

Alexa Fluor® 488 anti-mouse F4/80 Antibody

Catalog# / Size	123119 / 25 µg 123120 / 100 µg
Clone	BM8
Regulatory Status	RUO
Other Names	EMR1, Ly71
Isotype	Rat IgG2a, κ
Description	F4/80, also known as EMR1 or Ly71, is a 160 kD glycoprotein of the epidermal growth factor (EGF)-transmembrane 7 (TM7) family. F4/80 has been widely used as a murine macrophage marker. It is expressed on a majority of tissue macrophages, including macrophages in the lung, gut, peritoneal cavity, thymus, and red pulp of the spleen, Kupffer cells, Langerhans cells, microglia, and certain dendritic cells. It is not expressed on macrophages located in the T cell areas of the spleen, lymph node, or Peyer's patch. The biological ligand of F4/80 has not been identified, but it has been reported that F4/80 is required for the induction of CD8 ⁺ T cells-mediated peripheral tolerance.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Murine macrophages
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 488 under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	FC - Quality tested IHC-F, 3D IHC - Verified
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is ≤ 1.0 µg per 10 ⁶ cells in 100 µl. For immunohistochemical staining on frozen tissue sections, the suggested use of this reagent is 2.5 - 10 µg/ml. For 3D immunohistochemistry on formalin-fixed tissues, a concentration of 5.0 µg/mL is suggested. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 488 has a maximum emission of 519 nm when it is excited at 488 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Blue Laser (488 nm)
Application Notes	Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen sections ^{1,2} and formalin-fixed paraffin-embedded sections ^{6,7} , Western blotting, and spatial biology (IBEX) ^{12,13} .

Application References

(PubMed link indicates
BioLegend citation)

- Schaller E, et al. 2002. *Mol. Cell. Biol.* 22:8035. (IHC)
- Stevceva L, et al. 2001. *BMC Clin Pathol.* 1:3. (IHC)
- Kobayashi M, et al. 2008. *J. Leukoc. Biol.* 83:1354. [PubMed](#)
- Poeckel D, et al. 2009. *J. Biol. Chem.* 284:21077. [PubMed](#)
- Glass AM, et al. 2013. *J. Immunol.* 190:4830. [PubMed](#)
- Koehn S, et al. 2007. *J. Allergy Clin. Immunol.* 120:570. (IHC)
- Rankin AL, et al. 2010. *J. Immunol.* 184:1526. (IHC)
- Sasi SP, et al. 2014. *J Biol Chem.* 289:14178. [PubMed](#)
- Thakus VS, et al. 2014. *Toxicol Lett.* 230:322. [PubMed](#)
- Watson NB, et al. 2015. *J Immunol.* 194:2796. [PubMed](#)
- Hirakawa H, et al. 2015. *PLoS One.* 10:119360. [PubMed](#)
- Radtke AJ, et al. 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) [PubMed](#)

[See More](#)

Product Citations

- Lu L, et al. 2023. *Adv Sci (Weinh).* 10:e2206212. [PubMed](#)
- Ferriz M, et al. 2023. *STAR Protoc.* 4:102079. [PubMed](#)
- Graça FA, et al. 2023. *Nat Commun.* 14:2900. [PubMed](#)
- Zhang Z, et al. 2022. *Front Pharmacol.* 13:906625. [PubMed](#)
- Hutami IR, et al. 2022. *Oral Dis.* 28:1157. [PubMed](#)
- Ozga AJ, et al. 2022. *Immunity.* 55:82. [PubMed](#)
- Dolfi B, et al. 2022. *Cell Rep.* 39:110949. [PubMed](#)
- El-Naccache DW, et al. 2022. *Cell Rep.* 40:111150. [PubMed](#)
- Hao J, et al. 2022. *Cell Rep.* 41:111804. [PubMed](#)
- Leonardi I, et al. 2022. *Cell.* 185:831. [PubMed](#)
- Kretschmer I, et al. 2016. *J Biol Chem.* 291: 4091 - 4106. [PubMed](#)
- Ho J, et al. 2016. *PLoS Biol.* 14:e2000117. [PubMed](#)

RRID

AB_893491 (BioLegend Cat. No. 123119)
AB_893479 (BioLegend Cat. No. 123120)

Antigen Details

Structure	EGF-TM7 family member, 160 kD glycoprotein
Distribution	Majority of tissue macrophages including peritoneal macrophages, macrophages in lung, gut, thymus and red pulp of spleen, Kupffer cells, Langerhans cells, bone marrow stromal cells, and a subset of dendritic cells
Function	Induction of immunological tolerance
Cell Type	Dendritic cells, Langerhans cells, Macrophages, Tregs
Biology Area	Cell Biology, Immunology, Innate Immunity, Neuroinflammation, Neuroscience
Antigen References	<ol style="list-style-type: none">Austy JM and Gordon S. 1981. <i>Eur. J. Immunol.</i> 11:805.Hume DA, et al. 1983. <i>J. Exp. Med.</i> 158:1522.Ruedl C, et al. 1996. <i>Eur. J. Immunol.</i> 26:1801.McKnight AJ, et al. 1996. <i>J. Biol. Chem.</i> 271:486.Lin HH, et al. 2005. <i>J. Exp. Med.</i> 201:1615.
Gene ID	13733

Related Protocols

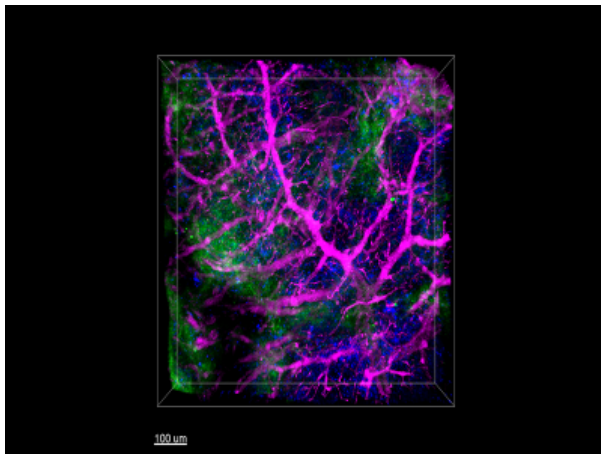
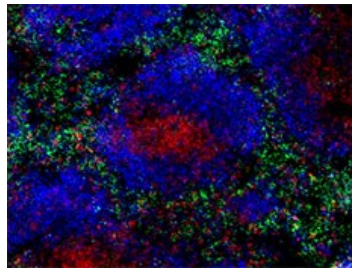
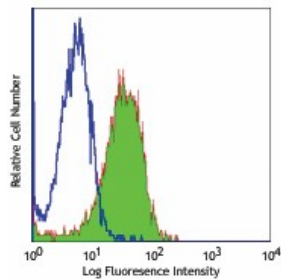
- [Cell Surface Flow Cytometry Staining Protocol](#)
- [Ce3D™ Tissue Clearing Kit](#)

Other Formats

Brilliant Violet 421™ anti-mouse F4/80, Brilliant Violet 510™ anti-mouse F4/80, Alexa Fluor® 594 anti-mouse F4/80, Brilliant Violet 785™ anti-mouse F4/80, Purified anti-mouse F4/80 (Maxpar® Ready), Brilliant Violet 650™ anti-mouse F4/80, Brilliant Violet 605™ anti-mouse F4/80, APC/Fire™ 810 anti-mouse F4/80, PE/Dazzle™ 594 anti-mouse F4/80, Brilliant Violet 711™ anti-mouse F4/80, APC/Fire™ 750 anti-mouse F4/80, Spark Blue™ 550 anti-mouse F4/80, TotalSeq™-A0114 anti-mouse F4/80, Spark NIR™ 685 anti-mouse F4/80, KIRAVIA Blue 520™ anti-mouse F4/80, Brilliant Violet 570™ anti-mouse F4/80, Brilliant Violet 750™ anti-mouse F4/80, TotalSeq™-C0114 anti-mouse F4/80, Spark Red™ 718 anti-mouse F4/80 (Flexi-Fluor™), Ultra-LEAF™ Purified anti-mouse F4/80, TotalSeq™-B0114 anti-mouse F4/80, Spark Blue™ 574 anti-mouse F4/80 (Flexi-Fluor™), FITC anti-mouse F4/80, APC anti-mouse F4/80, Alexa Fluor® 647 anti-mouse F4/80, PE/Fire™ 640 anti-mouse F4/80, PE anti-mouse F4/80, PE/Cyanine5 anti-mouse F4/80, PE/Cyanine7 anti-mouse F4/80, PerCP/Cyanine5.5 anti-mouse F4/80, Spark YG™ 570 anti-mouse F4/80, PerCP/Fire™ 806 anti-mouse F4/80, Purified anti-mouse F4/80, Biotin anti-mouse

F4/80, APC/Cyanine7 anti-mouse F4/80, Alexa Fluor® 488 anti-mouse F4/80, PerCP anti-mouse F4/80, PE/Fire™ 810 anti-mouse F4/80, Pacific Blue™ anti-mouse F4/80, Alexa Fluor® 700 anti-mouse F4/80

Product Data



Thioglycolate-elicited Balb/c mouse peritoneal macrophages stained with BM8 Alexa Fluor® 488.

C57BL/6 mouse frozen spleen section was fixed with 4% paraformaldehyde (PFA) for ten minutes at room temperature and blocked with 5% FBS plus 5% rat/mouse serum for 30 minutes at room temperature. Then the section was stained with 5 µg/ml of anti-mouse F4/80 (clone BM8) Alexa Fluor® 488 (green), anti-mouse/human CD45R/B220 (clone RA3-6B2) Brilliant Violet 510™ (blue), and anti-mouse CD3 (clone 17A2) Brilliant Violet 421™ (red) overnight at 4°C. The image was captured with a 10X objective.

Paraformaldehyde-fixed (1%), 500 µm-thick mouse spleen section was processed according to the Ce3D™ Tissue Clearing Kit protocol (Cat. No. 427701). The section was costained with anti-mouse F4/80 Antibody (clone BM8) Alexa Fluor® 488 at 5 µg/mL (green), anti-mouse I-A/I-E Antibody (clone M5/114.15.2) Alexa Fluor® 594 at 5 µg/mL (blue), and anti-mouse CD146 Antibody (clone ME-9F1) Alexa Fluor® 647 at 5 µg/mL (magenta). The section was then optically cleared and mounted in a sample chamber. The image was captured with a 10X objective using Zeiss 780 confocal microscope and processed by Imaris image analysis software.
[Watch the video.](#)

For Research Use Only. Not for diagnostic or therapeutic use.

This product is supplied subject to the terms and conditions, including the limited license, located at www.biolegend.com/terms ("Terms") and may be used only as provided in the Terms. Without limiting the foregoing, BioLegend products may not be used for any Commercial Purpose as defined in the Terms, resold in any form, used in manufacturing, or reverse engineered, sequenced, or otherwise studied or used to learn its design or composition without express written approval of BioLegend. Regardless of the information given in this document, user is solely responsible for determining any license requirements necessary for user's intended use and assumes all risk and liability arising from use of the product. BioLegend is not responsible for patent infringement or any other risks or liabilities whatsoever resulting from the use of its products.

BioLegend, the BioLegend logo, and all other trademarks are property of BioLegend, Inc. or their respective owners, and all rights are reserved.

8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587