

Hamster anti-Rat CD81 Monoclonal Antibody | anti-CD81 antibody

HAMSTER ANTI MOUSE CD81

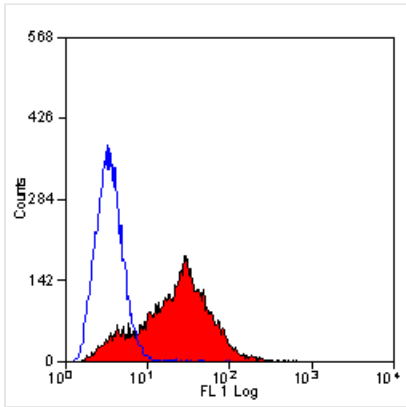
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA11941	Hamster	Rat	Immunohistochemistry, ELISA, Flow Cytometry, Functional Assay, Immunoprecipitation, Western Blot

PRODUCT SYNONYMS

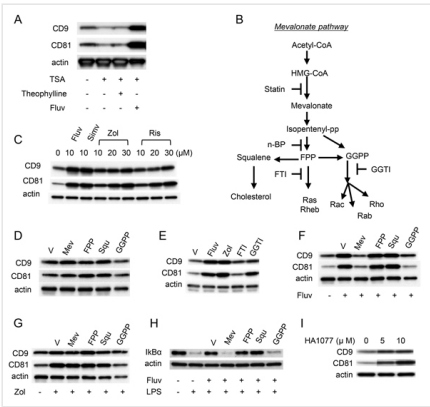
CD81; Monoclonal Antibody; HAMSTER ANTI MOUSE CD81; anti-CD81 antibody

PRODUCT SPECIFICATIONS

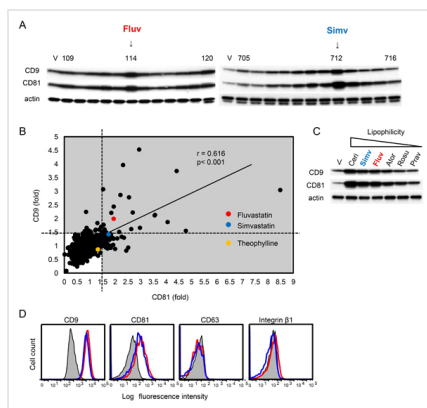
Host	Hamster
Reactivity	Rat
Clonality	Monoclonal
Isotype	IgG1
Clone Number	Eat2
Form/Format	Purified Purified IgG - liquid
Concentration	IgG concentration 1.0 mg/ml (varies by lot)
Sequence Length	236
Applicable Applications for anti-CD81 antibody	IHC (Immunohistochemistry), ELISA, FCM/FACS (Flow Cytometry), IP (Immunoprecipitation), WB (Western Blot)
Application Notes	Flow Cytometry: Use 10ul of the suggested working dilution to label 106 cells in 100ul. Immunohistology - Frozen: Application Note: The epitope recognised by this antibody is reported to be sensitive to formaldehyde fixation and tissue processing. We recommends the use of acetone fixation for frozen sections. Flow Cytometry: Minimum Dilution: 1/50; Maximum Dilution: 1/100 Western Blotting: Application Note: Clone Eat2 recognizes mouse CD81 under non-reducing conditions.
Perservative Stabilisers	0.09% Sodium Azide Preparation
Immunogen	38C13, murine B cell line Fusion Partners
Target Species	Mouse
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
Staining of mouse spleen with Hamster anti Mouse CD81: Alexa Fluor 488 (AAA11941A488)

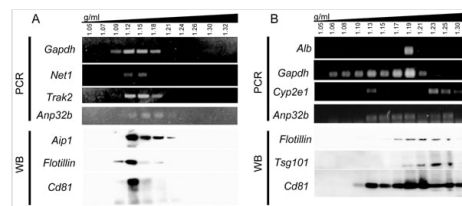


Application Data
Published customer image: Blockade of the mevalonate pathway increases CD9 and CD81. (A) RAW264.7 cells were untreated (-) or treated for 48 h with 50 ng/ml TSA (+) in the absence (-) or presence of 50 uM theophylline or 0.5 uM fluvastatin (Fluv) (+). The cells were lysed, and levels of CD9 and CD81 were examined by immunoblotting. Anti-actin blots show that comparable amounts of protein were loaded in each lane. (B) The mevalonate pathway and inhibitors. n-BP, nitrogenous bisphosphonate. (C) RAW264.7 cells were cultured for 24 h in the presence of indicated concentrations of fluvastatin, simvastatin (Simv), zoledronate (Zol), or risidronate (Ris). Levels of CD9 and CD81 were examined by immunoblotting. (D) RAW264.7 cells were cultured for 24 h in the absence (V, vehicle alone) or presence of mevalonate (Mev), farnesyl pyrophosphate (FPP), squalene (Squ), or geranylgeranyl pyrophosphate (GGPP). Although the actin level in the GGPP lane appears to be lower, an equal amount of protein was loaded. (E) RAW264.7 cells were cultured for 24 h in the absence (V) or presence of fluvastatin, zoledronate, farnesyl transferase inhibitor (FTI), or geranylgeranyl transferase inhibitor (GGTI). (F) RAW264.7 cells were untreated (-) or treated with fluvastatin (+) in the absence (V) or presence of mevalonate, FPP, squalene, or GGPP. (G) RAW264.7 cells were untreated (-) or treated with zoledronate (+) in the absence (V) or presence of mevalonate, FPP, squalene, or GGPP. (H) RAW264.7 cells were untreated (-) or treated with fluvastatin (+) in the absence (V) or presence of mevalonate, FPP, squalene, or GGPP and stimulated for 15 min with 0.1 ug/ml LPS (+). The cells were lysed, and levels of I?Ba were examined by immunoblotting. (I) RAW264.7 cells were cultured for 24 h in the indicated concentrations of HA1077. Levels of CD9 and CD81 were examined by immunoblotting. From: Jin Y, Tachibana I, Takeda Y, He P, Kang S, et al. (2013) Statins Decrease Lung Inflammation in Mice by Upregulating Tetraspanin CD9 in Macrophages. PLoS ONE 8(9): e73706.



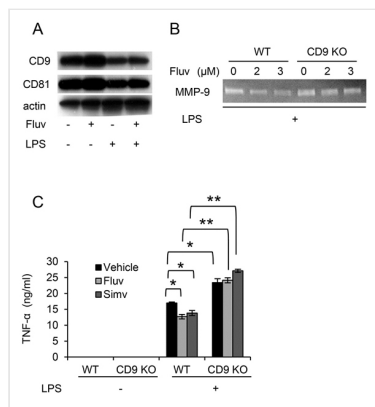
Application Data

Published customer image: Screening of a drug library for agents that upregulate CD9 or CD81 in RAW264.7 macrophages. (A) RAW264.7 cells were cultured for 24 h in the absence (V, vehicle alone) and presence of each drug (10 uM). The cells were lysed, and levels of CD9 and CD81 were examined by immunoblotting. Blots of results with fluvastatin (Fluv) and simvastatin (Simv) are shown. Anti-actin blots show that comparable amounts of protein were loaded in each lane. (B) After testing 1,165 drugs, levels of CD9 and CD81 relative to actin were quantified by densitometry. Fold changes of the expression levels compared with vehicle alone were calculated and plotted. Drugs that increased the level of either CD9 or CD81 more than 1.5-fold compared with vehicle alone were regarded as positive. Correlation between fold changes in CD9 and CD81 levels was analyzed using Pearson's correlation coefficient. (C) RAW264.7 cells were cultured in the absence (V) or presence of multiple statins (10 uM) and levels of CD9 and CD81 were examined by immunoblotting. The statins are arranged in order of decreasing lipophilicity. Ceri, cerivastatin; Simv, simvastatin; Fluv, fluvastatin; Ator, atorvastatin; Rosu, rosuvastatin; Prav, pravastatin. (D) RAW264.7 cells were cultured in the absence (shaded histograms) or presence (10 uM) of fluvastatin (open red histograms) and simvastatin (open blue histograms). Surface levels of CD9, CD63, CD81, and the integrin beta1 subunit were analyzed by flow cytometry. From: Jin Y, Tachibana I, Takeda Y, He P, Kang S, et al. (2013) Statins Decrease Lung Inflammation in Mice by Upregulating Tetraspanin CD9 in Macrophages. PLoS ONE 8(9): e73706.



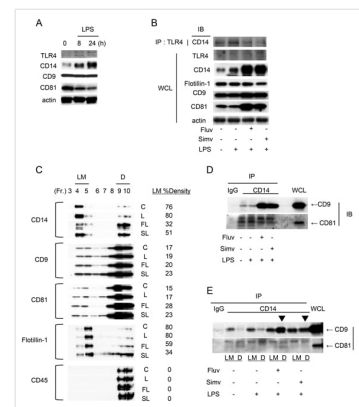
Application Data

Published customer image: Density fractionation of EVs. The figure shows sucrose gradients of EVs preparations from MLP29 (A) and RH (B). Aliquots of these fractions were used for RNA extraction and protein extraction; the most abundant transcripts were found in the fractions containing typical exosomal markers (Tsg101 or Atp1). RH preparations showed more diversity, with vesicle populations fractionating at different densities. From: Royo F, Schlangen K, Palomo L, Gonzalez E, Conde-Vancells J, et al. (2013) Transcriptome of Extracellular Vesicles Released by Hepatocytes. PLoS ONE 8(7): e68693.



Application Data

Published customer image: The anti-inflammatory effects of statins are CD9-dependent. (A) BMDMs from WT mice were cultured for 24 h in the absence (-) or presence of 3 uM fluvastatin (Fluv) (+), and unstimulated (-) or stimulated for 24 h with 1 ug/ml LPS (+). The cells were lysed, and levels of CD9 and CD81 were examined by immunoblotting. Anti-actin blots show that comparable amounts of protein were loaded in each lane. (B) BMDMs from WT and CD9 KO mice were cultured in the absence or presence of the indicated concentrations of fluvastatin, and stimulated for 18 h with 10 ug/ml LPS (+). Activities of MMP-9 in culture supernatants were analyzed by gelatin zymography. (C) BMDMs from WT and CD9 KO mice were cultured in the absence (vehicle) or presence of 10 uM fluvastatin or simvastatin (Simv), and unstimulated (-) or stimulated for 18 h with 1 ug/ml LPS (+). Concentrations of TNF- α in culture supernatants were measured by ELISA. Each bar represents the mean $\pm$ SEM. $^{*}P < 0.05$; $^{**}P < 0.01$. From: Jin Y, Tachibana I, Takeda Y, He P, Kang S, et al. (2013) Statins Decrease Lung Inflammation in Mice by Upregulating Tetraspanin CD9 in Macrophages. PLoS ONE 8(9): e73706.



Application Data

Published customer image: Statins transfer CD14 from lipid rafts into CD9-enriched microdomains. (A) RAW264.7 cells were stimulated with 0.1 ug/ml LPS and, after the indicated times, the cells were lysed and protein levels were examined by immunoblotting. Anti-actin blots show that comparable amounts of protein were loaded in each lane. (B) RAW264.7 cells were untreated (-) or cultured for 24 h in the absence (-) or presence of 5 uM fluvastatin (Fluv) or simvastatin (Simv) (+) and stimulated for 2 h with 1 ug/ml LPS (+). Proteins in whole-cell lysate (WCL) and CD14 protein in immunoprecipitates (IP) with anti-TLR4 Ab were immunoblotted (IB). (C) RAW264.7 cells were treated as in B. Lysates of untreated (C, control) cultures or LPS-stimulated cultures in the absence (L) or presence of fluvastatin (FL) or simvastatin (SL) were fractionated by sucrose density gradients, and protein distributions were visualized by immunoblotting. The intensities of blots were quantified by densitometry, and percentages of density units of light membrane (LM) fractions are displayed to the right of the blots. Data shown are from one representative of three similar experiments. (D) Immunoblots of CD9 and CD81 proteins in whole-cell lysates and in immunoprecipitates with control IgG or anti-CD14 mAb from pooled LM fractions (4 and 5) and dense (D) fractions (9 and 10). In the presence of statins, more CD14/CD9 complexes were formed in dense fractions (arrowheads). From: Jin Y, Tachibana I, Takeda Y, He P, Kang S, et al. (2013) Statins Decrease Lung Inflammation in Mice by Upregulating Tetraspanin CD9 in Macrophages. PLoS ONE 8(9): e73706.

ADDITIONAL INFORMATION

Related Product Information for anti-CD81 antibody	Hamster anti Mouse CD81 antibody, clone Eat2 recognizes mouse and rat CD81, also known as TAPA-1 or Target of the antiproliferative antibody 1. CD81 is a 236 amino acid ~26 kDa multipass transmembrane protein belonging to the TM4SF family (UniProt: P35762). In rodents CD81 is expressed at much higher levels on resting B cells than on T cells, although increased expression on T cells is found following activation. Hamster anti Mouse CD81 antibody, clone Eat2 induces homotypic aggregation of B cells and inhibits anti Ig and IL-4 induced proliferation (Maecker et al. 2000). Eat 2 requires the presence of both extracellular loops of TAPA-1 for binding. Mice lacking CD81 demonstrate reduced fertility through impaired oocyte-sperm fusion, double knockout CD81-/- CD9-/- mice are completely infertile suggesting complimentary roles in oocyte-sperm fusion (Rubenstein et al. 2006).
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NCBI AND UNIPROT INFORMATION

NCBI GI #	19526794
NCBI GeneID	12520
NCBI Accession #	NP_598416.1
NCBI GenBank Nucleotide #	NM_133655.2
UniProt Accession #	P35762; Q91V78
Molecular Weight	25,815 Da
NCBI Official Full Name	CD81 antigen
NCBI Official Synonym Full Names	CD81 antigen
NCBI Official Symbol	Cd81
NCBI Official Synonym Symbols	Tapa1; Tapa-1; Tspan28
NCBI Protein Information	CD81 antigen; 26 kDa cell surface protein TAPA-1; target of the antiproliferative antibody 1
UniProt Protein Name	CD81 antigen
UniProt Gene Name	Cd81
UniProt Synonym Gene Names	Tapa1
UniProt Entry Name	CD81_MOUSE

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.