

F4/80 Monoclonal Antibody (Cl:A3-1)

Catalog Number      MA5-16624

Product data sheet

Details		Species Reactivity	
Size	2 mL	Species reactivity	Mouse
Host/Isotope	Rat / IgG2b	Published species	Mouse, Not Applicable
Class	Monoclonal	Tested Applications	
Type	Antibody	Flow Cytometry (Flow)	Dilution * Neat-1:10
Clone	Cl:A3-1	Immunohistochemistry (IHC)	Assay-dependent
Immunogen	Thioglycollate stimulated peritoneal macrophages from C57/BL mice.	Immunohistochemistry (Frozen) (IHC (F))	Assay-dependent
Conjugate	Unconjugated	Immunohistochemistry (Paraffin) (IHC (P))	Assay-dependent
Form	Liquid	Immunomicroscopy (IM)	Assay-dependent
Concentration	Conc. Not Determined	Immunoprecipitation (IP)	Assay-dependent
Storage buffer	tissue culture supernatant/0.2M tris HCl, pH 7.4, with 5-10% FBS	Radioimmune Assays (RIA)	Assay-dependent
Contains	0.09% sodium azide	Immunocytochemistry (ICC/IF)	1:100
Storage Conditions	Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.	Published Applications	
		Immunohistochemistry (Paraffin) (IHC (P))	See 1 publications below
		Immunohistochemistry (IHC)	See 1 publications below
		Flow Cytometry (Flow)	See 5 publications below
		Miscellaneous PubMed (Misc)	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

This product requires pre-treatment of paraffin sections prior to staining. Proteinase K is recommended for tissues fixed for less than 24 hrs. Citrate buffer (pH 6.0) is recommended for tissues fixed for more than 24 hrs. For FACS analysis, use 10 µL of the suggested working dilution to label 1x10^6 cells in 100 µL. Rat anti mouse F4/80 antibody, clone Cl:A3-1 recognizes the murine F4/80 antigen, a approximately 160 kDa cell surface glycoprotein member of the EGF-TM7 family of proteins which shares 68% overall amino acid identity with human EGF module-containing mucin-like hormone receptor 1 (EMR1).

Background/Target Information

F4/80 antigen is a 160 kDa cell surface glycoprotein that is a member of the EGF TM7 family of proteins and shares 68% overall amino acid identity with human EGF module containing mucin like hormone receptor 1 (EMR1). Expression of F4/80 is heterogeneous and is reported to vary during macrophage maturation and activation. The F4/80 antigen is expressed on a wide range of mature tissue macrophages including Kupffer cells, Langerhans, microglia, macrophages located in the gut lamina propria, peritoneal cavity, lung, thymus, bone marrow stroma and macrophages in the red pulp of the spleen. F4/80 expression has also been reported on a subpopulation of dendritic cells but is absent from macrophages located in T cell areas of the spleen and lymph node. The ligands and biological functions of the F4/80 antigen have not yet been determined but recent studies suggest a role for F4/80 in the generation of efferent CD8+ve regulatory T cells.

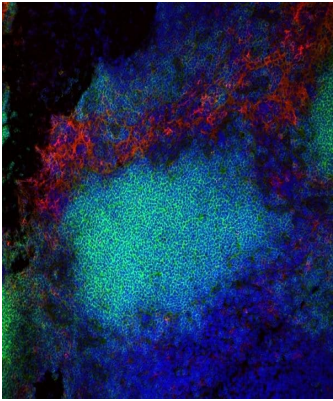
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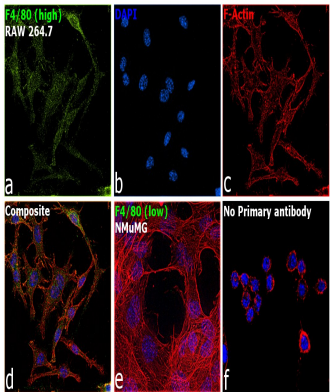
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Product Images For F4/80 Monoclonal Antibody (Cl:A3-1)



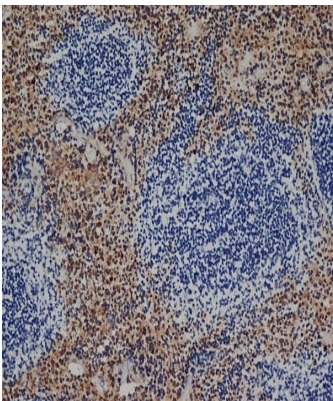
F4/80 Antibody (MA5-16624) in ICC/IF

Immunofluorescent analysis of lymph node stained for macrophages using a F4/80 ANTIGEN monoclonal antibody (Product # MA5-16624) (conjugated to PE, red) and B cells using a CD79b monoclonal antibody (conjugated to a 488 fluorescent dye, green); nuclei are stained with DAPI, blue.



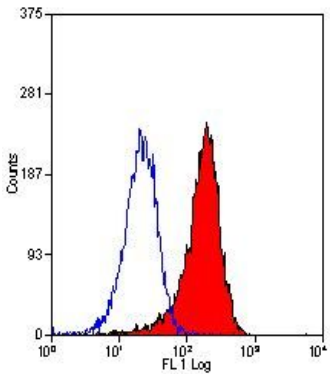
F4/80 Antibody (MA5-16624)

Antibody specificity was demonstrated by detection of differential basal expression of the target across cell models owing to their inherent genetic constitution. Immunofluorescence analysis using Anti-F4/80 Monoclonal Antibody (Cl: A3-1) (Product # MA5-16624) shows increased expression of F4/80 in RAW 264.7 cell line when compared to NMuMG. {RE}



F4/80 Antibody (MA5-16624) in IHC (F)

Immunohistochemical staining of Frozen mouse spleen with a F4/80 ANTIGEN monoclonal antibody (Product # MA5-16624), using ant-Rat IgG, HRP conjugated secondary antibody.



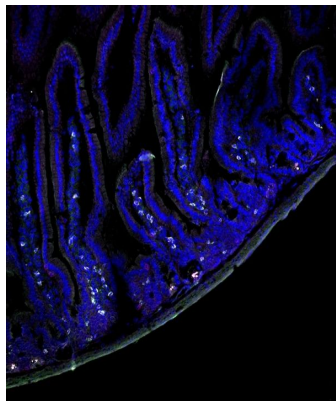
F4/80 Antibody (MA5-16624) in Flow

Flow cytometric analysis of J774 cells using a F4/80 ANTIGEN monoclonal antibody (Product # MA5-16624)

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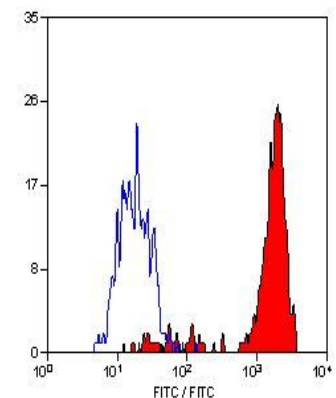
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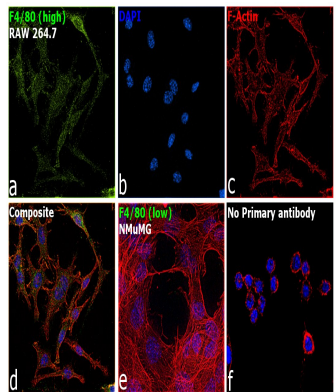
#### F4/80 Antibody (MA5-16624) in IHC

Immunofluorescent analysis of mouse small intestine stained with a F4/80 ANTIGEN monoclonal antibody (Product # MA5-16624) (conjugated to PE, red) and a mouse CD45 monoclonal antibody (conjugated to a 488 fluorescent dye, green); nuclei are stained with DAPI, blue. The image highlights macrophages within the lamina propria



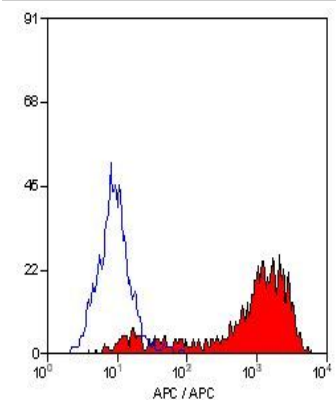
#### F4/80 Antibody (MA5-16624) in Flow

Flow cytometric analysis of mouse peritoneal macrophages using a F4/80 ANTIGEN monoclonal antibody (Product # MA5-16624)



#### F4/80 Antibody (MA5-16624) in ICC/IF

Immunofluorescence analysis of F4/80 was performed using 70% confluent log phase RAW 264.7 and NMuMG cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 2% BSA for 1 hour at room temperature. The cells were labeled with F4/80 Monoclonal Antibody (Cl:A3-1) (Product # MA5-16624) at 1:100 dilution in 0.1% BSA, incubated at 4 degree celsius overnight and then with Goat anti-Rat IgG (H+L) Cross-Adsorbed Secondary Antibody, Alexa Fluor 488 (Product # A-11006) at a dilution of 1:2000 for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with SlowFade® Gold Antifade Mountant with DAPI (Product # S36938). F-actin (Panel c: red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d represents the merged image showing cytoplasmic and membrane localization. Panel e represents NMuMG cells having no expression of F4/80. Panel f represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.



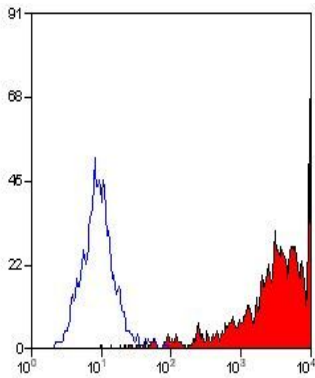
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Flow cytometric analysis of mouse peritoneal macrophages cells using a F4/80 ANTIGEN monoclonal antibody (Product # MA5-16624)

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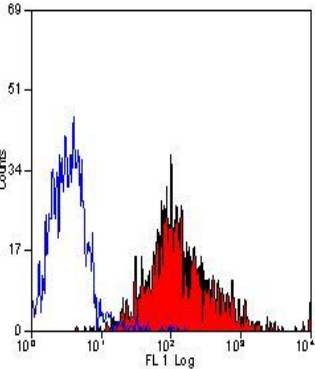
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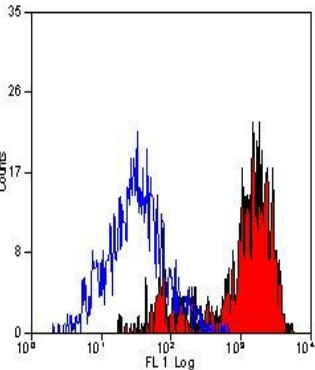
**F4/80 Antibody (MA5-16624) in Flow**

Flow cytometric analysis of mouse peritoneal macrophages cells using a F4/80 ANTIGEN monoclonal antibody (Product # MA5-16624)



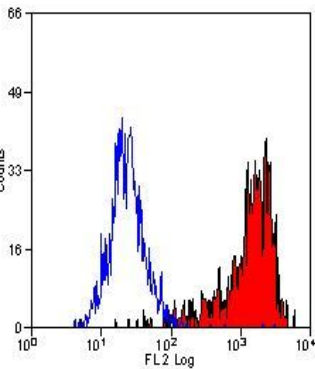
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**F4/80 Antibody (MA5-16624) in Flow**

Flow cytometric analysis of mouse J774 cells using a F4/80 ANTIGEN monoclonal antibody (Product # MA5-16624)

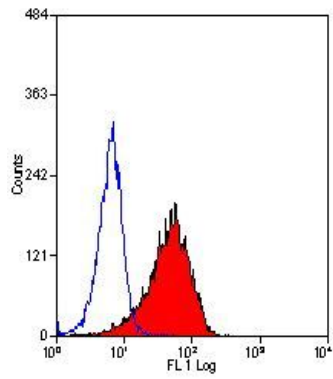
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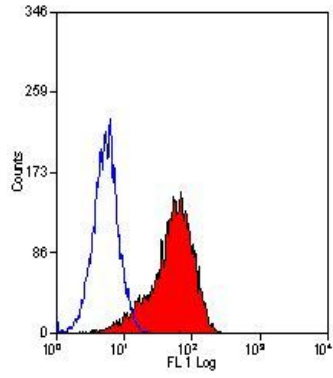
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PubMed References For F4/80 Monoclonal Antibody (Cl:A3-1)

1 Immunohistochemistry (Paraffin) References

Species / Dilution	Summary
Mouse / 1:50	MA5-16624 was used in Immunohistochemistry (Paraffin) to explore the role of transient receptor potential ankyrin 1 in complex regional pain syndrome type I using a mouse model.
	Brain, behavior, and immunity ( 2020; 88: 535) <b>"Macrophages and Schwann cell TRPA1 mediate chronic allodynia in a mouse model of complex regional pain syndrome type I."</b>
	Author(s):De Logu F,De Prá SD,de David Antoniazzi CT,Kudsi SQ,Ferro PR,Landini L,Rigo FK,de Bem Silveira G,Silveira PCL,Oliveira SM,Marini M,Mattei G,Ferreira J,Geppetti P,Nassini R,Trevisan G PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.bbi.2020.04.037">http://dx.doi.org/10.1016/j.bbi.2020.04.037</a>

1 Immunohistochemistry References

Species / Dilution	Summary
Mouse / Not Cited	MA5-16624 was used in Immunohistochemistry to propose histamine H2 receptor signaling is required for effective phagocytosis by regulating the process of autophagy and scavenger receptor MSR1 abundance in macrophages.
	MicrobiologyOpen ( 2019; 8: ) <b>"Phagocytosis by macrophages depends on histamine H2 receptor signaling and scavenger receptor 1."</b>
	Author(s):Fultz R,Engevik MA,Shi Z,Hall A,Herrmann B,Ganesh BP,Major A,Haag A,Mori-Akiyama Y,Versalovic J PubMed Article URL: <a href="http://dx.doi.org/10.1002/mbo3.908">http://dx.doi.org/10.1002/mbo3.908</a>

5 Flow Cytometry References

Species / Dilution	Summary
Not Applicable / Not Cited	MA5-16624 was used in flow cytometry to investigate the role of IL-4Ralpha in non-CD4+ T cells during either L. major or S. mansoni infection
	The American journal of pathology ( 2009; 175: 706) <b>"IL-4Ralpha responsiveness of non-CD4 T cells contributes to resistance in schistosoma mansoni infection in pan-T cell-specific IL-4Ralpha-deficient mice."</b>
	Author(s):Dewals B,Hoving JC,Leeto M,Marillier RG,Govender U,Cutler AJ,Horsnell WG,Brombacher F PubMed Article URL: <a href="http://dx.doi.org/10.2353/ajpath.2009.090137">http://dx.doi.org/10.2353/ajpath.2009.090137</a>
Mouse / Not Cited	MA5-16624 was used in flow cytometry to study neutrophil-T cell interactions
	Immunology letters ( 2008; 118: 49) <b>"Murine neutrophils present Class II restricted antigen."</b>
	Author(s):Culshaw S,Millington OR,Brewer JM,McInnes IB PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.imlet.2008.02.008">http://dx.doi.org/10.1016/j.imlet.2008.02.008</a>
Not Applicable / Not Cited	MA5-16624 was used in flow cytometry to examine the role of IL-6 in the development of Th17 cells in experimental autoimmune encephalomyelitis
	Proceedings of the National Academy of Sciences of the United States of America ( 2008; 105: 9041) <b>"IL-6 blockade inhibits the induction of myelin antigen-specific Th17 cells and Th1 cells in experimental autoimmune encephalomyelitis."</b>
	Author(s):Serada S,Fujimoto M,Mihara M,Koike N,Ohsugi Y,Nomura S,Yoshida H,Nishikawa T,Terabe F,Ohkawara T,Takahashi T,Ripley B,Kimura A,Kishimoto T,Naka T PubMed Article URL: <a href="http://dx.doi.org/10.1073/pnas.0802218105">http://dx.doi.org/10.1073/pnas.0802218105</a>
Mouse / Not Cited	MA5-16624 was used in flow cytometry to investigate mechanisms that control cytotoxic T lymphocyte effector activity using a mouse model of influenza infection
	The Journal of experimental medicine ( 2011; 208: 167) <b>"Antiviral CD8+ T cell effector activities in situ are regulated by target cell type."</b>
	Author(s):Hufford MM,Kim TS,Sun J,Braciale TJ PubMed Article URL: <a href="http://dx.doi.org/10.1084/jem.20101850">http://dx.doi.org/10.1084/jem.20101850</a>
Not Applicable / Not Cited	MA5-16624 was used in flow cytometry to test if deficiency of p19 in the allogeneic donor transplant reduces the inflammation caused by acute GVHD
	Bone marrow transplantation ( 2010; 45: 712) <b>"Absence of IL-23p19 in donor allogeneic cells reduces mortality from acute GVHD."</b>
	Author(s):Thompson JS,Chu Y,Glass JF,Brown SA PubMed Article URL: <a href="http://dx.doi.org/10.1038/bmt.2009.215">http://dx.doi.org/10.1038/bmt.2009.215</a>

1 Miscellaneous PubMed References

Species / Dilution	Summary
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MA5-16624 was used in flow cytometry to report that a non-peptidyl mimetic of MnSOD reduces total body irradiation-induced tissue damage

Mouse / Not Cited

Free radical research ( 2010; 44: 529)  
"The manganese superoxide dismutase mimetic, M40403, protects adult mice from lethal total body irradiation."  
Author(s):Thompson JS,Chu Y,Glass J,Tapp AA,Brown SA  
PubMed Article URL:<http://dx.doi.org/10.3109/10715761003649578>

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