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Anti-FcgR3a / CD16a Reference Antibody (3G8)

Catalog # APR11178

Product Information

Application	Functional assay, Kinetics (SPR), Kinetics (BLI), FACS, E, FTA
Primary Accession	P08637
Reactivity	Human
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	29089

Additional Information

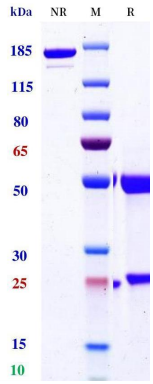
Target/Specificity	FcgR3a / CD16a
Expression system	CHO

Protein Information

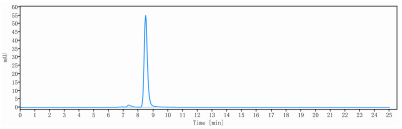
Name	FCGR3A {ECO:0000303|PubMed:23006327}
Function	Receptor for the invariable Fc fragment of immunoglobulin gamma (IgG). Optimally activated upon binding of clustered antigen-IgG complexes displayed on cell surfaces, triggers lysis of antibody-coated cells, a process known as antibody-dependent cellular cytotoxicity (ADCC). Does not bind free monomeric IgG, thus avoiding inappropriate effector cell activation in the absence of antigenic trigger (PubMed:11711607, PubMed:21768335, PubMed:22023369, PubMed:24412922, PubMed:25786175, PubMed:25816339, PubMed:28652325, PubMed:8609432, PubMed:9242542). Mediates IgG effector functions on natural killer (NK) cells. Binds antigen-IgG complexes generated upon infection and triggers NK cell-dependent cytokine production and degranulation to limit viral load and propagation. Involved in the generation of memory- like adaptive NK cells capable to produce high amounts of IFNG and to efficiently eliminate virus-infected cells via ADCC (PubMed:24412922, PubMed:25786175). Regulates NK cell survival and proliferation, in particular by preventing NK cell progenitor apoptosis (PubMed:29967280, PubMed:9916693). Following the engagement of antigen-IgG complexes, triggers phosphorylation of immunoreceptor tyrosine-based activation motif (ITAM)-containing adapters with subsequent activation of phosphatidylinositol 3-kinase signaling and sustained elevation of intracellular calcium that ultimately drive NK cell activation. The ITAM-dependent signaling coupled to receptor phosphorylation by PKC mediates robust intracellular calcium flux that leads to production of pro-inflammatory cytokines, whereas in the absence of receptor phosphorylation it mainly activates phosphatidylinositol 3-kinase signaling leading to cell degranulation (PubMed:1825220, PubMed:23024279, PubMed:2532305). Costimulates NK cells and trigger lysis of target cells

	independently of IgG binding (PubMed:10318937, PubMed:23006327). Mediates the antitumor activities of therapeutic antibodies. Upon ligation on monocytes triggers TNFA-dependent ADCC of IgG-coated tumor cells (PubMed:27670158). Mediates enhanced opsonization and ADCC in response to afucosylated IgGs (PubMed:34485821, PubMed:28566370).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Secreted. Note=Also exists as a soluble receptor
Tissue Location	Expressed in natural killer cells (at protein level) (PubMed:2526846). Expressed in a subset of circulating monocytes (at protein level) (PubMed:27670158).

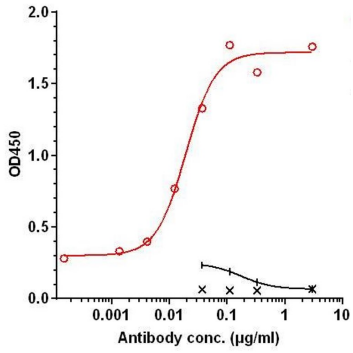
Images



Anti-FcgR3a / CD16a Reference Antibody (3G8) on SDS-PAGE under reducing (R) condition. The purity of the protein is greater than 95%.



The purity of Anti-FcgR3a / CD16a Reference Antibody (3G8) is 96.81%, determined by SEC-HPLC.



Immobilized Human Fc gamma RIIIA / CD16a (F176) Protein, His Tag at 2 μg/mL can bind Anti-FcgR3a/CD16a Reference Antibody (3G8), EC50= 0.01924 μg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.