

CD9 Monoclonal Antibody (MM2/57)

Catalog Number MA1-80307

Product data sheet

Details		Species Reactivity	
Size	100 µg	Species reactivity	Bovine, Dog, Horse, Cat, Human, Mink, Pig, Rabbit, Rhesus monkey
Host/Isotope	Mouse / IgG2b	Published species	Rat, Human, Mouse, Not Applicable
Class	Monoclonal	Tested Applications	
Type	Antibody	Flow Cytometry (Flow)	1:100-1:200
Clone	MM2/57	Immunohistochemistry (Frozen) (IHC (F))	1:500-1:1,000
Immunogen	Human platelet membrane.	Western Blot (WB)	Assay-dependent
Conjugate	Unconjugated	Published Applications	
Form	Liquid	Western Blot (WB)	See 2 publications below
Concentration	1 mg/mL	Immunohistochemistry (IHC)	See 1 publications below
Purification	Protein G	Immunoprecipitation (IP)	See 1 publications below
Storage buffer	PBS	Flow Cytometry (Flow)	See 1 publications below
Contains	0.09% sodium azide	Miscellaneous PubMed (Misc)	See 3 publications below
Storage Conditions	Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.	Immunocytochemistry (ICC/IF)	See 1 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

Predicted to react with mustelid based on sequence homology. For FACS analysis, use 10 µL of the suggested working dilution to label 1x10^6 cells in 100 µL. Mouse anti Human CD9 antibody, clone MM2/57 recognizes human leukocyte antigen MIC3 also known as MRP-1 or CD9.

Background/Target Information

CD9 antigen is a glycoprotein expressed on the surface of developing B lymphocytes, platelets, monocytes, eosinophils, basophil, stimulated T lymphocytes and by neurons and glial cells in the peripheral nervous system. CD9 belongs to a family of membrane proteins termed tetraspanins which transverse the membrane four times. In pre B cells and platelets, CD9 antigen regulates cell activation and aggregation possibly through an association with the integrin CD41 / CD61 (GPIIb / GPIIIa). CD9 is involved in cell motility, osteoclastogenesis, neurite outgrowth, myotube formation, and sperm-egg fusion, plays roles in cell attachment and proliferation and is necessary for association of heterologous MHC II molecules on the dendritic cell plasma membrane which is important for effective T cell stimulation. CD9 functions in many cellular processes including differentiation, adhesion, and signal transduction, and expression plays a critical role in the suppression of cancer cell motility and metastasis. CD9 is also considered as metastasis suppressor in solid tumors.

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PubMed References For CD9 Monoclonal Antibody (MM2/57)

2 Western Blot References

Species / Dilution	Summary
Not Applicable / Not Cited	MA1-80307 was used in western blot to examine the roles of CD9 and CD81 in cell motility and protease production of smoke-treated macrophages
	The Journal of biological chemistry (2008; 283: 26089) "Double deficiency of tetraspanins CD9 and CD81 alters cell motility and protease production of macrophages and causes chronic obstructive pulmonary disease-like phenotype in mice." Author(s):Takeda Y,He P,Tachibana I,Zhou B,Miyado K,Kaneko H,Suzuki M,Minami S,Iwasaki T,Goya S,Kijima T, Kumagai T,Yoshida M,Osaki T,Komori T,Mekada E,Kawase I PubMed Article URL: http://dx.doi.org/10.1074/jbc.M801902200
Not Applicable / Not Cited	MA1-80307 was used in western blot to determine the contribution of CD151 on breast cancer
	Cancer research (2008; 68: 3204) "CD151 accelerates breast cancer by regulating alpha 6 integrin function, signaling, and molecular organization." Author(s):Yang XH,Richardson AL,Torres-Arzayus MI,Zhou P,Sharma C,Kazarov AR,Andzelm MM,Strominger JL,Brown M,Hemler ME PubMed Article URL: http://dx.doi.org/10.1158/0008-5472.CAN-07-2949

1 Immunohistochemistry References

Species / Dilution	Summary
Rat / Not Cited	MA1-80307 was used in Immunohistochemistry to investigate the effects of the intravitreal injection of an anti-HMGB1 monoclonal antibody (anti-HMGB1 Ab) in an experimental animal model of glaucoma.
	International journal of molecular sciences (2022; 23:) "A Monoclonal Anti-HMGB1 Antibody Attenuates Neurodegeneration in an Experimental Animal Model of Glaucoma." Author(s):Tonner H,Hunn S,Auler N,Schmelter C,Beutgen VM,von Pein HD,Pfeiffer N,Grus FH PubMed Article URL: http://dx.doi.org/10.3390/ijms23084107

1 Immunoprecipitation References

Species / Dilution	Summary
Not Applicable / Not Cited	MA1-80307 was used in flow cytometry, immunoprecipitation, and western blot to investigate the role of CD9 in small cell lung cancer cells
	Cancer research (2006; 66: 9557) "Absence of CD9 enhances adhesion-dependent morphologic differentiation, survival, and matrix metalloproteinase-2 production in small cell lung cancer cells." Author(s):Saito Y,Tachibana I,Takeda Y,Yamane H,He P,Suzuki M,Minami S,Kijima T,Yoshida M,Kumagai T,Osaki T, Kawase I PubMed Article URL: http://dx.doi.org/10.1158/0008-5472.CAN-06-1131

1 Flow Cytometry References

Species / Dilution	Summary
Not Applicable / Not Cited	MA1-80307 was used in flow cytometry to elucidate the role of CD151-alpha3beta1 integrin complexes in its cooperation with EGFR to drive tumor cell motility and invasion and as prognostic markers of glioblastoma
	Oncotarget (2015; 6: 29675) "CD151-31 integrin complexes are prognostic markers of glioblastoma and cooperate with EGFR to drive tumor cell motility and invasion." Author(s):Zhou P,Erfani S,Liu Z,Jia C,Chen Y,Xu B,Deng X,Alfaro JE,Chen L,Napier D,Lu M,Huang JA,Liu C,Thibault O, Segal R,Zhou BP,Kyprianou N,Horbinski C,Yang XH PubMed Article URL: http://dx.doi.org/10.18632/oncotarget.4896

3 Miscellaneous PubMed References

Species / Dilution	Summary
Human / Not Cited	MA1-80307 was used in flow cytometry and western blot to investigate the role of CD9 in the cell adhesion-mediated drug resistance mechanism of small cell lung cancer
	Cancer research (2010; 70: 8025) "Cell surface tetraspanin CD9 mediates chemoresistance in small cell lung cancer." Author(s):Kohmo S,Kijima T,Otani Y,Mori M,Minami T,Takahashi R,Nagatomo I,Takeda Y,Kida H,Goya S,Yoshida M, Kumagai T,Tachibana I,Yokota S,Kawase I PubMed Article URL: http://dx.doi.org/10.1158/0008-5472.CAN-10-0996

MA1-80307 was used in western blot to identify agents that increase the levels of tetraspanins in macrophages.

PloS one (2014; 8:)
"Statins decrease lung inflammation in mice by upregulating tetraspanin CD9 in macrophages."
Author(s):Jin Y,Tachibana I,Takeda Y,He P,Kang S,Suzuki M,Kuhara H,Tetsumoto S,Tsujino K,Minami T,Iwasaki T,
Nakanishi K,Kohmo S,Hirata H,Takahashi R,Inoue K,Nagatomo I,Kida H,Kijima T,Ito M,Saya H,Kumanogoh A
PubMed Article URL:<http://dx.doi.org/10.1371/journal.pone.0073706>

MA1-80307 was used in western blot to elucidate the contribution of DDR1 and type IV collagen to regulation of CD9-cell surface levels and migration of breast cancer cells

European journal of cell biology (2010; 89: 843)
"Native type IV collagen induces cell migration through a CD9 and DDR1-dependent pathway in MDA-MB-231 breast cancer cells."
Author(s):Castro-Sanchez L,Soto-Guzman A,Navarro-Tito N,Martinez-Orozco R,Salazar EP
PubMed Article URL:<http://dx.doi.org/10.1016/j.ejcb.2010.07.004>

1 Immunocytochemistry References

Species / Dilution	Summary
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MA1-80307 was used in immunocytochemistry and western blot to investigate the role of MT1-MMP-tetraspanin complexes in cancer cell invasion and metastasis

Molecular biology of the cell (2009; 20: 2030)
"Tetraspanin proteins regulate membrane type-1 matrix metalloproteinase-dependent pericellular proteolysis."
Author(s):Lafleur MA,Xu D,Hemler ME
PubMed Article URL:<http://dx.doi.org/10.1091/mbc.e08-11-1149>

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