Recombinant Human Fcγ RIIA/CD32a (H167)

Catalog Number: 9595-CD

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Gln34-Ile218, with a C-terminal 10-His tag Accession # P12318-1
N-terminal Sequence Analysis	Ala36 identified. Gln34 inferred from enzymatic pyroglutamate treatment revealing Ala35
Predicted Molecular Mass	22 kDa

SPECIFICATIONS

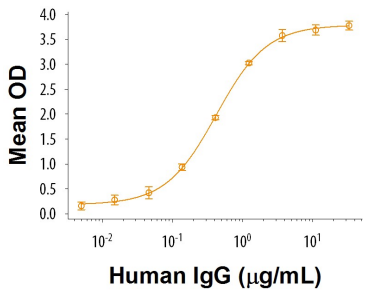
SDS-PAGE	25-37 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Fcγ RIIA/CD32a (H167) is coated at 1 µg/mL, 100 µL/well, it binds to human IgG with an ED_{50} of 0.25-1.25 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity



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BACKGROUND

Receptors for the Fc region of IgG (Fc gamma R) are members of the Ig superfamily that function in the activation or inhibition of immune responses. Three classes of human Fc gamma Rs: RI (CD64), RII (CD32), and RIII (CD16), which generate multiple isoforms, are recognized (1-3). The activating-type receptor either has or associates non-covalently with an accessory subunit (FcR gamma or zeta chain) that has an immunoreceptor tyrosine-based activation motif (ITAM) in its cytoplasmic domain. In contrast, the inhibitory receptor (Fc gamma RIIB) has a built-in immunoreceptor tyrosine-based inhibitory motif (ITIM) in its own cytoplasmic domain. Fc gamma RI is a high-affinity receptor that binds monomeric IgG, and Fc gamma RII and RIII are low-affinity receptors that bind aggregated or immune complexed IgG (IC). The extracellular domain of human Fc gamma RIIA shares approximately 90% amino acid sequence homology with human Fc gamma RIIB and Fc gamma RIIC. Fc gamma RIIA is expressed on many immune cell types (macrophage, neutrophil, eosinophils, platelets, dendritic cells and Langerhan cells) where inhibitory ITIM-bearing receptors may also be co-expressed and co-engaged by specific ligands. Signaling through Fc gamma RIIA results in the initiation of inflammatory responses (cytolysis, phagocytosis, degranulation and cytokine production) that can be modulated by signals from the inhibitory receptors. The strength of the signal is dependent on the ratio of expression of the activating and inhibitory receptors. Besides IC, Fc gamma RII A also binds C-reactive protein (CRP) (4, 5). Two allelic variants (R167 and H167) of Fc gamma RIIA that differ in their ability to ligate human IgG2 or CRP exist. The H167 allele has been found to have a protective effect against lupus nephritis.

References:

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3. Takai, T. (2002) Nature Rev. Immunol. **2**:580.
4. Chi, M. *et al.* (2002) J. Immunol. **168**:1413.
5. Zuniga, R. *et al.* (2003) Arthritis Rheum. **48**:460.

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