

Fc gamma RIII/CD16 Protein, Cynomolgus (HEK293, His)

Cat. No.:	HY-P77663
Synonyms:	IgG Fc receptor III; Fc-gamma RIII; FcRIII; FCGR3; CD16; CD16A; FCG3; FcgRIII; FCR-10; FCRIIIA; IGFR3; IMD20
Species:	Cynomolgus
Source:	HEK293
Accession:	Q8SPW2 (G17-Q208)
Gene ID:	102140945
Molecular Weight:	33-40 kDa

PROPERTIES

AA Sequence	<pre> GMRAEDLPKA VVFLLEPQWYR VLEKDRVTLK CQGAYSPEDN STRWFHNESL ISSQTSSYFI AARVNNSGE YRCQTSLSLTL SDPVQLEVHI GWLLLQAPRW VFKEEESIHL RCHSWKNTLL HKVTYLQNGK GRKYFHQNSD FYIPKATLKD SGSYFCRGLI GSKNVSSETV NITITQDLAV SSISSFPPG YQ </pre>
Biological Activity	<ol style="list-style-type: none"> Measured by its binding ability in a SPR assay (Biacore T200). Rituximab captured on CM5 Chip via Protein A can bind Cynomolgus Fc gamma RIII with an affinity constant of 0.251 μM. Measured by its binding ability in a functional ELISA. Immobilized Cynomolgus CD16 at 10 μg/mL (100 μL/well) can bind Biotinylated Human IgG1. The ED₅₀ for this effect is 0.276 μg/mL, corresponding to a specific activity is 3.62\times10³ Unit/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μ m filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
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 Fc γ RIIIA/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
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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.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA