Alexa Fluor® 700 anti-human CD279 (PD-1) Antibody

Catalog# / Size	329951 / 25 tests
	329952 / 100 tests
Clone	EH12.2H7
Regulatory Status	RUO
Other Names	PD-1
Isotype	Mouse IgG1, κ
Description	Programmed cell death 1 (PD-1), also known as CD279, is a 55 kD member of the immunoglobulin superfamily. CD279 contains the immunoreceptor tyrosine-based inhibitory motif (ITIM) in the cytoplasmic region and plays a key role in peripheral tolerance and autoimmune disease. CD279 is expressed predominantly on activated T cells, B cells, and myeloid cells. PD-L1 (B7-H1) and PD-L2 (B7-DC) are ligands of CD279 (PD-1) and are members of the B7 gene family. Evidence suggests overlapping functions for these two PD-1 ligands and their constitutive expression on some normal tissues and upregulation on activated antigen-presenting cells. Interaction of CD279 ligands results in inhibition of T cell proliferation and cytokine secretion.

Product Details

Verified Reactivity	Human
Reported Reactivity	African Green, Baboon, Chimpanzee, Common Marmoset, Cynomolgus, Rhesus, Squirrel Monkey
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 700 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	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. **Do not freeze.**
Application	FC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. 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.
	* Alexa Fluor® 700 has a maximum emission of 719 nm when it is excited at 633 nm / 635 nm. Prior to using Alexa Fluor® 700 conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome.
	Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.
	View full statement regarding label licenses
Excitation Laser	Red Laser (633 nm)
Application Notes	Additional reported applications (for the relevant formats) include: blocking of ligand binding[1-3], immunohistochemical staining of paraformaldehyde fixed frozen sections[13], and spatial biology (IBEX)[15,16]. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 329911 and 329912). For highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 329926) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01 EU/µg).

Application References

(PubMed link indicates BioLegend citation)	1. Dorfman DM, *et al.* 2006 *Am. J. Surg. Pathol.* 30:802. (FA)
	2. Radziewicz H, *et al.* 2007. *J. Virol.* 81:2545. (FA)
	3. Velu V, *et al.* 2007. *J. Virol.* 81:5819. (FA)
	4. Zahn RC, *et al.* 2008. *J. Virol.* 82:11577. PubMed
	5. Chang WS, *et al.* 2008. *J. Immunol.* 181:6707. (FC) PubMed
	6. Nakamoto N, *et al.* 2009. *PLoS Pathog.* 5:e1000313. (FA)
	7. Jones RB, *et al.* 2009. *J. Virol.* 83:8722. (FC) PubMed
	8. Vojnov L, *et al.* 2010. *J. Virol.* 84:753. (FC) PubMed
	9. Radziewicz H, *et al.* 2010. *J. Immunol.* 184:2410. (FC) PubMed
	10. Monteriro P, *et al.* 2011. *J. Immunol.* 186:4618. PubMed
	11. Conrad J, *et al.* 2011. *J. Immunol.* 186:6871. PubMed
	12. Salisch NC, *et al.* 2010. *J. Immunol.* 184:476. (Rhesus reactivity)
	13. Li H and Pauza CD. 2015. *Eur. J. Immunol.* 45:298. (IHC)
	14. Peterson VM, *et al.* 2017. *Nat. Biotechnol.* 35:936. (PG)
	15. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci USA.* 117:33455-33465. (SB) PubMed
	16. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) PubMed

Product Citations	
	1. Ford BD, *et al.* 2021. Int J Mol Sci. 22:. PubMed
RRID	AB_2566363 (BioLegend Cat. No. 329951)
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Antigen Details

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Structure	Immunoglobulin superfamily
Distribution	Transiently expressed on CD4⁻ CD8⁻ thymocytes; upregulated in thymocytes and splenic T and B lymphocytes; expressed on activated myeloid cells
Ligand/Receptor	B7-H1 (also known as PD-L1) and B7-DC (PD-L2)
Cell Type	B cells, Lymphocytes, T cells, Thymocytes, Tregs
Biology Area	Cancer Biomarkers, Immunology, Inhibitory Molecules
Molecular Family	CD Molecules, Immune Checkpoint Receptors
Gene ID	5133

Related Protocols

Cell Surface Flow Cytometry Staining Protocol

Other Formats

Brilliant Violet 421™ anti-human CD279 (PD-1), Purified anti-human CD279 (PD-1), FITC anti-human CD279 (PD-1), PE anti-human CD279 (PD-1), APC anti-human CD279 (PD-1), Alexa Fluor® 647 anti-human CD279 (PD-1), PerCP/Cyanine5.5 anti-human CD279 (PD-1), APC/Cyanine7 anti-human CD279 (PD-1), Pacific Blue™ anti-human CD279 (PD-1), PE/Cyanine7 anti-human CD279 (PD-1), Purified anti-human CD279 (PD-1) (Maxpar® Ready), Brilliant Violet 605™ anti-human CD279 (PD-1), Ultra-LEAF™ Purified anti-human CD279 (PD-1), Brilliant Violet 711™ anti-human CD279 (PD-1), Brilliant Violet 785™ anti-human CD279 (PD-1), Brilliant Violet 510™ anti-human CD279 (PD-1), Biotin anti-human CD279 (PD-1), PE/Dazzle™ 594 anti-human CD279 (PD-1), Alexa Fluor® 488 anti-human CD279 (PD-1), PerCP anti-human CD279 (PD-1), GoInVivo™ Purified anti-human CD279 (PD-1), Brilliant Violet 650™ anti-human CD279 (PD-1), Alexa Fluor® 700 anti-human CD279 (PD-1), APC/Fire™ 750 anti-human CD279 (PD-1), TotalSeq™-A0088 anti-human CD279 (PD-1), TotalSeq™-B0088 anti-human CD279 (PD-1), TotalSeq™-C0088 anti-human CD279 (PD-1), Brilliant Violet 750™ anti-human CD279 (PD-1), TotalSeq™-D0088 anti-human CD279 (PD-1), PE/Fire™ 640 anti-human CD279 (PD-1), PE/Cyanine5 anti-human CD279 (PD-1)

Product Data
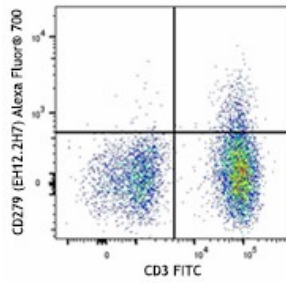
Human peripheral blood lymphocytes were stained with CD3 FITC and CD279 (clone EH12.2H7) Alexa Fluor® 700 (top) or mouse IgG1, κ Alexa Fluor® 700 isotype control (bottom).
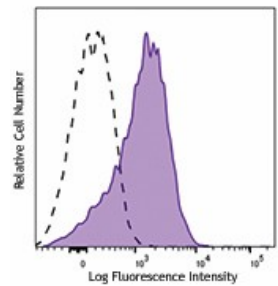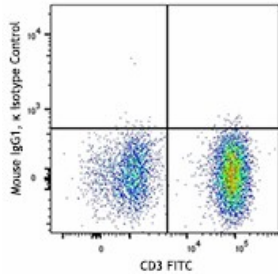
PHA-stimulated (three days) human peripheral blood lymphocytes were stained with CD279 (clone EH12.2H7) Alexa Fluor® 700 (filled histogram) or mouse IgG1, κ Alexa Fluor® 700 (open histogram).