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 (FcγRII). It is one, with CD32 (FcγRI) and CD16 (FcγRIII), of three distinct receptors for IgG found on human leukocytes. CD64 has structural similarity with CD32, CD16, as well as with FcRRIa (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 immunoglobulin-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 polyomorphonuclear neutrophils is weak but can be upregulated by interferon-γ (IFN-γ) or granulocyte colony-stimulating factor (G-CSF).

CD64 is involved in antibody-dependent cytoxicity, 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 FcζRI, FcγRIIIA (CD16), and FcαR (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-ECD

Conjugated antibody

PN A98434 - 0.5 mL - Liquid - 10 µL/test* – Clone 22

Clone 22
Isotype IgG1, Mouse
Immunogen Monocytes
Hybridoma NS1 x balb/c
Source Ascites fluid
Purification Affinity chromatography
Conjugation R Phycerythrin-Texas Red-X (ECD)
Molar Ratio ECD / Ig : 0.5 - 1.5
Fluorescence Excites at 488 nm Emits at 613 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 by 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 CONDITIONS AND STABILITY

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

REAGENT PREPARATION

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, ECD also emits light at 575 nm. This secondary emission peak varies from lot-to-lot of ECD. Therefore, for multicolor analysis, the compensation matrix should be carefully checked when changing the lot of a ECD-conjugate.

SELECTED RESEARCH REFERENCES


