PE/Cyanine7 anti-human CD274 (B7-H1, PD-L1) Antibody

Catalog# / Size	329717 / 25 tests 329718 / 100 tests
Clone	29E.2A3
Regulatory Status	RUO
Other Names	Programmed cell death ligand 1 (PD-L1), B7 homolog 1 (B7-H1)
Isotype	Mouse IgG2b, κ
Description	CD274, also known as PD-L1 and B7-H1, is type I transmembrane glycoprotein that serves as a ligand for CD279 (PD-1). This interaction is believed to regulate the balance between the stimulatory and inhibitory signals needed for responses to microbes and maintenance of self-tolerance. CD274 is involved in the costimulation of T cell proliferation and IL-10 and IFN-γ production in an IL-2-dependent and CD279-independent manner. Conflicting data has shown that CD274 can inhibit T cell proliferation and cytokine production, and alternatively, enhance T cell activation. Other studies suggest that CD274 may signal bidirectionally, raising interesting implications for its expression in a wide variety of cell types, including T and B cells, antigen-presenting cells, and nonhematopoietic cells.

Product Details

Verified Reactivity	Human
Reported Reactivity	African Green, Baboon, Cynomolgus, Rhesus
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Full length human PD-L1
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 PE/Cyanine7 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.
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
Application Notes	Clone 29E.2A3 is reported to recognize an epitope on PD-L1 within the PD-L1-CD80 binding region[5]. Additional reported applications (for the relevant formats) include: blocking[1-3] and immunohistochemical staining of acetone-fixed frozen sections[1]. The Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 329715, 329716, 329745 - 329748). It has been observed that clone 29E.2A3 is able to bind to Alexa Fluor® 700 antibody conjugates during multi-color immunofluorescent staining. This interaction can be resolved by sequentially staining with the 29E.2A3 antibody first and then followed by the Alexa Fluor® 700 conjugate of interest. Clone 29E.2A3 does not work in Western blot applications[7].
Additional Product Notes	BioLegend is in the process of converting the name PE/Cy7 to PE/Cyanine7. The dye molecule

remains the same, so you should expect the same quality and performance from our PE/Cyanine7 products. Please contact Technical Service if you have any questions.

Application References

(PubMed link indicates BioLegend citation)

1. Brown J, *et al.* 2003. *J. Immunol.* 170:1257. (FC, IHC, Block)
2. Radziewicz H, *et al.* 2007. *J. Virol.* 81:2545. (Block)
3. Nakamoto N, *et al.* 2009. *PLoS Pathog.* 5:e1000313. (Block)
4. Barsoum IB, *et al.* 2014. *Cancer Res.* 74:665. PubMed
5. Haile, S *et al.* 2013. *J. Immunol.* 191:2829.
6. RL M, *et al.* 2015. *PNAS.* 112:6506-6514. PubMed
7. Mahoney KM, *et al.* 2015. *Cancer Immunol.* Res. 3:1308.

Product Citations

1. Findlay EG, *et al.* 2019. Oncoimmunology. 8:1608106. PubMed
2. Lv H, *et al.* 2020. Cell Metabolism. 33(1):110-127.e5. PubMed
3. Kitajima S, *et al.* 2019. Cancer Discov. 9:34. PubMed
4. Shevyrev D, *et al.* 2021. Exp Ther Med. 209:21. PubMed
5. Zhang D, *et al.* 2021. Cancer Med. 10:2137. PubMed
6. Perdigoto AL, *et al.* 2022. JCI Insight. 7:. PubMed
7. Cañadas I, *et al.* 2018. Nat Med. 24:1143. PubMed
8. Yoshida R, *et al.* 2022. Cancer Res. :. PubMed
9. Horn LA, *et al.* 2017. Oncotarget. 8:57964. PubMed
10. Zhao Y *et al.* 2018. Cell reports. 24(2):379-390 . PubMed
11. Chakraborty M, *et al.* 2021. Cell Reports. 34(2):108609. PubMed
12. Suszczyk D, *et al.* 2022. Int J Mol Sci. 23:. PubMed
13. Ezzelarab MB, *et al.* 2017. Am J Transplant. 1.733333333. PubMed
14. Zhang Q, *et al.* 2018. J Immunol Res. 2017:6915912. PubMed

RRID

AB_2561686 (BioLegend Cat. No. 329717)
AB_2561687 (BioLegend Cat. No. 329718)

Antigen Details

Distribution

T cells, B cells, NK cells, monocytes/macrophages, granulocytes and dendritic cells

Function

CD274 is involved in the costimulatory signal, essential for T lymphocyte proliferation and production of IL-10 and IFN-γ, in an IL-2-dependent and a PD-1-CD1-independent manner. Its interaction with PD-1-CD1 inhibits T-cell proliferation and cytokine production.

Ligand/Receptor

PD-1 (PDCD1)

Cell Type

B cells, Dendritic cells, Fibroblasts, Granulocytes, Macrophages, Monocytes, NK cells, T cells

Biology Area

Cancer Biomarkers, Costimulatory Molecules, Immunology

Molecular Family

Adhesion Molecules, CD Molecules, Immune Checkpoint Receptors

Antigen References

1. Sharpe A, *et al.* 2007. *Nat. Immunol.* 8:239.

Gene ID

29126

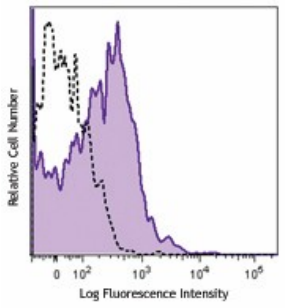
Related Protocols

Cell Surface Flow Cytometry Staining Protocol

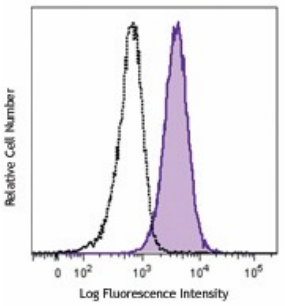
Other Formats

Purified anti-human CD274 (B7-H1, PD-L1), Biotin anti-human CD274 (B7-H1, PD-L1), PE anti-human CD274 (B7-H1, PD-L1), APC anti-human CD274 (B7-H1, PD-L1), Brilliant Violet 421™ anti-human CD274 (B7-H1, PD-L1), Ultra-LEAF™ Purified anti-human CD274 (B7-H1, PD-L1), PE/Cyanine7 anti-human CD274 (B7-H1, PD-L1), Purified anti-human CD274 (B7-H1, PD-L1) (Maxpar® Ready), Brilliant Violet 711™ anti-human CD274 (B7-H1, PD-L1), Brilliant Violet 605™ anti-human CD274 (B7-H1, PD-L1), GoInVivo™ Purified anti-human CD274 (B7-H1, PD-L1), PE/Dazzle™ 594 anti-human CD274 (B7-H1, PD-L1), Brilliant Violet 785™ anti-human CD274 (B7-H1, PD-L1), Brilliant Violet 510™ anti-human CD274 (B7-H1, PD-L1), PerCP/Cyanine5.5 anti-human CD274 (B7-H1, PD-L1), Brilliant Violet 650™ anti-human CD274 (B7-H1, PD-L1), Alexa Fluor® 594 anti-human CD274 (B7-H1, PD-L1), TotalSeq™-A0007 anti-human CD274 (B7-H1, PD-L1), TotalSeq™-B0007 anti-human CD274 (B7-H1, PD-L1), TotalSeq™-C0007 anti-human CD274 (B7-H1, PD-L1), TotalSeq™-D0007 anti-human CD274 (B7-H1, PD-L1), PE/Fire™ 810 anti-human CD274 (B7-H1, PD-L1) Antibody, PE/Cyanine5 anti-human CD274 (B7-H1, PD-L1), Spark YG™ 570 anti-human CD274 (B7-H1, PD-L1)

Product Data



Human peripheral blood lymphocytes were stained with CD274 (clone 29E.2A3) PE/Cyanine7 (filled histogram) or mouse IgG2b PE/Cyanine7 isotype control (open histogram).



PHA-stimulated (3 days) human peripheral blood lymphocytes were stained with CD274 (clone 29E.2A3) PE/Cyanine7 (filled histogram) or mouse IgG2b, κ PE/Cyanine7 isotype control (open histogram).

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