

## Brilliant Violet 711™ anti-mouse CD279 (PD-1) Antibody

<b>Catalog# / Size</b>	135231 / 50 µg
<b>Clone</b>	29F.1A12
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	PD-1, Programmed Death-1
<b>Isotype</b>	Rat IgG2a, κ
<b>Description</b>	CD279, also known as programmed death-1 (PD-1), is a 50-55 kD glycoprotein belonging to the CD28 family of the Ig superfamily. PD-1 is expressed on activated splenic T and B cells and thymocytes. It is induced on activated myeloid cells as well. PD-1 is involved in lymphocyte clonal selection and peripheral tolerance through binding its ligands, B7-H1 (PD-L1) and B7-DC (PD-L2). It has been reported that PD-1 and PD-L1 interactions are critical to positive selection and play a role in shaping the T cell repertoire. PD-L1 negative costimulation is essential for prolonged survival of intratesticular islet allografts.

### Product Details

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<b>Verified Reactivity</b>	Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Rat
<b>Immunogen</b>	PD-1 cDNA followed by PD-1-Ig fusion protein
<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 711™ under optimal conditions.
<b>Concentration</b>	0.2 mg/ml
<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="#">FC - Quality tested</a>
<b>Recommended Usage</b>	<p>Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a>. For flow cytometric staining, the suggested use of this reagent is ≤0.25 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>Brilliant Violet 711™ excites at 405 nm and emits at 711 nm. The bandpass filter 710/50 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. <b>Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel.</b> Refer to your instrument manual or manufacturer for support. Brilliant Violet 711™ 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>	Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen tissue <sup>3</sup> , <i>in vivo</i> blocking of PD-1 binding to its ligands <sup>2,3</sup> , and spatial biology (IBEX) <sup>5,6</sup> .

## Application References

1. Good-Jacobson KL, *et al.* 2010. *Nat. Immunol.* 11:535. (FC) [PubMed](#)
2. Lázár-Molnár E, *et al.* 2008. *Proc. Natl. Acad. Sci. USA* 105:2658. (Block)
3. Liang SC, *et al.* 2003. *Eur. J. Immunol.* 33:2706. (FC, IHC, Block)
4. Tobias J, *et al.* 2020. *Front Immunol.* 11:895 (FC, ELISA) [PubMed](#)
5. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) [PubMed](#)
6. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

## Product Citations

1. Pasciuto E, *et al.* 2020. *Cell.* 182:625. [PubMed](#)
2. Lebel MÈ, *et al.* 2020. *Nat Commun.* 3.051388889. [PubMed](#)
3. Li C, *et al.* 2020. *Immunity.* 52(1):201-202. [PubMed](#)
4. Alterauge D, *et al.* 2020. *Cell Rep.* 33:108232. [PubMed](#)
5. Fu X, *et al.* 2020. *Aging (Albany NY).* 12:15656. [PubMed](#)
6. Delacher M, *et al.* 2021. *Immunity.* 54(4):702-720.e17. [PubMed](#)
7. Dong L, *et al.* 2021. *Cancer Cell.* . [PubMed](#)

## RRID

AB\_2566158 (BioLegend Cat. No. 135231)

## Antigen Details

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<b>Structure</b>	A 50-55 kD glycoprotein belonging to the CD28 family of the Ig superfamily.
<b>Distribution</b>	Induced on splenic T and B lymphocytes, thymocytes, and myeloid cells after stimulation.
<b>Function</b>	Involved in lymphocyte clonal selection and peripheral tolerance, prolonged survival of allografts.
<b>Ligand/Receptor</b>	B7-H1 (PD-L1) and B7-DC (PD-L2)
<b>Cell Type</b>	B cells, T cells
<b>Biology Area</b>	Cancer Biomarkers, Immunology, Inhibitory Molecules
<b>Molecular Family</b>	CD Molecules, Immune Checkpoint Receptors
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Nishimura H, <i>et al.</i> 2001. <i>Science</i> 291:319</li><li>2. Agata Y, <i>et al.</i> 1996. <i>Int. Immunol.</i> 8:765</li><li>3. Liang SC, <i>et al.</i> 2003. <i>Eur. J. Immunol.</i> 33:2706</li><li>4. Barber DL, <i>et al.</i> 2006. <i>Nature</i> 439:682</li><li>5. Keir ME, <i>et al.</i> 2005. <i>J. Immunol.</i> 175:7372</li><li>6. Koehn BH. <i>et al.</i> 2008. <i>J Immunol.</i> 181:5313</li></ol>
<b>Gene ID</b>	<a href="#">18566</a>

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

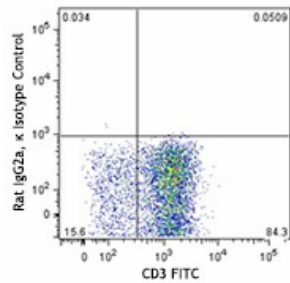
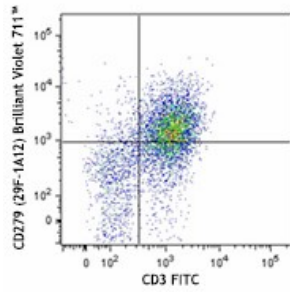
## Other Formats

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PE anti-mouse CD279 (PD-1), Purified anti-mouse CD279 (PD-1), PerCP/Cyanine5.5 anti-mouse CD279 (PD-1), APC anti-mouse CD279 (PD-1), Biotin anti-mouse CD279 (PD-1), FITC anti-mouse CD279 (PD-1), PE/Cyanine7 anti-mouse CD279 (PD-1), Brilliant Violet 421™ anti-mouse CD279 (PD-1), Brilliant Violet 605™ anti-mouse CD279 (PD-1), APC/Cyanine7 anti-mouse CD279 (PD-1), Brilliant Violet 785™ anti-mouse CD279 (PD-1), PE/Dazzle™ 594 anti-mouse CD279 (PD-1), Alexa Fluor® 647 anti-mouse CD279 (PD-1), Brilliant Violet 711™ anti-mouse CD279 (PD-1), GolnVivo™ Purified anti-mouse CD279 (PD-1), APC/Fire™ 750 anti-mouse CD279 (PD-1), Brilliant Violet 510™ anti-mouse CD279 (PD-1), Ultra-LEAF™ Purified anti-mouse CD279 (PD-1), APC/Fire™ 810 anti-mouse CD279 (PD-1) Antibody, PE/Fire™ 810 anti-mouse CD279 (PD-1) Antibody, PE/Cyanine5 anti-mouse CD279 (PD-1), PE/Fire™ 640 anti-mouse CD279 (PD-1)

## Product Data

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Con-A and IL-2 stimulated C57BL/6 splenocytes (three days) were stained with CD3 FITC and CD279 (clone 29F.1A12) Brilliant Violet 711™ (top), or rat IgG2a, κ Brilliant Violet 711™ isotype control (bottom).

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