

Analyte Specific Reagent.

Analytical and performance characteristics are not established.

SPECIFICITY

The CD64 is a single chain, type I transmembrane molecule with a molecular weight of 72 kDa. The core protein with a molecular weight close to 55 kDa is heavily N-glycosylated (1).

CD64 is also known as the high-affinity receptor for IgG (Fc γ R1). It is one, with CD32 (Fc γ R2) and CD16 (Fc γ R3), of three distinct receptors for IgG found on human leukocytes. CD64 has structural similarity with CD32, CD16, as well as with Fc ϵ R1 α (2). CD64 molecule binds polymeric or aggregated-IgG. However it is the only receptor able to bind monomeric IgG with an affinity subclass-specific (i. e. decreasing affinity for IgG subclass: IgG1 > IgG3 >> IgG4 >> IgG2) (1, 2).

In contrast with CD32 and CD16 constituted by two immunoglobulins-like (Ig-like) extracellular domains, CD64 present three Ig-like extracellular domains.

CD64 molecule is constitutively expressed on monocytes, macrophages, and a subset of dendritic cells (3, 4). The expression of CD64 on polymorphonuclear neutrophils is weak but can be upregulated by interferon- γ (IFN- γ) or granulocyte colony-stimulating factor (G-CSF). CD64 is involved in antibody-dependant cytotoxicity, clearance of immune complexes, and phagocytosis of IgG opsonized targets. The association of CD64 with the Fc receptor γ chain homodimer is required for its signal transduction activity (γ chain is also a subunit of Fc ϵ R1, Fc γ R3A (CD16), and Fc α R (CD89) (5, 6).

The 22 monoclonal antibody has been assigned to the CD64 cluster of differentiation at the 4th HLDA Workshop on Human Leukocyte Differentiation Antigens in Vienna, Austria, in 1989 (WS Code: 96, Section: M) (7).

REAGENT

IOTest CD64-PC7
Conjugated antibody
PN B06025 - 0.5 mL - Liquid - 10 µL/test

Clone	22
Isotype	IgG1, Mouse
Immunogen	Monocytes
Hybridoma	NS1 x balb/c
Source	Ascites fluid or supernatant of in vitro cultured hybridoma cells.
Purification	Affinity chromatography
Conjugation	R Phycoerythrin-Cyanine 7 (PC7)
Molar Ratio	PC7 / Ig : 0.5 - 1.5
Fluorescence	Excites at 488 nm Emits at 770 nm

REAGENT CONTENTS

This antibody is provided in phosphate-buffered saline, containing 0.1% sodium azide and 2 mg/mL bovine serum albumin.

STATEMENTS OF WARNING

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Specimens, samples and all material coming in contact with them should be considered potentially infectious and disposed of with proper precautions.
3. Never pipet with mouth and avoid contact of samples with skin and mucous membranes.
4. Do not use antibody beyond the expiration date on the label.
5. Do not expose reagents to strong light during storage or incubation.
6. Avoid microbial contamination of reagents or incorrect results might occur.
7. Use good laboratory practices when handling this reagent.

STORAGE AND HANDLING CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

PRECAUTIONS

Due to the tandem structure of the fluorochrome, PC7 also emits light at 575 nm. This secondary emission peak varies from lot-to-lot of PC7. Therefore, for multi-color analysis, the compensation matrix should be carefully checked when changing the lot of a PC7-conjugate.

SELECTED RESEARCH REFERENCES

1. Huizinga, T.W.J., Roos, D., von dem Borne, E.G.Kr., "Neutrophil Fc- γ Receptor: a two-way bridge in the immune system", 1990, Blood, 6, 75, 1211-1214.

2. Ravetch, J.V., Kinet, J.P., "Fc receptors", 1991, Annu. Rev. Immunol., 9, 457-492.
3. Grage-Griebenow, E., Zawatzky, R., Kahlert, H., Brade, L., Flad, H.D., Ernst, M., "Identification of a novel dendritic cell-like subset of CD64+/CD16+ blood monocytes", 2001, Eur.J.Immunol, 31, 48-56.
4. Grage-Griebenow, E., Flad, H.D., Ernst, M., "Heterogeneity of human peripheral blood monocyte subsets", 2001, J.Leucocyte Biol, 69, 11-20.
5. Ravetch, J.V., "Fc receptor", 1997, Curr. Opin. Immunol., 9, 121-125.
6. Masuda, M., "Association of all three types of Fc γ R (CD64, CD32, and CD16) with a γ -chain homodimer in cultured human monocytes" 1993, Immunol., 12,151, 71-88.
7. Majdic, O., "Cluster report : CD64", 1989, Leucocyte Typing IV., White Cell Differentiation Antigens. W. Knapp, et al., Eds., Oxford University Press, 835-836.

TRADEMARKS

Beckman Coulter logo and IOTest, are trademarks of Beckman Coulter; Beckman Coulter logo, IOTest are registered in the USPTO and SIPO.

MANUFACTURED BY :

IMMUNOTECH SAS
a Beckman Coulter Company
130, avenue de Lattre de Tassigny
B.P. 177 - 13276 Marseille Cedex 9
France

For additional information in the USA, call 800-526-7694.
Outside the USA, contact your local Beckman Coulter representative.

www.beckmancoulter.com

Printed in France.
Made in France.

©2011 Beckman Coulter, Inc.

