

TECHNICAL DATA SHEET

CyFlow™ CD14 FITC Anti-Hu; Clone MEM-15

REF CV308167

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

Specifications

Antigen	CD14
Alternative Names	LPS-R
Clone	MEM-15
Clonality	monoclonal
Format	FITC
Host / Isotype	Mouse / IgG1
Species Reactivity	Human, Non-Human Primates
Negative Species Reactivity	—
Quantity	100 tests
Immunogen	A crude mixture of human urinary proteins precipitated by ammonium sulphate from the urine of a patient suffering from proteinuria

Specificity

The mouse monoclonal antibody MEM-15 recognizes CD14 antigen, a 53-55 kDa GPI (glycosylphosphatidylinositol)-linked membrane glycoprotein expressed on monocytes, macrophages

Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: info@sysmex-partec.com

and weakly on granulocytes; also expressed by most tissue macrophages. The antibody MEM-15 also reacts with soluble forms of CD14 found in serum and in the urine of some nephrotic patients.

Application

The reagent is designed for Flow Cytometry analysis of human blood cells. Recommended usage is 20 µl reagent / 100 µl of whole blood or 10⁶ cells in a suspension. The content of a vial (2 ml) is sufficient for 100 tests.

Other usages may be determined from the scientific literature.

Storage Buffer

The reagent is provided in stabilizing phosphate buffered saline (PBS) solution, pH ≈7.4, containing 0.1% (w/v) sodium azide.

Storage and Stability

Storage	Avoid prolonged exposure to light. Store in the dark at 2-8°C. Do not freeze.
Stability	Do not use after expiration date stamped on vial label.

Background Information

CD14 is a 55 kDa GPI-anchored glycoprotein, constitutively expressed on the surface of mature monocytes, macrophages, and neutrophils, where serves as a multifunctional lipopolysaccharide receptor; it is also released to the serum both as a secreted and enzymatically cleaved GPI-anchored form. CD14 binds lipopolysaccharide molecule in a reaction catalyzed by lipopolysaccharide-binding protein (LBP), an acute phase serum protein. The soluble sCD14 is able to discriminate slight structural differences between lipopolysaccharides and is important for neutralization of serum allochthonous lipopolysaccharides by reconstituted lipoprotein particles. CD14 affects allergic, inflammatory and infectious processes.

References

- Bazil V, Horejsi V, Baudys M, Kristofova H, Strominger JL, Kostka W, Hilgert I: Biochemical characterization of a soluble form of the 53-kDa monocyte surface antigen. Eur J Immunol. 1986 Dec; 16(12):1583-9. < PMID: 3493149 >
- McMichael AJ, Beverley PCL, Cobbold S, et al. (Eds): Leucocyte Typing III, White Cell Differentiation Antigens. Oxford University Press, Oxford. 1987; 1-1050. < NLM ID: 8913266 >

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- Knapp W, Dorken B, Gilks W, Rieber EP, Schmidt RE, Stein H, von dem Borne AEGK (Eds): Leucocyte Typing IV. Oxford University Press, Oxford. 1989; 1-1820. < NLM ID: 8914679 >
- Doussis IA, Gatter KC, Mason DY: CD68 reactivity of non-macrophage derived tumours in cytological specimens. J Clin Pathol. 1993 Apr; 46(4):334-6. < PMID: 7684403 >
- Juan TS, Hailman E, Kelley MJ, Wright SD, Lichenstein HS: Identification of a domain in soluble CD14 essential for lipopolysaccharide (LPS) signaling but not LPS binding. J Biol Chem. 1995 Jul 21; 270(29):17237-42. < PMID: 7542233 >
- Kishimoto T, Goyert S, Kikutani H, Mason D, Miyasaka M, Moretta L, Ohno T, Okumura K, Shaw S, Springer TA, Sugamura K, Sugawara H, von dem Borne AEGK, Zola H (Eds): Leucocyte Typing VI. Garland Publishing Inc, New York. 1997; 1-1342. < NLM ID: 9712219 >
- Schiff DE, Rae J, Martin TR, Davis BH, Curnutte JT: Increased phagocyte Fc gammaRI expression and improved Fc gamma-receptor-mediated phagocytosis after in vivo recombinant human interferon-gamma treatment of normal human subjects. Blood. 1997 Oct 15; 90(8):3187-94. < PMID: 9376602 >
- Funda DP, Tucková L, Farré MA, Iwase T, Moro I, Tlaskalová-Hogenová H: CD14 is expressed and released as soluble CD14 by human intestinal epithelial cells in vitro: lipopolysaccharide activation of epithelial cells revisited. Infect Immun. 2001 Jun; 69(6):3772-81. < PMID: 11349042 >
- Sing A, Rost D, Tvardovskaia N, Roggenkamp A, Wiedemann A, Kirschning CJ, Aepfelbacher M, Heesemann J: Yersinia V-antigen exploits toll-like receptor 2 and CD14 for interleukin 10-mediated immunosuppression. J Exp Med. 2002 Oct 21; 196(8):1017-24. < PMID: 12391013 >
- Fernández-Real JM, Broch M, Richart C, Vendrell J, López-Bermejo A, Ricart W: CD14 monocyte receptor, involved in the inflammatory cascade, and insulin sensitivity. J Clin Endocrinol Metab. 2003 Apr; 88(4):1780-4. < PMID: 12679473 >
- Asai Y, Makimura Y, Kawabata A, Ogawa T: Soluble CD14 discriminates slight structural differences between lipid as that lead to distinct host cell activation. J Immunol. 2007 Dec 1; 179(11):7674-83. < PMID: 18025213 >
- Lodrup Carlsen KC, Granum B: Soluble CD14: role in atopic disease and recurrent infections, including otitis media. Curr Allergy Asthma Rep. 2007 Nov; 7(6):436-43. < PMID: 17986374 >

The Safety Data Sheet for this product is available at www.sysmex-partec.com/services.

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