### DESCRIPTION

**Species Reactivity**
Mouse

**Specificity**
Detects mouse FcγRIIIA/B (CD16) in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse Fcrl3/CD16-2, rmFcy RIA, or rhFcy RIIA is observed.

**Source**
Monoclonal Rat IgG₂A Clone # 275003

**Purification**
Protein A or G purified from hybridoma culture supernatant

**Immunogen**
Mouse myeloma cell line NS0-derived recombinant mouse FcγRIII Ala31-Thr215

**Accession #**
Q5D5J5

**Conjugate**
Allophycocyanin

**Excitation Wavelength:** 620-650 nm

**Emission Wavelength:** 660-670 nm

**Formulation**
Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.

*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

<table>
<thead>
<tr>
<th>Recommended Concentration</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 µL/10^⁶ cells</td>
<td>See Below</td>
</tr>
</tbody>
</table>

### DATA

**Flow Cytometry**

Detection of Fc gamma RIII (CD16) in RAW 264.7 Mouse Cell Line by Flow Cytometry. RAW 264.7 mouse macrophage cell line was stained with Rat Anti-Mouse Fc gamma RIII (CD16) APC-conjugated Monoclonal Antibody (Catalog # FAB19601A, filled histogram) or isotype control antibody (Catalog # IC006A, open histogram). View our protocol for Staining Membrane-associated Proteins.

### PREPARATION AND STORAGE

**Shipping**
The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**
- Protect from light. Do not freeze.
  - 12 months from date of receipt, 2 to 8 °C as supplied.
Receptors for the Fc region of IgG (Fc γ Rs) are members of the Ig superfamily that function in the activation or inhibition of immune responses such as degranulation, phagocytosis, ADCC (antibody-dependent cellular toxicity), cytokine release, and B cell proliferation (1-3). The Fc γ Rs have been divided into three classes based on close relationships in their extracellular domains; these groups are designated Fc γ RI (also known as CD64), Fc γ RII (CD32), and Fc γ RIII (CD16). Each group may be encoded by multiple genes and exist in different isoforms depending on species and cell type. The CD64 proteins are high affinity receptors (~10^{-8} - 10^{-9} M) capable of binding monomeric IgG, whereas the CD16 and CD32 proteins bind IgG with lower affinities (~10^{-6} - 10^{-7} M) only recognizing IgG aggregates surrounding multivalent antigens (1, 4). Fc γ Rs that deliver an activating signal either have an intrinsic immunoreceptor tyrosine-based activation motif (ITAM) within their cytoplasmic domains or associate with one of the ITAM-bearing adapter subunits, Fc Rγ or ζ (3, 5). The only inhibitory member in human and mouse, Fc γ RIIb, has an intrinsic cytoplasmic immunoreceptor tyrosine-based inhibitory motif (ITIM). The coordinated functioning of activating and inhibitory receptors is necessary for successful initiation, amplification, and termination of immune responses (5). Mouse CD16 is encoded by a single gene. The protein product is a type I transmembrane protein having two extracellular Ig-like domains. It is expressed on a variety of myeloid and lymphoid cells (4) and associates with Fc Rγ to deliver an activating signal upon ligand binding (5). Mouse CD32 is closely related to mouse CD16 throughout its extracellular domain (95% amino acid sequence identity), but has a divergent cytoplasmic domain and functions as an inhibitory receptor. Together these proteins constitute an activating/inhibiting receptor pair to regulate immune responses (5).

References: