Human Fcγ RI/CD64
Alexa Fluor® 700-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 276426

Catalog Number: FAB12571N

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Fcγ RI in direct ELISAs and Western blots. In Western blots, this antibody does not cross-react with recombinant mouse (rm) Fcγ RI, rmFcγ RII, recombinant human (rh) Fcγ RIIA, rhFcγ RIIB, or rhFcγ RIIIB.
Source	Monoclonal Mouse IgG_1 Clone # 276426
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Fcγ RI Gln16-Pro288 Accession # P12314.2
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2 mg/mL 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.*

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10^6 cells	Human peripheral blood monocytes

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.

BACKGROUND

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). Three highly homologous genes (A, B, and C) sharing 98% identity at the nucleotide level have been identified for the human CD64 group (1). Fc γ RI is transmembrane protein with three extracellular Ig-like domains, and it delivers an activating signal via the associatedFc Rγ accessory chain. The genes for Fc γ RIB and Fc γ RIC contain stop codons within their membrane proximal Ig-like domains indicating possible secreted receptors (1, 6). An mRNA splice variant of Fc γ RIB has a deletion of the membrane-proximal Ig-like domain and encodes a putative transmembrane receptor (6). The high affinity recognition of IgG by Fc γ RI permits the triggering of effector responses at low IgG concentrations typical of early immune responses (2). Fc γ RI is expressed constitutively on monocytes and macrophages and can be induced on neutrophils and eosinophils (1, 4). Its expression is up-regulated during bacterial infections and sepsis.

References:

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5. Ravetch, J. and L. Lanier (2000) Science **290**:84.
6. Ernst, L. *et al.* (1998) Mol Immunol. **35**:943.

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