

Mouse CD49d Monoclonal Antibody | anti-CD49d antibody

MOUSE ANTI HUMAN CD49d

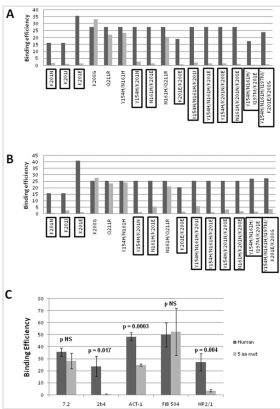
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA12002	Mouse	Bovine, Cat, Cynomolgus monkey, Goat, Horse, Llama, Mink, Mustelid, Pig, Rabbit, Rat, Rhesus Monkey	Immunohistochemistry, Flow Cytometry, Functional Assay, Functional Assay, Immunoprecipitation

PRODUCT SYNONYMS

CD49d; Monoclonal Antibody; MOUSE ANTI HUMAN CD49d; anti-CD49d antibody

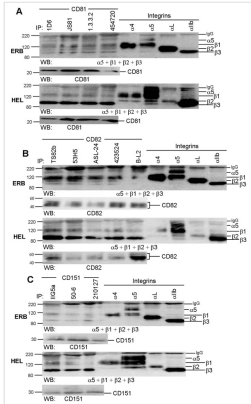
PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Bovine, Cat, Cynomolgus monkey, Goat, Horse, Llama, Mink, Mustelid, Pig, Rabbit, Rat, Rhesus Monkey
Clonality	Monoclonal
Isotype	IgG1
Clone Number	HP2/1
Form/Format	Purified Purified IgG - liquid
Concentration	IgG concentration 1 mg/ml (varies by lot)
Sequence Length	1032
Applicable Applications for anti-CD49d antibody	IHC (Immunohistochemistry), FCM/FACS (Flow Cytometry), FA (Functional Assay), IP (Immunoprecipitation)
Application Notes	Flow Cytometry: Maximum Dilution: 1ug/5 x 10 ⁵ cells; Functional Assays: Application Note: This product contains sodium azide, removal by dialysis is recommended prior to use in functional assays.
Perservative Stabilisers	0.09% Sodium Azide Preparation
Buffer Solution	Phosphate buffered saline
Target Species	Human
Preparation and Storage	Store at 4 degree C or at -20 degree C if preferred. This product should be stored undiluted. Storage in frost free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use. Shelf Life: 18 months from date of despatch.



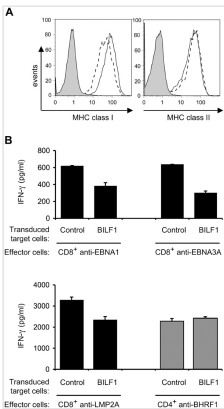
Application Data

Published customer image: Mouse anti Human CD49d antibody, clone HP2/1 used for binding efficiency determination. Image caption: Binding efficiencies (BE) of different a4beta7 molecules composed of distinct a4 mutants to monoclonal antibodies against a4, beta7 or the a4beta7 heterodimer. Binding efficiency is determined by the ratio between the mean fluorescence of antibody binding to each a4 molecule and of the binding in a mock-transfected cell culture (see Materials and Methods for details). Dark gray bars represent binding to the human (wild type) a4 clone, whereas light gray bars are those of binding to the different a4 mutants (as shown in the x-axis). a4 mutants which included substitutions at codon 201 are boxed. A, binding of anti-a4 2b4 antibody. B, binding of anti-a4 HP2/1 antibody. C, BE of different anti-a4 and beta7 antibodies to the human a4 and the quintuple a4 mutant (5 aa mut). Bars represent the range of standard errors deduced from triplicate experiments. p-values of Student's t tests are shown above each comparison. NS, non-significant (> 0.05). From: Darc M, Hait SH, Soares EA, Cicala C, Seunanez HN, et al. (2011) Polymorphisms in the a4 Integrin of Neotropical Primates: Insights for Binding of Natural Ligands and HIV-1 gp120 to the Human a4beta7. PLoS ONE 6(9): e24461.



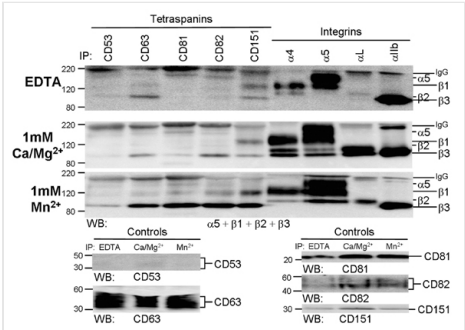
Application Data

Published customer image: Mouse anti Human CD49d antibody, clone HP2/1 used for immunoprecipitation. Image caption: All anti-CD81, anti-CD82 and anti-CD151 clones co-precipitate beta1 and beta3 integrins from normal and leukemic proerythroblasts. A. CD81 clones. B. CD82 clones. C. CD151 clones. ERB, day 6 proerythroblasts. a4, HP2/1; a5, IIA1; aL, TS1/22; aIb, PAB-1. Integrins in 7.5% NR gels, tetraspanins in 12% non-reduced gels. More beta3 integrins are co-precipitated from HEL cells as they express allbbeta3 and aVbeta3; proerythroblasts express only allbbeta3. From: Spring FA, Griffiths RE, Mankelow TJ, Agnew C, Parsons SF, et al. (2013) Tetraspanins CD81 and CD82 Facilitate a4beta1-Mediated Adhesion of Human Erythroblasts to Vascular Cell Adhesion Molecule-1. PLoS ONE 8(5): e62654.



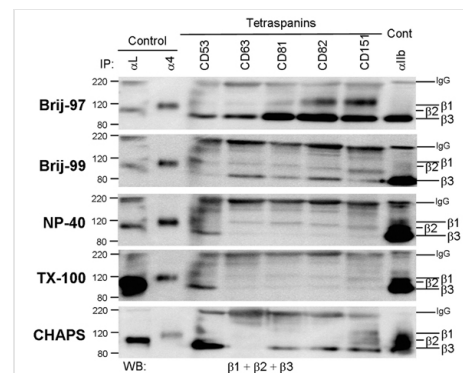
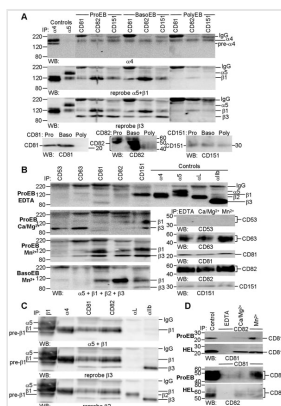
Application Data

Published customer image: Mouse anti Human CD49d antibody, clone HP2/1 used for blocking studies. Image caption: Blocking experiments with anti-beta7, anti-a4 and anti-aVbeta3 antibodies for adhesion to HS-5 stromal cells. Panel A, Blocking with anti-beta7. HMCLs were stimulated with Pam3CSK4 for 24 hours and then treated with anti-beta7 antibody before adhesion to HS5-coated wells. Panel B, Blocking experiments with anti-a4 and anti-aVbeta3 antibodies for adhesion to HS-5. HMCLs were stimulated with Pam3CSK4 for 24 hours and then treated with anti-a4 and anti-aVbeta3 antibodies before adhesion to HS5-coated wells. The results are the statistical analyses of data in 3 separate experiments expressed as mean +/- SEM, *P



Application Data

Published customer image: Mouse anti Human CD49d antibody, clone HP2/1 used for immunoprecipitation. Image caption: All anti-CD81, anti-CD82 and anti-CD151 clones co-precipitate beta1 and beta3 integrins from normal and leukemic proerythroblasts. A. CD81 clones. B. CD82 clones. C. CD151 clones. ERB, day 6 proerythroblasts. a4, HP2/1; a5, IIA1; aL, TS1/22; aIb, PAB-1. Integrins in 7.5% NR gels, tetraspanins in 12% non-reduced gels. More beta3 integrins are co-precipitated from HEL cells as they express allbbeta3 and aVbeta3; proerythroblasts express only allbbeta3. From: Spring FA, Griffiths RE, Mankelow TJ, Agnew C, Parsons SF, et al. (2013) Tetraspanins CD81 and CD82 Facilitate a4beta1-Mediated Adhesion of Human Erythroblasts to Vascular Cell Adhesion Molecule-1. PLoS ONE 8(5): e62654.



Application Data

Published customer image: Mouse anti Human CD49d antibody, clone HP2/1 used for western blotting and immunoprecipitation. Image caption: Tetraspanins CD81, CD82 and CD151 are associated with $\alpha 4$ throughout erythroid maturation and with $\beta 3$ in proerythroblasts and basophilic erythroblasts. A. CD81, CD82 and CD151 precipitates from Mn^{2+} -activated proerythroblasts (ProEB, day 5), basophilic (BasoEB, day 8) and polychromatic (PolyEB, day 12) erythroblasts were successively probed with anti- $\alpha 4$, anti- $\beta 1$ and anti- $\beta 3$ antibodies; tetraspanin controls from each time point are also illustrated. All tetraspanins co-precipitated $\alpha 4$ and $\beta 1$ from erythroblasts. B. Tetraspanin precipitates from day 6 proerythroblasts (ProEB) solubilised in the presence of EDTA or different cations, and from Mn^{2+} -activated basophilic erythroblasts (BasoEB, day 8) were probed with a mix of antibodies to $\alpha 5$, $\beta 1$, $\beta 2$ and $\beta 3$ integrins while the control samples were probed with the relevant tetraspanin antibodies. For clarity, integrin controls are illustrated for the EDTA blot but were present on all blots. $\beta 1$ and $\beta 3$ integrins were precipitated well only in the presence of Mn^{2+} . C. CD81 and CD82 precipitates from day 5 proerythroblasts were successively probed with different anti-integrin subunit antibodies and demonstrate co-precipitation of $\beta 1$ and $\beta 3$ but not $\alpha 5$ or $\beta 2$ integrins. D. CD81 (454720) and CD82 (53H5) precipitates from day 6 proerythroblasts (ProEB) and HEL cells (HEL) solubilised in the presence of EDTA, $Ca^{2+}+Mg^{2+}$ or Mn^{2+} probed with anti-CD82 and anti-CD81 antibodies. Each tetraspanin co-precipitates the other most strongly in the presence of Mn^{2+} from proerythroblasts while any cation permits co-precipitation in HEL cells. Integrins were analysed on 7.5% gels, tetraspanins on 12% gels; non-reducing conditions. Unless stated, the following clones were used: CD53, MEM-53; CD63, MEM-259; CD81, 454720; CD82, TS82b; CD151, IIG5a; $\alpha 4$, HP2/1; $\alpha 5$, IIA1; αL , TS1/22; $\alpha 1b$, PAB-1. All day 5 and 6 cultures comprised 90 -95% proerythroblasts; day 8 culture comprised 5% proerythroblasts, 81% basophilic erythroblasts and 14% polychromatic erythroblasts; day 12 culture comprised 41% polychromatic erythroblasts, 15% orthochromatic erythroblasts and 41% reticulocytes. In the day 5 and 6 cultures 15 -34% of cells were GPA+ and 28 -35% of cells were $\alpha 1b+$. Day 8 and day 12 cultures had 77% and 97% GPA+ cells, respectively, and 9% and 0% $\alpha 1b+$ cells, respectively. From: Spring FA, Griffiths RE, Mankelaw TJ, Agnew C, Parsons SF, et al. (2013) Tetraspanins CD81 and CD82 Facilitate $\alpha 4\beta 1$ -Mediated Adhesion of Human Erythroblasts to Vascular Cell Adhesion Molecule-1. PLoS ONE 8(5): e62654.

Application Data

Published customer image: Mouse anti Human CD49d antibody, clone HP2/1 used for immunoprecipitation. Image caption: Several anti-tetraspanin antibodies co-precipitate $\beta 1$ integrins from HEL cells solubilised in Brij-97. Precipitates were prepared from HEL cells solubilised in different detergents in the presence of Mn^{2+} . CD53, MEM-53; CD63, MEM-259; CD81, 454720; CD82, TS82b; CD151, IIG5a; $\alpha 4$, HP2/1; αL , TS1/22; $\alpha 1b$, PAB-1. Precipitates were run on 7.5% non-reduced gels. From: Spring FA, Griffiths RE, Mankelaw TJ, Agnew C, Parsons SF, et al. (2013) Tetraspanins CD81 and CD82 Facilitate $\alpha 4\beta 1$ -Mediated Adhesion of Human Erythroblasts to Vascular Cell Adhesion Molecule-1. PLoS ONE 8(5): e62654.

ADDITIONAL INFORMATION

Related Product Information for anti-CD49d antibody

Mouse anti Human CD49d monoclonal antibody, clone HP2/1 recognizes human CD49d also known as integrin $\alpha 4$ or VLA-4 subunit α . CD49d is a ~150kDa single pass type 1 transmembrane glycoprotein with seven FG-GAP repeats, characteristic of α integrins, in its extracellular domain. CD49d can be proteolytically cleaved to yield fragments of 80 and 70kDa (Hemler et al. 1987). CD49d associates with either CD29 to form VLA-4 or with Integrin $\beta 7$ to form The Peyer patches-specific homing receptor LPAM-1, involved in the lymphocyte migration and homing to gut-associated lymphoid tissue (Sackstein 2006) through its interaction with MadCam-1, preferentially expressed on Peyer's patch high endothelial venules and postcapillary venules in lamina propria (Briskin et al. 1997). Mouse anti human CD49d, clone HP2/1 binds to both intact and the 80kDa fragment of integrin $\alpha 4$. CD49d is expressed on monocytes, T cells, B cells, thymocytes and Langerhans cells (de Graaf et al. 1995). Mouse anti Human CD49d, clone HP2/1 can be used in basic studies of VLA-4 mediated adhesion and its interaction with the VCAM-1 structure and has been demonstrated to inhibit cell binding to soluble VCAM-1 (Weller et al. 1991).

NCBI AND UNIPROT INFORMATION

NCBI GI #	67191027
NCBI GeneID	3676

NCBI Accession #	NP_000876.3
NCBI GenBank Nucleotide #	NM_000885.4
UniProt Accession #	P13612 ; Q7Z4L6 ; D3DPG4 ; AAB25486
Molecular Weight	21,536 Da
NCBI Official Full Name	integrin alpha-4
NCBI Official Synonym Full Names	integrin, alpha 4 (antigen CD49D, alpha 4 subunit of VLA-4 receptor)
NCBI Official Symbol	ITGA4
NCBI Official Synonym Symbols	IA4; CD49D
NCBI Protein Information	integrin alpha-4; 269C wild type; CD49 antigen-like family member D; VLA-4 subunit alpha; antigen CD49D, alpha-4 subunit of VLA-4 receptor; integrin alpha 4; integrin alpha-4 subunit; integrin alpha-IV; very late activation protein 4 receptor, alpha 4 subunit
UniProt Protein Name	Integrin alpha-4
UniProt Gene Name	ITGA4
UniProt Synonym Gene Names	CD49D
UniProt Entry Name	ITA4_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/monoclonal/cd49d-antibody-clone-hp2-1-immunohistochemistry-flow-cytometry-functional-assay-immunoprecipitation-elisa/12002>