

Datasheet: MCA2025T

| | |
|----------------------|-------------------------------|
| Description: | MOUSE ANTI HUMAN CD49b |
| Specificity: | CD49b |
| Other names: | INTEGRIN ALPHA 2 CHAIN, VLA-2 |
| Format: | Purified |
| Product Type: | Monoclonal Antibody |
| Clone: | 16B4 |
| Isotype: | IgG1 |
| Quantity: | 25 µg |

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

| | Yes | No | Not Determined | Suggested Dilution |
|--------------------------------|-----|----|----------------|--------------------|
| Flow Cytometry | ▪ | | | 30ug/ml |
| Immunohistology - Frozen | ▪ | | | 30ug/ml - 40ug/ml |
| Immunohistology - Paraffin (1) | ▪ | | | |
| ELISA | ▪ | | | 10ug/ml |
| Immunoprecipitation | ▪ | | | 25ug/ml - 50ug/ml |
| Western Blotting | ▪ | | | |
| Immunofluorescence | ▪ | | | |
| Functional Assays (2) | ▪ | | | |

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

(1)This product requires antigen retrieval using heat treatment prior to staining of paraffin sections.

Tris/EDTA pH9.0 is recommended for this purpose.

(2)This product contains sodium azide, removal by dialysis is recommended prior to use in functional assays.

| | |
|-----------------------|-------------------------|
| Target Species | Human |
| Species Cross | Does not react with:Rat |

Reactivity

| | |
|---------------------------------------|--|
| Product Form | Purified IgG - liquid |
| Preparation | Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant |
| Buffer Solution | Phosphate buffered saline |
| Preservative Stabilisers | 0.09% sodium azide (NaN ₃) |
| Carrier Free | Yes |
| Approx. Protein Concentrations | IgG concentration 1.0 mg/ml |
| Immunogen | Purified human beta 1 preparation from HT1080 fibrosarcoma cell extract |
| External Database Links | UniProt: P17301 Related reagents Entrez Gene: 3673 ITGA2 Related reagents |
| Synonyms | CD49B |
| RRID | AB_1102121 |
| Fusion Partners | Spleen cells from immunized BALB/c mice were fused with cells of the X63/Ag8.653 mouse myeloma cell line |

Specificity **Mouse anti Human CD49b antibody, clone 16B4** recognizes human CD49b, also known as integrin α 2, collagen receptor, Platelet membrane glycoprotein Ia or VLA-2 subunit alpha. CD49b is a 1181 amino acid ~160 kDa single pass type-1 transmembrane glycoprotein possessing multiple [FG-GAP](#) repeats and a single [VWFA](#) domain. Mouse anti human CD49b antibody, clone 16B4 is identified as capable of immunoprecipitating a non-reducible alpha subunit from I¹²⁵ surface labeled human cell line extract. It is confirmed as specific to the alpha 2 subunit by relative expression of antigen on various cell lines by FACS, and its recognition of affinity purified alpha 2 beta 1 in dot blots.

References

1. Fitter, S. *et al.* (1999) Transmembrane 4 superfamily protein CD151 (PETA-3) associates with beta 1 and alpha IIb beta 3 integrins in haemopoietic cell lines and modulates cell-cell adhesion. [Biochem J. 338 \(Pt 1\): 61-70.](#)
2. Sincock, P.M. *et al.* (1999) PETA-3/CD151, a member of the transmembrane 4 superfamily, is localised to the plasma membrane and endocytic system of endothelial cells, associates with multiple integrins and modulates cell function. [J Cell Sci. 112 \(Pt 6\): 833-44.](#)

3. Eaton, C.L. *et al.* (2010) Evaluation of the frequency of putative prostate cancer stem cells in primary and metastatic prostate cancer. [Prostate. 70 \(8\): 875-82.](#)
4. Gassmann, P. *et al.* (2009) CXCR4 regulates the early extravasation of metastatic tumor cells in vivo. [Neoplasia. 11: 651-61.](#)
5. Gassmann, P. *et al.* (2010) *In vivo* tumor cell adhesion in the pulmonary microvasculature is exclusively mediated by tumor cell--endothelial cell interaction. [BMC Cancer. 10: 177.](#)
6. Ivaska, J. *et al.* (2005) PKCepsilon-mediated phosphorylation of vimentin controls integrin recycling and motility. [EMBO J. 24: 3834-45.](#)
7. Pellinen, T. *et al.* (2006) Small GTPase Rab21 regulates cell adhesion and controls endosomal traffic of beta1-integrins. [J Cell Biol. 173: 767-80.](#)
8. Upla, P. *et al.* (2004) Clustering induces a lateral redistribution of alpha 2 beta 1 integrin from membrane rafts to caveolae and subsequent protein kinase C-dependent internalization. [Mol Biol Cell. 15: 625-36.](#)
9. Jokinen, J. *et al.* (2010) Molecular mechanism of alpha2beta1 integrin interaction with human echovirus 1. [EMBO J. 29: 196-208.](#)
10. Offerdinger, M. *et al.* (2003) Heregulin and retinoids synergistically induce branching morphogenesis of breast cancer cells cultivated in 3D collagen gels. [J Cell Physiol. 195: 260-75.](#)
11. Connors, W.L. and Heino, J. (2005) A duplexed microsphere-based cellular adhesion assay. [Anal Biochem. 337: 246-55.](#)
12. Connors, W.L. *et al.* (2007) Two synergistic activation mechanisms of alpha2beta1 integrin-mediated collagen binding. [J Biol Chem. 282: 14675-83.](#)
13. Vuoriluoto, K. *et al.* (2008) Syndecan-1 supports integrin alpha2beta1-mediated adhesion to collagen. [Exp Cell Res. 314: 3369-81.](#)
14. Holleran, B.J. *et al.* (2003) Differential recruitment of alpha2beta1 and alpha4beta1 integrins to lipid rafts in Jurkat T lymphocytes exposed to collagen type IV and fibronectin. [J Leukoc Biol. 73: 243-52.](#)
15. Rintanen, N. *et al.* (2012) Calpains promote $\alpha 2 \beta 1$ integrin turnover in nonrecycling integrin pathway. [Mol Biol Cell. 23: 448-463.](#)
16. Pietiäinen, V. *et al.* (2004) Echovirus 1 endocytosis into caveosomes requires lipid rafts, dynamin II, and signaling events. [Mol Biol Cell. 15: 4911-25.](#)
17. Kankaanpää, P. *et al.* (2015) Cellular recognition and macropinocytosis-like internalization of nanoparticles targeted to integrin $\alpha 2 \beta 1$. [Nanoscale. 7 \(42\): 17889-901.](#)
18. Poulter, N.S. *et al.* (2017) Clustering of glycoprotein VI (GPVI) dimers upon adhesion to collagen as a mechanism to regulate GPVI signaling in platelets. [J Thromb Haemost. 15 \(3\): 549-564.](#)

Storage

This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.

Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.

Guarantee

12 months from date of despatch

Health And Safety

Material Safety Datasheet documentation #10040 available at:

Information 10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

Regulatory For research purposes only

Related Products

Recommended Secondary Antibodies

| | |
|---|---|
| Goat Anti Mouse IgG (STAR77...) | HRP |
| Rabbit Anti Mouse IgG (STAR12...) | RPE |
| Goat Anti Mouse IgG (STAR70...) | FITC |
| Goat Anti Mouse IgG IgA IgM (STAR87...) | Alk. Phos. , HRP |
| Rabbit Anti Mouse IgG (STAR9...) | FITC |
| Goat Anti Mouse IgG (STAR76...) | RPE |
| Goat Anti Mouse IgG (H/L) (STAR117...) | Alk. Phos. , DyLight®488 , DyLight®550 , DyLight®650 , DyLight®680 , DyLight®800 , FITC , HRP |
| Rabbit Anti Mouse IgG (STAR13...) | HRP |
| Goat Anti Mouse IgG (Fc) (STAR120...) | FITC , HRP |

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

| | | | | | |
|----------------------------------|---|------------------|---|---------------|---|
| North & South America | Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com | Worldwide | Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com | Europe | Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com |
|----------------------------------|---|------------------|---|---------------|---|

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M412519:221112'

Printed on 12 Nov 2022

© 2022 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)