

TotalSeq™-C0070 anti-human/mouse CD49f Antibody

Catalog# / Size	313635 / 10 µg
Clone	GoH3
Regulatory Status	RUO
Workshop	HCDM listed
Other Names	VLA-6 α chain, α6 integrin, integrin α6, ITGA6
Isotype	Rat IgG2a, κ
Barcode Sequence	TTCCGAGGATGATCT
Description	CD49f is a 120 kD integrin family member also known as VLA-6 α chain and α6 integrin subunit. CD49f associates with either integrin β ₁ (CD29) or integrin β ₄ (CD104) to form receptors (VLA-6 or α6β4 complex) for laminin and kalinin. CD49f is expressed on platelets, monocytes, T cells, placental trophoblasts, and epithelial and endothelial cells. CD49f is involved in adhesion and can act as a co-stimulatory molecule for T cell activation and proliferation.

Product Details

Verified Reactivity	Human, Cynomolgus, Rhesus
Reported Reactivity	African Green, Mouse, Baboon, Capuchin Monkey, Cat, Cow, Chimpanzee, Cynomolgus, Dog, Horse, Rabbit, Sheep, Pig
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Mouse mammary tumor cells
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 1 mM EDTA.
Preparation	The antibody was purified by chromatography and conjugated with TotalSeq™-C oligomer under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. Do not freeze.
Application	PG - Quality tested
Recommended Usage	<p>Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis and the oligomer sequence is confirmed by sequencing. TotalSeq™-C antibodies are compatible with 10x Genomics Chromium Single Cell Immune Profiling Solution.</p> <p>To maximize performance, it is strongly recommended that the reagent be titrated for each application, and that you centrifuge the antibody dilution before adding to the cells at 14,000xg at 2 - 8°C for 10 minutes. Carefully pipette out the liquid avoiding the bottom of the tube and add to the cell suspension. For Proteogenomics analysis, the suggested starting amount of this reagent for titration is ≤ 1.0 µg per million cells in 100 µL volume. Refer to the corresponding TotalSeq™ protocol for specific staining instructions.</p> <p>Buyer is solely responsible for determining whether Buyer has all intellectual property rights that are necessary for Buyer's intended uses of the BioLegend TotalSeq™ products. For example, for any technology platform Buyer uses with TotalSeq™, it is Buyer's sole responsibility to determine whether it has all necessary third party intellectual property rights to use that platform and TotalSeq™ with that platform.</p>
Application Notes	Additional reported applications (for the relevant formats) include: immunoprecipitation ^{1,5} , <i>in vitro</i> and <i>in vivo</i> blocking of cell binding to laminin and blocking the function of integrin α6 ^{1,4} , and immunohistochemistry of acetone-fixed frozen sections ^{2,3,5} . The GoH3 antibody has been reported to block laminin binding <i>in vitro</i> and to block integrin α6 function <i>in vivo</i> .

Additional Product Notes

TotalSeq™ reagents are designed to profile protein levels at a single cell level following an optimized protocol similar to the CITE-seq workflow. A compatible single cell device (e.g. [10x Genomics Chromium System and Reagents](#)) and sequencer (e.g. Illumina analyzers) are required. Please contact [technical support](#) for more information, or visit [biolegend.com/totalseq](#).

The barcode flanking sequences are CGGAGATGTGTATAAGAGACAGNNNNNNNNNN (PCR handle), and NNNNNNNNNCCCATATAAGA*A*A (capture sequence). N represents either randomly selected A, C, G, or T, and * indicates a phosphorothioated bond, to prevent nuclease degradation.

View more applications data for this product in our [Scientific Poster Library](#).

Application References

(PubMed link indicates BioLegend citation)

1. Georas SN, *et al.* 1993. *Blood* 82:2872. (IP, Block)
2. Honda T, *et al.* 1995. *J. Clin. Endocrinol. Metab.* 80:2899. (IHC)
3. Sonnenberg A, *et al.* 1986. *J. Histochem. Cytochem.* 34:1037. (IHC)
4. Nakamura K, *et al.* 1997. *Biochem. Biophys. Res. Commun.* 235:524. (Block)
5. Sonnenberg A, *et al.* 1987. *J. Biol. Chem.* 262:10376. (IP, IHC)
6. Deregibus MC, *et al.* 2007. *Blood* doi:10.1182/blood-2007-03-078709.
7. Horwitz KB, *et al.* 2008. *Proc Natl Acad Sci USA.* 105:5774. [PubMed](#)
8. Nardella C, *et al.* 2009. *Sci Signal.* 2:55. [PubMed](#)
9. Xu T, *et al.* 2010. *Mol Cancer Ther.* 9:438. [PubMed](#)
10. Stepp MA, *et al.* 2007. *J Cell Sci.* 120:2851. [PubMed](#)
11. Jo M, *et al.* 2010. *Cancer Res.* 70:8948. [PubMed](#)
12. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
13. Grange C, *et al.* 2011. *Cancer Res.* 71:5346. [PubMed](#)
14. Lai KP, *et al.* 2012. *Mol Endocrinol.* 26:52. [PubMed](#)
15. Oeztuerk-Winder F, *et al.* 2012. *EMBO J.* 31:3431. (FC) [PubMed](#)

Product Citations

1. Bachireddy P, *et al.* 2021. *Cell Rep.* 37:109992. [PubMed](#)

RRID

AB_2800825 (BioLegend Cat. No. 313635)

Antigen Details

Structure	Integrin family, associates with $\beta 1$ or $\beta 4$, 120 kD
Distribution	Platelets, monocytes, T cells, placental trophoblasts, epithelial and endothelial cells
Function	Adhesion, receptor for laminin and kalinin; laminin binding to VLA-6 induces T cell co-stimulation for proliferation and activation
Ligand/Receptor	With integrin $\beta 1$ (CD29) forms VLA-6, with integrin $\beta 4$ (CD104) forms $\alpha 6\beta 4$ integrin; laminin and kalinin are ligands for these receptors
Cell Type	Embryonic Stem Cells, Endothelial cells, Epithelial cells, Monocytes, Platelets, T cells
Biology Area	Cell Adhesion, Cell Biology, Immunology, Innate Immunity, Stem Cells
Molecular Family	Adhesion Molecules, CD Molecules
Antigen References	<ol style="list-style-type: none">1. Sonnenberg A, <i>et al.</i> 1990. <i>J. Cell Biol.</i> 110:2145.2. Sonnenberg A, <i>et al.</i> 1990. <i>J. Cell. Sci.</i> 96:207.3. Aumailley M, <i>et al.</i> 1990. <i>Exp. Cell Res.</i> 188:55.4. Niessen CM, <i>et al.</i> 1994. <i>Exp. Cell Res.</i> 211:360.
Gene ID	16403 3655

Related Protocols

[TotalSeq™-B or -C with 10x Feature Barcoding Technology](#)

Other Formats

Purified anti-human/mouse CD49f, Biotin anti-human/mouse CD49f, FITC anti-human/mouse CD49f, Alexa Fluor® 488 anti-human/mouse CD49f, Alexa Fluor® 647 anti-human/mouse CD49f, PE anti-human/mouse CD49f, APC anti-human/mouse CD49f,

PerCP/Cyanine5.5 anti-human/mouse CD49f, Pacific Blue™ anti-human/mouse CD49f, PE/Cyanine7 anti-human/mouse CD49f, Brilliant Violet 421™ anti-human/mouse CD49f, PE/Dazzle™ 594 anti-human/mouse CD49f, APC/Cyanine7 anti-human/mouse CD49f, APC/Fire™ 750 anti-human/mouse CD49f, TotalSeq™-A0070 anti-human/mouse CD49f, TotalSeq™-C0070 anti-human/mouse CD49f, Ultra-LEAF™ Purified anti-human/mouse CD49f, TotalSeq™-B0070 anti-human/mouse CD49f, TotalSeq™-D0070 anti-human/mouse CD49f

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