

Brilliant Violet 421™ anti-human CD90 (Thy1) Antibody

Catalog# / Size	328121 / 25 tests 328122 / 100 tests
Clone	5E10
Regulatory Status	RUO
Workshop	HCDM listed
Other Names	Thy-1, Thy1
Isotype	Mouse IgG1, κ
Description	CD90 is a 25-35 kD GPI-anchored protein, also known as Thy-1. It belongs to the Ig superfamily. Human CD90 is expressed on neuronal cells, a subset of CD34 ⁺ cells, a subset of fetal liver cells and fetal thymocytes, fibroblasts, activated endothelial cells, and some leukemia cell lines. CD34 ⁺ CD90 ⁺ cells are primitive hematopoietic stem cells. It has been reported that Thy-1 binds with β2 and β3 integrins and plays bimodal roles in the regulation of cell adhesion and neurite outgrowth, and inhibits hematopoietic stem cells proliferation and differentiation.

Product Details

Verified Reactivity	Human
Reported Reactivity	African Green, Baboon, Cynomolgus, Pigtailed Macaque, Rhesus, Pig
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	HEL cells
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 Brilliant Violet 421™ 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	<p>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.</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>Learn more about Brilliant Violet™.</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>
Excitation Laser	Violet Laser (405 nm)
Application Notes	Clone 5E10 recognizes an epitope on Thy-1 independent of its glycosylation, but is abolished under reducing conditions. ⁴ Additional reported (for the relevant formats) applications include: immunohistochemical staining of acetone-fixed frozen sections, immunoprecipitation ¹ , and

immunofluorescence³.

Application References

(PubMed link indicates BioLegend citation)

1. Craig W, *et al.* 1993. *J. Exp. Med.* 177:1331. (IP)
2. Gundlach CW 4th, *et al.* 2011. *Bioconjug. Chem.* 22:1706. (Pig Reactivity)
3. Touboul C, *et al.* 2013. *J. Transl. Med.* 11:28. (IF)
4. Bradley JE, *et al.* 2013. *Lab Invest.* 93:365. (Epitope)
5. Donnenberg VS, *et al.* 2010. *Cytometry B. Clin. Cytom.* 5:287. (IHC)

Product Citations

1. Gomzikova MO, *et al.* 2019. *Cells.* 0.440972222. [PubMed](#)
2. Lal A, *et al.* 2021. *Nat Commun.* 1507:12. [PubMed](#)
3. Nafria M, *et al.* 2020. *Cell Rep.* 31:107691. [PubMed](#)
4. Psaila B, *et al.* 2020. *Mol Cell.* 78:477. [PubMed](#)
5. Audigé A, *et al.* 2017. *BMC Immunology.* 10.1186/s12865-017-0209-9. [PubMed](#)
6. Roy A, *et al.* 2021. *Cell Rep.* 36:109698. [PubMed](#)
7. Louka E, *et al.* 2021. *Journal of Experimental Medicine.* 218(2):. [PubMed](#)
8. Rodriguez-Meira A, *et al.* 2020. *STAR Protoc.* 1:100125. [PubMed](#)
9. Tamai K, *et al.* 2022. *Cell Rep Methods.* 2:100314. [PubMed](#)
10. Busch A, *et al.* 2020. *Int J Mol Sci.* 21:.. [PubMed](#)
11. Nafria M, *et al.* 2020. *STAR Protoc.* 1:100130. [PubMed](#)
12. Crawford LB, *et al.* 2021. *J Virol.* 95:.. [PubMed](#)
13. Brandau S, *et al.* 2014. *PLoS One.* 9:106903. [PubMed](#)
14. Rodriguez-Meira A *et al.* 2019. *Molecular cell.* 73(6):1292-1305 . [PubMed](#)

RRID

AB_10933261 (BioLegend Cat. No. 328121)
AB_2561420 (BioLegend Cat. No. 328122)

Antigen Details

Structure	25-35 kD glycoprotein, Ig superfamily
Distribution	Subset of CD34 ⁺ hematopoietic stem cells, subset of fetal thymocytes, subset of fetal liver cells, fibroblast, activated endothelial cells, neurons and some leukemia cell lines
Function	Regulate hematopoiesis and neural cell growth, cell adhesion
Ligand/Receptor	β3 integrin, β2 integrin
Cell Type	Endothelial cells, Fibroblasts, Hematopoietic stem and progenitors, Leukemia, Mesenchymal Stem Cells, Neurons, Thymocytes
Biology Area	Immunology, Stem Cells
Molecular Family	CD Molecules
Antigen References	<ol style="list-style-type: none">1. McKenzie JL, <i>et al.</i> 1981. <i>J. Immunol.</i> 126:843.2. Avalos AM, <i>et al.</i> 2002. <i>Biol. Res.</i> 35:231.3. Wetzel A, <i>et al.</i> 2004. <i>J. Immunol.</i> 172:3850.
Gene ID	7070

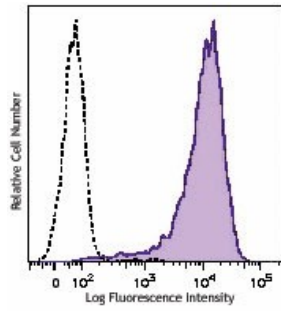
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

PE/Cyanine7 anti-human CD90 (Thy1), Purified anti-human CD90 (Thy1), Biotin anti-human CD90 (Thy1), FITC anti-human CD90 (Thy1), PE anti-human CD90 (Thy1), PE/Cyanine5 anti-human CD90 (Thy1), APC anti-human CD90 (Thy1), Alexa Fluor® 647 anti-human CD90 (Thy1), PerCP/Cyanine5.5 anti-human CD90 (Thy1), Alexa Fluor® 700 anti-human CD90 (Thy1), Brilliant Violet 421™ anti-human CD90 (Thy1), Brilliant Violet 510™ anti-human CD90 (Thy1), Brilliant Violet 605™ anti-human CD90 (Thy1), Purified anti-human CD90 (Thy1) (Maxpar® Ready), APC/Cyanine7 anti-human CD90 (Thy1), PE/Dazzle™ 594 anti-human CD90 (Thy1), APC/Fire™ 750 anti-human CD90 (Thy1), Brilliant Violet 711™ anti-human CD90 (Thy1), TotalSeq™-A0060 anti-human CD90 (Thy1), Brilliant Violet 785™ anti-human CD90 (Thy1), Brilliant Violet 650™ anti-human CD90 (Thy1), TotalSeq™-C0060 anti-human CD90 (Thy1), TotalSeq™-B0060 anti-human CD90 (Thy1), TotalSeq™-D0060 anti-human CD90 (Thy1)

Product Data



Human erythroleukemia cell line (HEL) was stained with CD90 (clone 5E10) Brilliant Violet 421™ (filled histogram) or mouse IgG1, κ Brilliant Violet 421™ isotype control (open histogram).

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