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

Cat. No.:	HY-P78099
Synonyms:	CD16FCRIIIA; Fc fragment of IgG; Fc gamma RIIIA; Fc-gamma RIII-alpha; FCGR3; FCGR3A; FCGRIII; FcgRIIIA; FcR-10; CD16A; FCG3; IGFR3; FcRIIIa; FcRIII; CD16; IMD20
Species:	Human
Source:	HEK293
Accession:	P08637 (G17-Q208)
Gene ID:	2214
Molecular Weight:	48-60 kDa

PROPERTIES

Biological Activity	Measured by its binding ability in a functional ELISA. When immobilized Anti-Fc gamma RIIIA Antibody, hFc Tag at 1μg/ml (100μl/Well), can bind Biotinylated Human Fc gamma RIIIA (F176), His Tag and the EC_{50} is 79.2ng/ml.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
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 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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