

Brilliant Violet 570™ anti-human CD14 Antibody

Catalog# / Size	301831 / 25 tests 301832 / 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 570™ 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 570™ excites at 405 nm and emits at 570 nm. The bandpass filter 585/42 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 570™ is a trademark of Sirigen Group Ltd.

[Learn more about Brilliant Violet™.](#)

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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	<ol style="list-style-type: none"> 1. McMichael A, <i>et al.</i> 1987. Leucocyte Typing III. Oxford University Press. New York. 2. Knapp W, <i>et al.</i> Eds. 1989. Leucocyte Typing IV. Oxford University Press. New York. (IHC-F) 3. Schlossman S, <i>et al.</i> Eds. 1995. Leucocyte Typing V. Oxford University Press. New York. 4. Power CP, <i>et al.</i> 2004. <i>J. Immunol.</i> 173:5229. (Block) 5. Williams KC, <i>et al.</i> 2001. <i>J. Exp. Med.</i> 193:905. 6. Iwamoto S, <i>et al.</i> 2007. <i>J. Immunol.</i> 179:1449. (FC) PubMed 7. Santer DM, <i>et al.</i> 2010. <i>J. Immunol.</i> 485:4739. PubMed 8. Yoshino N, <i>et al.</i> 2000. <i>Exp. Anim. (Tokyo)</i> 49:97. (FC) 9. Zizzo G, <i>et al.</i> 2012. <i>J. Immunol.</i> 189:3508. PubMed 10. Stoeckius M, <i>et al.</i> 2017. <i>Nat. Methods.</i> 14:865. (PG) 11. Peterson VM, <i>et al.</i> 2017. <i>Nat. Biotechnol.</i> 35:936. (PG)
Product Citations	<ol style="list-style-type: none"> 1. Ye Y, <i>et al.</i> 2022. <i>Nat Commun.</i> 13:6458. PubMed 2. Cai F, <i>et al.</i> 2021. <i>PLoS Pathog.</i> 17:e1009624. PubMed 3. Policicchio B, <i>et al.</i> 2016. <i>PLoS Pathog.</i> 12: 1005879. PubMed 4. Meehan S, <i>et al.</i> 2019. <i>Commun Biol.</i> 2:229. PubMed 5. Han Q, <i>et al.</i> 2019. <i>Nat Commun.</i> 10:2898. PubMed 6. Tiwari-Heckler S, <i>et al.</i> 2021. <i>Cell Rep.</i> 37:109897. PubMed 7. Tauriainen J, <i>et al.</i> 2017. <i>Sci Rep.</i> 7:40354. PubMed 8. Iversen R, <i>et al.</i> 2019. <i>Proc Natl Acad Sci U S A.</i> 116:15134. PubMed 9. Mair F, <i>et al.</i> 2020. <i>Cell Rep.</i> 31:107499. PubMed 10. Williams WB, <i>et al.</i> 2021. <i>Cell.</i> 184(11):2955-2972.e25. PubMed 11. McWilliam H, <i>et al.</i> 2016. <i>Nat Immunol.</i> 17: 531-537. PubMed 12. Han Q, <i>et al.</i> 2020. <i>Cell Rep.</i> 30:1553. PubMed 13. He X, <i>et al.</i> 2021. <i>Cell.</i> 184(13):3467-3473.e11. PubMed 14. Mattiola I, <i>et al.</i> 2015. <i>J Immunol.</i> 195: 2818-2828. PubMed 15. Baguma R, <i>et al.</i> 2017. <i>PLoS One.</i> 10.1371/journal.pone.0184563. PubMed
RRID	<p>AB_10897803 (BioLegend Cat. No. 301831)</p> <p>AB_2563629 (BioLegend Cat. No. 301832)</p>

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	<ol style="list-style-type: none"> 1. Stocks S, <i>et al.</i> 1990. <i>Biochem. J.</i> 268:275. 2. Wright S, <i>et al.</i> 1990. <i>Science</i> 249:1434.
Gene ID	929

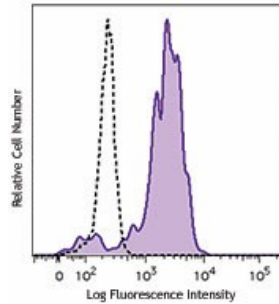
Related Protocols

[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 570™ (filled histogram) or mouse IgG2a, κ Brilliant Violet 570™ isotype control (open histogram).

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