<b>Biology Area</b>	Cell Biology, Immunology, Innate Immunity, Neuroscience
<b>Molecular Family</b>	Cytokines/Chemokines
<b>Antigen References</b>	1. Lieberman J. 2003. <i>Nat. Rev. Immunol.</i> 3:361. 2. Trapani J, <i>et al.</i> 2002. <i>Nat. Rev. Immunol.</i> 2:735.
<b>Gene ID</b>	<a href="#">5551</a>

## Related Protocols

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[Surface and Intracellular Cytokine Staining for Flow Cytometry - Video](#)

[Intracellular Flow Cytometry Staining Protocol](#)

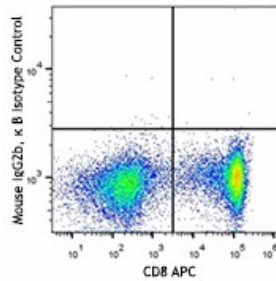
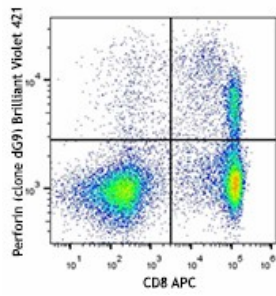
## Other Formats

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FITC anti-human Perforin, PE anti-human Perforin, Purified anti-human Perforin, Alexa Fluor® 488 anti-human Perforin, Alexa Fluor® 647 anti-human Perforin, APC anti-human Perforin, Pacific Blue™ anti-human Perforin, PerCP/Cyanine5.5 anti-human Perforin, Brilliant Violet 510™ anti-human Perforin, Brilliant Violet 421™ anti-human Perforin, Alexa Fluor® 594 anti-human Perforin, APC/Cyanine7 anti-human Perforin, PE/Cyanine7 anti-human Perforin, Brilliant Violet 711™ anti-human Perforin, PE/Dazzle™ 594 anti-human Perforin

## Product Data

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Human peripheral blood lymphocytes were surface stained with CD8 APC, fixed with Fixation Buffer, permeabilized with Permeabilization Wash Buffer, and then intracellularly stained with perforin (clone dG9) Brilliant Violet 421™ (top), or mouse IgG2b, κ Brilliant Violet 421™ isotype control (bottom).

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