Human Fcγ RI/CD64 Fluorescein-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 276426

Catalog Number: FAB12571F

100 TESTS

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Fcγ RI/CD64 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/CD64 Gln16-Pro288 Accession # P12314.2
Conjugate	Fluorescein Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm (FITC)
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.

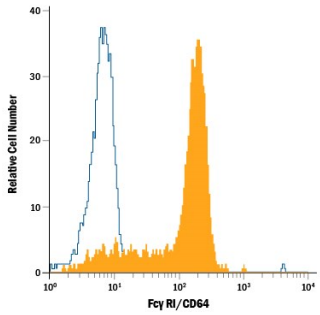
APPLICATIONS

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.*

	Recommended Concentration	Sample
Flow Cytometry	10 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of Fcγ RI/CD64 in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were stained with Mouse Anti-Human Fcγ RI/CD64 Fluorescein-conjugated Monoclonal Antibody (Catalog # FAB12571F, filled histogram) or isotype control antibody (Catalog # IC002F, 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.

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BACKGROUND

Receptors for the Fc region of IgG (Fcγ 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 Fcγ Rs have been divided into three classes based on close relationships in their extracellular domains; these groups are designated Fcγ RI (also known as CD64), Fcγ RII (CD32), and Fcγ RIII (CD16). Each group may be encoded by multiple genes and exist in multiple 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 are lower affinity receptors (~10^{-6} - 10^{-7} M) that only recognize IgG aggregates surrounding multivalent antigens (1, 4). Fcγ 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, Fcγ 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). Fcγ RI is transmembrane protein with three extracellular Ig-like domains, and it delivers an activating signal via the associated Fc Rγ accessory chain. The genes for Fcγ RIB and Fcγ RIC contain stop codons within their membrane proximal Ig-like domains, indicating possible secreted receptors (1, 6). An mRNA splice variant of Fcγ 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 Fcγ RI permits the triggering of effector responses at low IgG concentrations typical of early immune responses (2). Fcγ 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. Over amino acids (aa) 16-288, human and mouse share 72% aa sequence identity.

References:

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6. Ernst, L. *et al.* (1998) Mol. Immunol. **35**:943.

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