Brilliant Violet 650™ anti-human CD14 Antibody

Catalog# / Size	301835 / 25 tests 301836 / 100 tests
Clone	M5E2
Regulatory Status	RUO
Workshop	III 329
Other Names	LPS receptor
Isotype	Mouse IgG2a, κ
Description	CD14 is a 53-55 kD glycosylphosphatidylinositol (GPI)-linked membrane glycoprotein also known as LPS receptor. CD14 is expressed at high levels on monocytes and macrophages, and at lower levels on granulocytes. Some dendritic cell populations such as interfollicular dendritic cells, reticular dendritic cells, and Langerhans cells have also been reported to express CD14. As a high-affinity receptor for LPS, CD14 is involved in the clearance of gram-negative pathogens, and in the upregulation of adhesion molecules and expression of cytokines in monocytes and neutrophils.

Product Details

Verified Reactivity	Human, Cynomolgus, Rhesus
Reported Reactivity	African Green, Capuchin Monkey, Cow, Chimpanzee, Common Marmoset, Cotton-topped Tamarin, Dog, Pigtailed Macaque, Squirrel Monkey
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Full-length human CD14 protein
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).
Preparation	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 650™ under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
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
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 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood. Brilliant Violet 650™ excites at 405 nm and emits at 645 nm. The bandpass filter 660/20 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel. Refer to your instrument manual or manufacturer for support. Brilliant Violet 650™ is a trademark of Sirigen Group Ltd. Learn more about Brilliant Violet™. This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.

Excitation Laser	Violet Laser (405 nm)
Application Notes	The M5E2 antibody inhibits monocyte activation and cytokine production induced by LPS. Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen sections, blocking of LPS stimulation[4], and immunofluorescence microscopy[5]. Clone M5E2 is not recommended for immunohistochemical staining of formalin-fixed paraffin-embedded sections. The Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 301861 and 301862).

Application References

(PubMed link indicates BioLegend citation)

1. McMichael A, *et al.* 1987. Leucocyte Typing III. Oxford University Press. New York.
2. Knapp W, *et al.* Eds. 1989. Leucocyte Typing IV. Oxford University Press. New York. (IHC-F)
3. Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
4. Power CP, *et al.* 2004. *J. Immunol.* 173:5229. (Block)
5. Williams KC, *et al.* 2001. *J. Exp. Med.* 193:905.
6. Iwamoto S, *et al.* 2007. *J. Immunol.* 179:1449. (FC) PubMed
7. Santer DM, *et al.* 2010. *J. Immunol.* 485:4739. PubMed
8. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
9. Zizzo G, *et al.* 2012. *J. Immunol.* 189:3508. PubMed
10. Stoeckius M, et al. 2017. Nat. Methods. 14:865. (PG)
11. Peterson VM, et al. 2017. Nat. Biotechnol. 35:936. (PG)

Product Citations

1. Ortiz A, *et al.* 2015. J Virol. 89:5883. PubMed
2. Barry KC, *et al.* 2018. Nat Med. 24:1178. PubMed
3. Chen M, *et al.* 2021. Cancers (Basel). 13:. PubMed
4. Ramaswamy A, *et al.* 2021. Immunity. 54(5):1083-1095.e7. PubMed
5. Ramendra R, *et al.* 2021. Front Immunol. 12:694152. PubMed
6. Ehlers L, *et al.* 2021. The FASEB Journal. 35(7):e21684. PubMed
7. Buggert M, *et al.* 2020. Cell. 183(7):1946-1961.e15. PubMed
8. Roberts E, *et al.* 2016. PLoS One. 11:e0168488. PubMed
9. Swanstrom A, *et al.* 2016. J Virol. 90: 4966 - 4980. PubMed
10. Cavrois M, *et al.* 2019. PLoS One. 14:e0221181. PubMed
11. Collier DA, *et al.* 2021. Nature. 596:417. PubMed
12. Berry MR *et al.* 2017. Cell. 170(5):860-874 . PubMed
13. Jardine L, *et al.* 2019. Nat Commun. 10:1999. PubMed
14. Milne P, *et al.* 2015. Blood. 125:470. PubMed
15. Leylek R, *et al.* 2020. Cell Rep. 32:108180. PubMed
16. Rutman AK *et al.* 2018. Endocrinology. 159(11):3834-3847 . PubMed

RRID

AB_11204241 (BioLegend Cat. No. 301835)
AB_2563799 (BioLegend Cat. No. 301836)

Antigen Details

Structure	GPI-linked membrane glycoprotein, 53-55 kD
Distribution	Monocytes, macrophages, granulocytes (low)
Function	LPS receptor, clearance of Gram-negative pathogens
Ligand/Receptor	LPS
Cell Type	Granulocytes, Macrophages, Monocytes, Neutrophils
Biology Area	Cell Biology, Immunology, Innate Immunity, Neuroinflammation, Neuroscience
Molecular Family	CD Molecules
Antigen References	1. Stocks S, *et al.* 1990. *Biochem. J.* 268:275. 2. Wright S, *et al.* 1990. *Science* 249:1434.
Gene ID	929

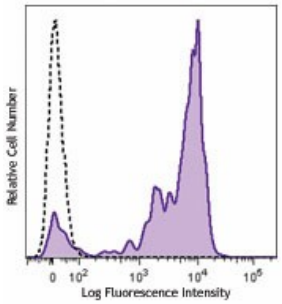
Related Protocols

Cell Surface Flow Cytometry Staining Protocol

Other Formats

APC anti-human CD14, FITC anti-human CD14, PE anti-human CD14, Purified anti-human CD14, PE/Cyanine7 anti-human CD14, Alexa Fluor® 488 anti-human CD14, Alexa Fluor® 647 anti-human CD14, Ultra-LEAF™ Purified anti-human CD14, Pacific Blue™ anti-human CD14, APC/Cyanine7 anti-human CD14, Alexa Fluor® 700 anti-human CD14, PerCP/Cyanine5.5 anti-human CD14, Biotin anti-human CD14, Brilliant Violet 421™ anti-human CD14, Brilliant Violet 570™ anti-human CD14, Brilliant Violet 605™ anti-human CD14, Brilliant Violet 650™ anti-human CD14, Brilliant Violet 711™ anti-human CD14, Brilliant Violet 785™ anti-human CD14, Brilliant Violet 510™ anti-human CD14, Purified anti-human CD14 (Maxpar® Ready), PerCP anti-human CD14, PE/Dazzle™ 594 anti-human CD14, APC/Fire™ 750 anti-human CD14, TotalSeq™-A0081 anti-human CD14, TotalSeq™-B0081 anti-human CD14, TotalSeq™-C0081 anti-human CD14, PE/Cyanine5 anti-human CD14, TotalSeq™-D0081 anti-human CD14, GMP FITC anti-human CD14, GMP APC anti-human CD14, GMP PE anti-human CD14, GMP Pacific Blue™ anti-human CD14

Product Data



Human peripheral blood monocytes were stained with CD14 (clone M5E2) Brilliant Violet 650™.

BioLegend Inc., 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