

Purified anti-human CD49d (Maxpar[®] Ready) Antibody

Catalog# / Size	304319 / 100 µg
Clone	9F10
Regulatory Status	RUO
Workshop	V S215
Other Names	VLA-4 α chain, α4 integrin, Integrin α4 chain, ITGA4
Isotype	Mouse IgG1, κ
Description	CD49d is a 150 kD α integrin chain known as α ₄ integrin or VLA-4 α chain. It forms a heterodimer with either integrin β1 (α ₄ β ₁ , VLA-4) or β7 (α ₄ β ₇). CD49d is expressed broadly on T lymphocytes, B lymphocytes, monocytes, thymocytes, eosinophils, basophils, mast cells, NK cells, dendritic cells, and some non-hematopoietic cells, but not on normal red blood cells, platelets or neutrophils. VLA-4 binds to VCAM-1 (CD106) and fibronectin. α ₄ β ₇ is the receptor for VCAM-1 and MAdCAM-1. CD49d participates in mononuclear cell trafficking to endothelial sites of inflammation and has roles in cell-cell interactions and cell adhesion to extracellular matrices. CD49d is involved in lymphocyte migration, T cell activation, and hematopoietic stem cell differentiation. CD49d is a marker to isolate pure populations of Treg cells due to its absence on Foxp3 ⁺ cells.

Product Details

Verified Reactivity	Human, Cynomolgus, Rhesus
Reported Reactivity	African Green, Baboon, Cat, Cow, Chimpanzee, Common Marmoset, Dog, Horse, Sheep, Squirrel Monkey
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and EDTA.
Preparation	The antibody was purified by affinity chromatography.
Concentration	1.0 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	FC - Quality tested CyTOF[®] - Verified
Recommended Usage	This product is suitable for use with the Maxpar[®] Metal Labeling Kits . For metal labeling using Maxpar [®] Ready antibodies, proceed directly to the step to Partially Reduce the Antibody by adding 100 µl of Maxpar [®] Ready antibody to 100 µl of 4 mM TCEP-R in a 50 kDa filter and continue with the protocol. Always refer to the latest version of Maxpar [®] User Guide when conjugating Maxpar [®] Ready antibodies.
Application Notes	Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen tissue sections, and <i>in vitro</i> T cell costimulation ^{2,3} . The Ultra-LEAF™ Purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 304339 and 304340).
Additional Product Notes	Maxpar [®] is a registered trademark of Standard BioTools Inc.
Application References	<ol style="list-style-type: none"> Schlossman S, <i>et al.</i> Eds. 1995. Leucocyte Typing V. Oxford University Press. New York. Jeong SH, <i>et al.</i> 2004. <i>J. Virol.</i> 78:6995. (Costim) Vogel TU, <i>et al.</i> 2002. <i>J. Immunol.</i> 169:4511. (Costim) Kleinewietfeld M, <i>et al.</i> 2009. <i>Blood</i> 113:827. (FC) PubMed Palacios F, <i>et al.</i> 2010. <i>Blood</i> 115:4488. PubMed Yoshino N, <i>et al.</i> 2000. <i>Exp. Anim. (Tokyo)</i> 49:97. (FC) Sestak K, <i>et al.</i> 2007. <i>Vet. Immunol. Immunopathol.</i> 119:21.
(PubMed link indicates BioLegend citation)	

8. Mattapallil MJ, et al. 2011. *J. Immunol.* 187:1977. [PubMed](#)

Product Citations

1. Dinh HQ, et al. 2020. *Immunity.* 53(2):319-334.e6. [PubMed](#)

RRID

AB_2563755 (BioLegend Cat. No. 304319)

Antigen Details

Structure	Integrin, type I transmembrane glycoprotein, 150 kD.
Distribution	T cells, B cells, NK , dendritic cells, thymocytes, monocytes, eosinophils, mast cells.
Function	Lymphocyte migration, T cell activation, stem cell differentiation.
Ligand/Receptor	Fibronectin, VCAM-1, MAdCAM-1
Cell Type	B cells, Dendritic cells, Eosinophils, Mast cells, Monocytes, NK cells, T cells, Thymocytes, Tregs
Biology Area	Cell Adhesion, Cell Biology, Immunology, Innate Immunity
Molecular Family	Adhesion Molecules, CD Molecules
Antigen References	1. Elices M, Ed.1995. <i>Springer Semin. Immunopathol.</i> 16(4). 2. Lobb RR and Helmer ME. et al. 1994. <i>J. Clin. Invest.</i> 94:1722.
Gene ID	3676

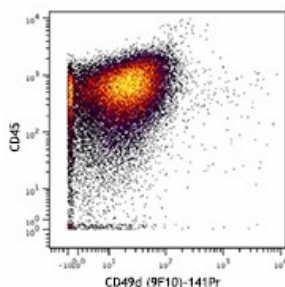
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

APC anti-human CD49d, PE anti-human CD49d, PE/Cyanine5 anti-human CD49d, Purified anti-human CD49d, Alexa Fluor® 594 anti-human CD49d, PerCP/Cyanine5.5 anti-human CD49d, PE/Cyanine7 anti-human CD49d, FITC anti-human CD49d, Brilliant Violet 510™ anti-human CD49d, Brilliant Violet 421™ anti-human CD49d, Purified anti-human CD49d (Maxpar® Ready), Brilliant Violet 605™ anti-human CD49d, PE/Dazzle™ 594 anti-human CD49d, APC/Cyanine7 anti-human CD49d, Brilliant Violet 711™ anti-human CD49d, Alexa Fluor® 647 anti-human CD49d, Biotin anti-human CD49d, TotalSeq™-A0576 anti-human CD49d, Brilliant Violet 785™ anti-human CD49d, APC/Fire™ 750 anti-human CD49d, Ultra-LEAF™ Purified anti-human CD49d, TotalSeq™-C0576 anti-human CD49d, TotalSeq™-B0576 anti-human CD49d Antibody, TotalSeq™-D0576 anti-human CD49d

Product Data



Human PBMCs stained with 154Sm-anti-CD45 (Hi30) and 141Pr-anti-CD49D (9F10). Data provided by DVS Sciences.

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