

TECHNICAL DATA SHEET

CyFlow™ CD64 PE Anti-Hu; Clone 10.1

REF AW676615

For Research Use Only.

Not for use in diagnostic or therapeutic procedures.

Specifications

Antigen	CD64
Alternative Names	FcγRI
Clone	10.1
Clonality	monoclonal
Format	PE
Host / Isotype	Mouse / IgG1
Species Reactivity	Human, Non-Human Primates
Negative Species Reactivity	—
Quantity	100 tests
Immunogen	Rheumatoid synovial fluid cells and fibronectin purified human monocytes

Specificity

The mouse monoclonal antibody 10.1 recognizes α subunit of CD64 antigen, a 72 kDa single chain type I glycoprotein, that is expressed on monocytes/macrophages, dendritic cells, and activated granulocytes.

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Application

The reagent is designed for Flow Cytometry analysis of human blood cells. Recommended usage is 10 µl reagent / 100 µl of whole blood or 10⁶ cells in a suspension. The content of a vial (1 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

CD64 (FcγRI) is a cell surface receptor for Fc region of IgG. It is composed of specific ligand binding α subunit and promiscuous γ subunit, which is indispensable for tyrosine-based signaling. However, even the α subunit can transduce signals leading to cellular effector functions. The isoform FcγRIa1 binds human IgG with high affinity, has limited myeloid cell distribution, and a relatively large intracellular domain. Products of related genes include FcγRIb and FcγRIc isoforms, but these specify low affinity IgG receptors if functionally expressed at all. Besides a role in antigen clearance, FcγRI (a1) can potentially enhance MHC class I and II antigen presentation in vitro and in vivo.

References

- Dougherty GJ, Selvendran Y, Murdoch S, Palmer DG, Hogg N: The human mononuclear phagocyte high-affinity Fc receptor, FcRI, defined by a monoclonal antibody, 10.1. Eur J Immunol. 1987 Oct; 17(10):1453-9. < PMID: 3500057 >
- Jayaram Y, Buckle AM, Hogg N: The Fc receptor, FcRI, and other activation molecules on human mononuclear phagocytes after treatment with interferon-gamma. Clin Exp Immunol. 1989 Mar; 75(3):414-20. < PMID: 2495203 >
- Hashimoto S, Yamada M, Motoyoshi K, Akagawa KS: Enhancement of macrophage colony-stimulating factor-induced growth and differentiation of human monocytes by interleukin-10. Blood. 1997 Jan 1; 89(1):315-21. < PMID: 8978307 >

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- Fadlon E, Vordermeier S, Pearson TC, Mire-Sluis AR, Dumonde DC, Phillips J, Fishlock K, Brown KA: Blood polymorphonuclear leukocytes from the majority of sickle cell patients in the crisis phase of the disease show enhanced adhesion to vascular endothelium and increased expression of CD64. *Blood*. 1998 Jan 1; 91(1):266-74. < PMID: 9414294 >
- Sánchez-Torres C, García-Romo GS, Cornejo-Cortés MA, Rivas-Carvalho A, Sánchez-Schmitz G: CD16+ and CD16- human blood monocyte subsets differentiate in vitro to dendritic cells with different abilities to stimulate CD4+ T cells. *Int Immunol*. 2001 Dec; 13(12):1571-81. < PMID: 11717198 >
- Brichard B, Varis I, Latinne D, Deneys V, de Bruyere M, Leveugle P, Cornu G: Intracellular cytokine profile of cord and adult blood monocytes. *Bone Marrow Transplant*. 2001 May; 27(10):1081-6. < PMID: 11438825 >
- Beekman JM, Bakema JE, van der Linden J, Tops B, Hinten M, van Vugt M, van de Winkel JG, Leusen JH: Modulation of FcγRI (CD64) ligand binding by blocking peptides of periplakin. *J Biol Chem*. 2004 Aug 6; 279(32):33875-81. < PMID: 15161926 >
- Devaraj S, Du Clos TW, Jialal I: Binding and internalization of C-reactive protein by Fcγ receptors on human aortic endothelial cells mediates biological effects. *Arterioscler Thromb Vasc Biol*. 2005 Jul; 25(7):1359-63. < PMID: 15860734 >
- Roura-Mir C, Wang L, Cheng TY, Matsunaga I, Dascher CC, Peng SL, Fenton MJ, Kirschning C, Moody DB: Mycobacterium tuberculosis regulates CD1 antigen presentation pathways through TLR-2. *J Immunol*. 2005 Aug 1; 175(3):1758-66. < PMID: 16034117 >
- Devaraj S, Davis B, Simon SI, Jialal I: CRP promotes monocyte-endothelial cell adhesion via Fcγ receptors in human aortic endothelial cells under static and shear flow conditions. *Am J Physiol Heart Circ Physiol*. 2006 Sep; 291(3):H1170-6. < PMID: 16603696 >

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

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