

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Fcγ RIIIA/CD16a in direct ELISAs.
<b>Source</b>	Monoclonal Rabbit IgG Clone # 2829B
<b>Purification</b>	Protein A or G purified from cell culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived human Fcγ RIIIA/CD16a Gly17-Gln208 Accession # P08637
<b>Conjugate</b>	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide.  *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.

<b>Flow Cytometry</b>	Titration recommended for optimal concentration with starting range of 0.1-1 µg/1 million cells. Sample used for this experiment was Human PBMCs.
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## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

## BACKGROUND

Fcγ RIIIA is a low/intermediate affinity receptor for polyvalent immune-complexed IgG. It is involved in phagocytosis, secretion of enzymes and inflammatory mediators, antibody-dependent cytotoxicity and clearance of immune complexes (1, 2). In humans, it is a 50-70 kDa type I transmembrane activating receptor expressed by NK cells, T cells, monocytes, and macrophages (1). Fcγ RIIIB is highly related, sharing 97% amino acid (aa) identity within the extracellular domain (ECD), but is a GPI-linked receptor expressed on human neutrophils and eosinophils (1, 2). The ECD of Fcγ RIIIA shares 63%, 61%, 65%, 59% and 58% aa identity with mouse Fcγ RIV, rat Fcγ RIIIA, feline CD16, bovine CD16 and porcine Fcγ RIIIB paralogs, respectively. The Fcγ RIIIA cDNA encodes 254 aa including a 16 aa signal sequence, 191 aa ECD with two C2-type Ig-like domains and five potential N-glycosylation sites, a 22 aa transmembrane (TM) sequence and a 25 aa cytoplasmic domain. In humans, a single nucleotide polymorphism creates high binding (176V) and low binding (176F) forms that, when homozygous, may influence susceptibility to autoimmune diseases or response to therapeutic IgG antibodies (3, 4). Catalog # 4325-FC is expressed as the 176V isoform of Fcγ RIIIA. Fcγ RIIIA surface expression requires interaction of an accessory chain, either the common γ-chain or CD3ζ (5, 6). Glycosylation patterns, electrophoretic mobility and binding affinity appear to differ between NK cell and monocyte Fcγ RIIIA (7). The ECD of both Fcγ RIIIA and b can be proteolytically cleaved and retain binding activity in soluble form (8-11). In monocytes and macrophages, activation and phagocytosis can trigger Fcγ RIIIA release (11). Soluble Fcγ RIII can be detected in normal plasma and is increased in rheumatoid arthritis and in coronary artery diseases (9, 10).

## References:

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