# Anti-Human CD14 Antibody, Clone M5E2, Biotin

## Antibodies

Mouse monoclonal IgG2a antibody against human, rhesus, cynomolgus CD14, biotin-conjugated

Catalog #60004BT

100 µg 0.5 mg/mL

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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
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## Product Description

The M5E2 antibody reacts with CD14, an ~53 - 55 kDa GPI-anchored transmembrane glycoprotein expressed at high levels on the surface of peripheral blood monocytes and macrophages, and at lower levels on granulocytes. An ~10-fold difference in expression levels between monocytes/macrophages and granulocytes makes CD14 a useful marker for distinguishing these cell populations. CD14 is also found on tissue macrophages, Langerhans cells and dendritic cells. CD14 functions as a high-affinity receptor for complexes of lipopolysaccharide (LPS) and serum LPS-binding protein and modulates LPS-dependent signal transduction during the immune response to gram-negative pathogens by acting as a co-receptor for TLR 4 and MD-2. This triggers activation of NF-kappa-B, cytokine secretion, and induction of the inflammatory response. Two soluble forms of CD14 have also been described (~48 and ~55 kDa).

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| Target Antigen Name: | CD14 |
| Alternative Names: | LPS receptor |
| Gene ID: | 929 |
| Species Reactivity: | Human, Rhesus, Cynomolgus, Chimpanzee, Capuchin Monkey, Common Marmoset, Cotton-topped Tamarin, Pigtailed Macaque, Squirrel Monkey, Cow, Dog, Pig, Sheep |
| Host Species: | Mouse |
| Clonality: | Monoclonal |
| Clone: | M5E2 |
| Isotype: | IgG2a, kappa |
| Immunogen: | Full-length human CD14 protein |
| Conjugate: | Biotin |

## Applications

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| Verified: | FC |
| Reported: | FC, IHC |
| Special Applications: | This antibody clone has been verified for purity assessments of cells isolated with EasySep™ kits, including EasySep™ Human Myeloid Positive Selection Kit (Catalog #18653) and EasySep™ Human CD14 Positive Selection Kit (Catalog #18058), as well as EasySep™ HLA Whole Blood CD33 Positive Selection Kit (Catalog #18287HLA), EasySep™ HLA Whole Blood Myeloid Positive Selection Kit (Catalog #18683HLA), and EasySep™ Human Buffy Coat CD14 Positive Selection Kit (Catalog #18088). |

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

## Properties

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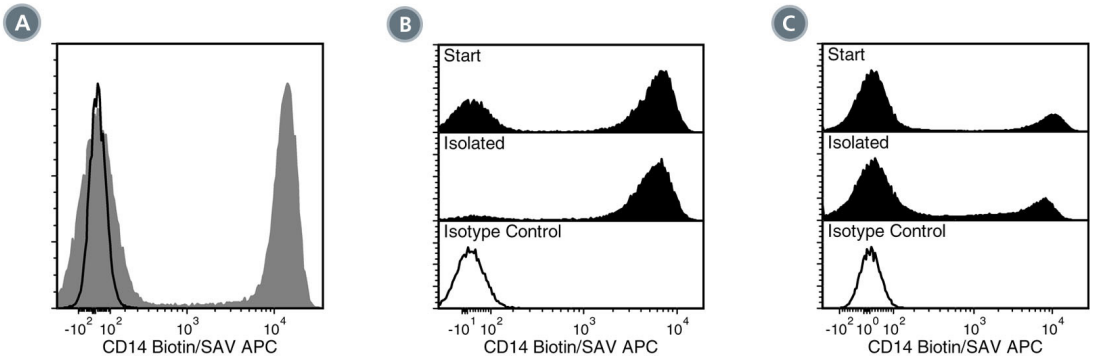
| Formulation: | Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide |
| Purification: | The antibody was purified by affinity chromatography and conjugated with biotin under optimal conditions. The solution is free of unconjugated biotin. |
| Stability and Storage: | Product stable at 2 - 8°C when stored undiluted. Do not freeze. For product expiry date, please contact techsupport@stemcell.com. |
| Directions for Use: | For flow cytometry the suggested use of this antibody is ≤ 2 µg per 1 x 10^6 cells in 100 µL volume. It is recommended that the antibody be titrated for optimal performance for each application. |

## Data




(A) Flow cytometry analysis of human peripheral blood mononuclear cells (PBMCs) labeled with Anti-Human CD14 Antibody, Clone M5E2, Biotin followed by streptavidin (SAV) APC (filled histogram), or Mouse IgG2a, kappa Isotype Control Antibody, Clone MOPC-173, Biotin (Catalog #60071BT), followed by SAV APC (solid line histogram).
(B) Flow cytometry analysis of human PBMCs processed with the EasySep™ Human Myeloid Positive Selection Kit and labeled with Anti-Human CD14 Antibody, Clone M5E2, Biotin followed by streptavidin (SAV) APC. Histograms show labeling of PBMCs (Start) and isolated cells (Isolated). Labeling of start cells with Mouse IgG2a, kappa Isotype Control Antibody, Clone MOPC-173, Biotin followed by SAV APC is shown (solid line histogram).
(C) Flow cytometry analysis of human whole blood nucleated cells processed with the EasySep™ HLA Whole Blood CD33 Positive Selection Kit and labeled with Anti-Human CD14 Antibody, Clone M5E2, Biotin followed by streptavidin (SAV) APC. Histograms show labeling of whole blood nucleated cells (Start) and isolated cells (Isolated). Labeling of start cells with Mouse IgG2a, kappa Isotype Control Antibody, Clone MOPC-173, Biotin followed by SAV APC is shown (solid line histogram).

## Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

## References

1. Santer DM et al. (2010) C1q deficiency leads to the defective suppression of IFN-alpha in response to nucleoprotein containing immune complexes. J Immunol 185(8): 4738–49.
2. Iwamoto S et al. (2007) TNF-alpha drives human CD14+ monocytes to differentiate into CD70+ dendritic cells evoking Th1 and Th17 responses. J Immunol 179(3): 1449–57. (FC)
3. Power CP et al. (2004) Bacterial lipoprotein delays apoptosis in human neutrophils through inhibition of caspase-3 activity: regulatory roles for CD14 and TLR-2. J Immunol 173(8): 5229–37. (Blocking/FA)
4. Williams KC et al. (2001) Perivascular macrophages are the primary cell type productively infected by simian immunodeficiency virus in the brains of macaques: implications for the neuropathogenesis of AIDS. J Exp Med 193(8): 905–15. (IF)
5. Yoshino N et al. (2000) Upgrading of flow cytometric analysis for absolute counts, cytokines and other antigenic molecules of cynomolgus monkeys (Macaca fascicularis) by using anti-human cross-reactive antibodies. Exp Anim 49(2): 97–110. (FC)
6. Barclay AN et al. (Eds.). (1997) CD14. In: The Leukocyte Antigens FactsBook, Second Edition (pp. 169-70). New York: Academic Press.
7. Schlossman SF et al. (Eds.). (1995) Binding heterogeneity within the CD32 panel of mAB. In: Leucocyte Typing V (pp. 832-35). New York: Oxford University Press.
8. Knapp W et al. (Eds.). (1989) Leucocyte Typing IV: White Cell Differentiation Antigens (pp. 628-34). New York: Oxford University Press.