

Fc gamma RIIIA/CD16a Protein, Human (HEK293, His)

Cat. No.:	HY-P70705
Synonyms:	Low Affinity Immunoglobulin Gamma Fc Region Receptor III-A; CD16a Antigen; Fc-Gamma RIII-Alpha; Fc-Gamma RIII; Fc-gamma RIIIa; FcRIII; FcRIIIa; FcR-10; IgG Fc Receptor III-2; CD16a; FCGR3A; CD16A; FCG3; FCGR3; IGFR3
Species:	Human
Source:	HEK293
Accession:	P08637 (G17-Q208)
Gene ID:	2214
Molecular Weight:	36-44 kDa

PROPERTIES

AA Sequence	<pre> GMRTEDLPKA VVFLEPQWYR VLEKDSVTLK CQGAYSPEDN STQWFHNESL ISSQASSYFI DAATVDDSGE YRCQTNLSTL SDPVQLEVHI GWLLLQAPRW VFKEEDPIHL RCHSWKNTAL HKVTYLQNGK GRKYFHHSND FYIPKATLKD SGSYFCRGLF GSKNVSSSETV NITITQGLAV STISSFFPPG YQ </pre>
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Human FcγRIIIA / CD16a recombinant protein at 2μg/mL (100 μL/well) can bind Human IgG1. The ED ₅₀ for this effect is 490.6 ng/mL, corresponding to a specific activity is 2238.3 Unit/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4 or 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Fc gamma RIIIA/CD16a Protein serves as a receptor for the invariable Fc fragment of immunoglobulin gamma (IgG), optimally activated upon binding clustered antigen-IgG complexes displayed on cell surfaces, initiating antibody-dependent cellular cytotoxicity (ADCC). This process involves the lysis of antibody-coated cells, preventing inappropriate
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effector cell activation in the absence of an antigenic trigger. The protein mediates IgG effector functions on natural killer (NK) cells, binding antigen-IgG complexes generated during infection to trigger NK cell-dependent cytokine production and degranulation. Fc gamma RIIIA/CD16a is crucial in generating memory-like adaptive NK cells that efficiently eliminate virus-infected cells via ADCC. It regulates NK cell survival, proliferation, and prevents NK cell progenitor apoptosis. As an Fc-binding subunit, it associates with CD247 and/or FCER1G adapters to form functional signaling complexes, leading to intracellular signaling cascades that drive NK cell activation. The protein also plays a role in mediating the antitumor activities of therapeutic antibodies, triggering TNFA-dependent ADCC of IgG-coated tumor cells and enhancing ADCC in response to afucosylated IgGs. In the context of Dengue virus infection, Fc gamma RIIIA/CD16a is involved in pathogenesis through an antibody-dependent enhancement (ADE) mechanism, facilitating virus entry into myeloid cells and subsequent viral replication during secondary infections.

Caution: Product has not been fully validated for medical applications. For research use only.

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