CD64 (10.1)

FORMS

<table>
<thead>
<tr>
<th>Form</th>
<th>Catalog number</th>
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</thead>
<tbody>
<tr>
<td>PE</td>
<td>644386</td>
</tr>
</tbody>
</table>

DESCRIPTION

Specificity

The CD64 antibody recognizes the 72-kilodalton (kDa) human FcγRI that can bind monomeric IgG.1,2

Antigen distribution

The CD64 antigen is one of three Fc receptors for immunoglobulins, including human FcγRII (CD32 antigen) and human FcγRIII (CD16 antigen), present on the surface of leucocytes.1,2 While FcγRII and FcγRIII are low-affinity receptors for immunoglobulin, FcγRI binds with high-affinity.1,2 Structurally, the CD64 antigen possesses an extracellular region of 292 amino acids with three C2 set Ig-like domains, a 21-amino acid transmembrane region, and a charged cytoplasmic tail of 61 amino acids.1,2 Stable expression of FcγRI requires coexpression of the IgG-binding α-chain as an oligomeric complex with the FcR γ-chain homodimer.3

CD64, a key receptor in the development of immune responses, has a dual role as a low-affinity receptor for IgG3 and a high-affinity receptor for IgG2a, linking innate and adaptive immunities.

The CD64 antigen is expressed on monocytes, macrophages, at low levels on polymorphonuclear neutrophils (PMNs),1,2 and on a subpopulation of circulating dendritic cells.4 CD64 is an early granulomonocytic lineage marker on CD34+ hematopoietic progenitors.5 Soluble human FcγRI molecules have been found in human serum.6 Three genes have been characterized for FcγRI, each gene consisting of six exons, spanning 9.5 kilobases, and localized to chromosome 1.6,7

Clone

The CD64 antibody, clone 10.1, is derived from the hybridization of Sp2/0-Ag14 mouse myeloma cells with spleen cells isolated from a BALB/c mouse that was immunized first with 2 x 10⁷ rheumatoid synovial fluid cells and on subsequent occasions with 1.5 x 10⁷ fibronectin-purified human monocytes obtained from pools of blood group–matched donors.8

Composition

The CD64 antibody is composed of mouse IgG1 heavy chains and kappa light chains.

Product configuration

The following is supplied in phosphate buffered saline (PBS) containing a stabilizer and a preservative.

Analyte Specific Reagent. Analytical and performance characteristics are not established.
Purity

PE: ≤20% free fluorophore at bottling, as measured by size-exclusion chromatography (SEC)

HANDLING AND STORAGE

Store vials at 2°C–8°C. Conjugated forms should not be frozen. Protect from exposure to light. Each reagent is stable until the expiration date shown on the bottle label when stored as directed.

WARNING

All biological specimens and materials coming in contact with them are considered biohazards. Handle as if capable of transmitting infection9,10 and dispose of with proper precautions in accordance with federal, state, and local regulations. Never pipette by mouth. Wear suitable protective clothing, eyewear, and gloves.

CHARACTERIZATION

To ensure consistently high-quality reagents, each lot of antibody is tested for conformance with characteristics of a standard reagent.

WARRANTY

Unless otherwise indicated in any applicable BD general conditions of sale for non-US customers, the following warranty applies to the purchase of these products.

The products sold hereunder are warranted only to conform to the quantity and contents stated on the label or in the product labeling at the time of delivery to the customer. BD disclaims hereby all other warranties, expressed or implied, including warranties of merchantability and fitness for any particular purpose and noninfringement. BD’s sole liability is limited to either replacement of the products or refund of the purchase price. BD is not liable for property damage or any incidental or consequential damages, including personal injury, or economic loss, caused by the product.

REFERENCES
