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

Cat. No.:	HY-P78879
Synonyms:	Low affinity immunoglobulin gamma Fc region receptor III-A; FcRIIIa; FcR-10; CD16a; FCGR3A; IGFR3
Species:	Cynomolgus
Source:	HEK293
Accession:	Q8SPW2 (G17-Q208)
Gene ID:	102140945
Molecular Weight:	36-45 kDa

PROPERTIES

Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Anti-CD16a antibody at 2 μg/mL can bind Biotinylated Cynomolgus CD16. The EC_{50} is 1.737-10.78 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized a 0.22 μm filtered solution of 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0.
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	The FcγRIIIA/CD16a Protein functions as a receptor for the constant Fc fragment of immunoglobulin gamma (IgG), optimally activated upon binding of clustered antigen-IgG complexes displayed on cell surfaces, leading to antibody-dependent cellular cytotoxicity (ADCC). It mediates IgG effector functions on natural killer (NK) cells, triggering cytokine production, degranulation, and limiting viral load during infection. Additionally, FcγRIIIA is involved in the generation of memory-like adaptive NK cells that efficiently eliminate virus-infected cells via ADCC and regulate NK cell survival and proliferation. As a Fc-binding subunit, it associates with CD247 and/or FCER1G adapters to form functional signaling complexes, initiating intracellular signaling pathways such as phosphatidylinositol 3-kinase signaling and calcium flux, crucial for NK cell activation. FcγRIIIA also costimulates NK cells, triggering lysis of target cells independently of IgG binding. It plays a role in mediating the antitumor activities of therapeutic antibodies and, upon ligation on monocytes, induces tumor necrosis factor-alpha (TNFA)-dependent ADCC of IgG-coated tumor cells. Furthermore, FcγRIIIA interacts with CD2, contributing to NK cell activation and cytotoxicity, and interacts with S100A4, inhibiting PKC-dependent phosphorylation of FCGR3A.

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

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