

Analyte Specific Reagent.

Analytical and performance characteristics are not established.

SPECIFICITY

The Fc-γR involves cellular and humoral immunity by serving as a bridge between antibody and effector cell function (1, 2).

Three distinct classes of Fc-γR can be expressed by human leucocytes: Fc-γRI (CD64), Fc-γRII (CD32) and Fc-γRIII (CD16). Fc-γRI is the high affinity receptor and binds monomeric IgG.

Fc-γRII and Fc-γRIII are low affinity receptors involved in interactions with immune complexes.

The human Fc-γRIII is a 50 – 80 kDa protein. It has two distinct forms encoded by two different genes: IIIA (or III-2) and IIIB (or III-1).

The transmembrane form (Fc-γRIIIA) is expressed on NK cells, monocytes and macrophages (3).

The IIIB mRNA encodes Fc_γRIIIB, a glycoprotein anchored to the outer leaflet of the membrane by a glycosylphosphatidylinositol (GPI) moiety and is transcribed only in human neutrophils (4).

The GPI-linked CD16 molecule is related to the CD16b cluster of differentiation.

It may act synergistically with Fc_γRIIA (CD32) expressed on neutrophils to mediate antibody-dependent cytotoxicity (ADCC) and phagocytosis (1, 4, 5).

The GPI-linked receptor exists in a soluble form (sCD16) revealing an immunoregulatory function through interaction with complement receptors (2, 4, 5).

The 1D3 monoclonal antibody has been assigned to the CD16b cluster of differentiation during the 5th International Workshop on Human Leucocytes Differentiation Antigens in Boston, U.S.A., in 1993 (6).

REAGENT

IOTest CD16b-FITC Conjugated Antibody
PN IM2353U – 2 mL Liquid – 20 µL / test*.

Clone	1D3
Isotype	IgM, mouse
Immunogen	Purified human granulocytes
Hybridoma Source	NS/1 x Balb/cJ
Purification	Ascites fluid
	Ion exchange or affinity chromatography
Conjugation	FITC (Fluorescein isothiocyanate) is

conjugated at 7 – 19 moles of FITC per mole of Ig.

Fluorescence FITC (Green)
Excites at 468 – 509 nm
Emits at 504 – 541 nm

REAGENT CONTENTS

This reagent is provided in phosphate-buffered saline, with 0.1% sodium azide (NaN₃) as preservative, and 2.0 mg / mL bovine serum albumin (BSA).

STATEMENT OF WARNINGS

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. Do not use antibody beyond the expiration date on the label.
3. Samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
4. Never pipet by mouth and avoid contact of samples with skin and mucous membranes
5. Minimize exposure of reagent to 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 CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. Minimize exposure to light.

EVIDENCE OF DETERIORATION

Any change in the physical appearance of this FITC-labeled reagent (clear, colorless to yellowish-green liquid) or any major variation in values obtained for control samples may indicate deterioration and the reagent should not be used.

REAGENT PREPARATION

No preparation is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

SELECTED RESEARCH REFERENCES

1. Ravetch, J.V., Kinet, J.P., "Fc receptors", 1991, Annu. Rev. Immunol., 9, 457-492.
2. Huizinga, T.W.J., Roos, D., Von dem Borne, A.E.G. Kr., "Neutrophil Fc_γ receptors: A two-way bridge in the immune system", 1990, Blood, 6, 75, 1211-1214.
3. Perussia, B., Ravetch, J.V., "Fc_γRIII (CD16) on human macrophages is a functional product of the Fc_γRIII-2 gene", 1991, Eur. J. Immunol., 21, 425-429.
4. Ravetch, J.V., Perussia, B., "Alternative membrane forms of Fc_γRIII (CD16) on human natural killer cells and neutrophils", 1989, J. Exp. Med., 170, 481-497.
5. Galon, J., Gauchat, J.F., Mazières, N., Spagnoli, R., Storkus, W., Lötze, M., Bonnefoy, J-Y., Fridman, W-H., Sautès, C., "Soluble Fc_γ receptor type III (Fc_γRIII, CD16) triggers cell activation through interaction with complement receptors", 1996, J. Immunol., 157, 1184-1192.
6. Schmidt, R.E., Perussia, B., "Cluster report: CD16", 1989, Leucocyte Typing IV, White Cell Differentiation Antigens. W. Knapp, et al., Eds., Oxford University Press, 574-578.

PRODUCT AVAILABILITY

IOTest CD16b-FITC Conjugated Antibody
PN IM2353U – 2 mL Liquid – 20 µL / test*.

For additional information in the USA, call 800-526-7694.

Outside the USA, contact your local Beckman Coulter representative.

www.beckmancoulter.com

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(*) : 20 µL is the quantity of product sufficient to stain

5 x 10⁵ cells in a standard immunofluorescence assay

