Technical Data Sheet

Purified Mouse Anti-Human CD49b

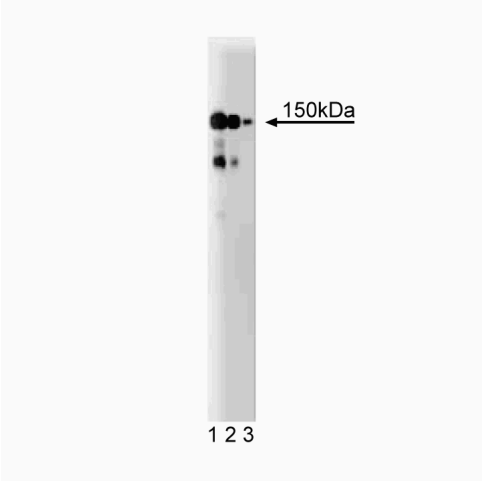
Product Information

Material Number:	**611016**
Alternate Name:	Integrin α2; VLA-2α
Size:	50 µg
Concentration:	250 µg/ml
Clone:	2/CD49b
Immunogen:	Human VLA-2α aa.42-245
Isotype:	Mouse IgG2a
Reactivity:	QC Testing: Human
Target MW:	150 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

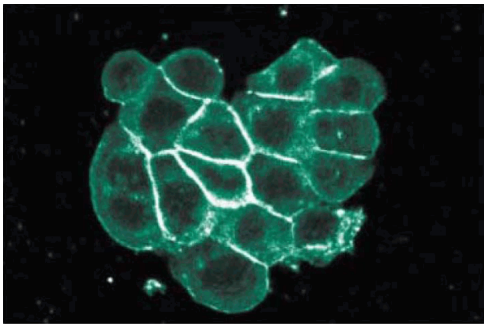
Description

Integrins are a family of dimeric proteins that mediate cell-to-cell and extracellular matrix adhesion. They consist of a large α chain that is non-covalently associated with a smaller β chain which is used to define integrin subfamilies. These molecules exhibit a wide range of expression throughout development and adulthood. VLA-2 (very late antigen), a member of the integrin superfamily, was identified on activated T cells, but has since been reported to be on various cell types. VLA-2 is reported to be a heterodimer of integrin α2 (CD49b) and integrin β1 (CD29) subunits. The α2 chain contains a large extracellular domain, a transmembrane domain, and a short cytoplasmic tail. VLA-2 functions as a collagen receptor on platelets and fibroblasts, as well as a collagen and laminin receptor on endothelial and epithelial cells. On activated T cells, VLA-2, like LFA-1, exhibits increased number and affinity of ligand binding. Interactions of these molecules with their extracellular matrix ligands is important for directing effector T cells to their target tissues and to provide co-stimulatory signals. Thus, VLA-2 not only plays an important role in cellular adhesion, but may function in intracellular signal transmission.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Western blot analysis of CD49b (Integrin α2) on a HeLa cell lysate (Human cervical epitheloid carcinoma; ATCC CCL-2.2). *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of the anti-human CD49b antibody.*



Immunofluorescence staining of WiDr cells (Human colorectal adenocarcinoma; ATCC CCL-218).

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Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20° C.

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611449	HeLa Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Emsley J, King SL, Bergelson JM, Liddington RC. Crystal structure of the I domain from integrin alpha2beta1. *J Biol Chem.* 1997; 272(45):28512-28517.(Biology)
Forster C, Makela S, Warri A. Involvement of estrogen receptor beta in terminal differentiation of mammary gland epithelium. *Proc Natl Acad Sci U S A.* 2002; 99(24):15578-15583.(Biology: Immunohistochemistry)
Russell JS, Tofilon PJ. Radiation-induced activation of nuclear factor-kappaB involves selective degradation of plasma membrane-associated I(kappa)B(alpha). *Mol Biol Cell.* 2002; 13(10):3431-3440.(Biology: Western blot)
Takada Y, Hemler ME. The primary structure of the VLA-2/collagen receptor alpha 2 subunit (platelet GPIa): homology to other integrins and the presence of a possible collagen-binding domain. *J Cell Biol.* 1989; 109(1):397-407.(Biology)
Wu JE, Santoro SA. Complex patterns of expression suggest extensive roles for the alpha 2 beta 1 integrin in murine development. *Development.* 1994; 199(4):292-314.(Biology)