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Anti-CD16 Antibody

Catalog # AP54132

Product Information

Application	WB, IHC
Primary Accession	P08637
Other Accession	O75015
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	29089

Additional Information

Gene ID	2214
Other Names	FCGR3A; CD16A; FCG3; FCGR3; IGFR3; 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; FCGR3B; CD16B; FCG3; FCGR3; IGFR3; Low affinity immunoglobulin gamma Fc region receptor III-B; Fc-gamma RIII-beta; Fc-gamma RIII; Fc-gamma RIIIb; FcRIII; FcRIIIb; FcR-10; IgG Fc receptor III-1; CD16b
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence of human CD16. The exact sequence is proprietary.
Dilution	WB~~1/1000 - 1/2000 IHC~~1/50 - 1/200
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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).

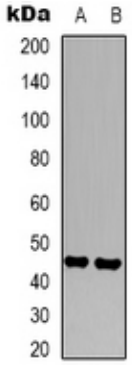
Cellular Location

Cell membrane; Single-pass type I membrane protein. Secreted. Note=Also exists as a soluble receptor

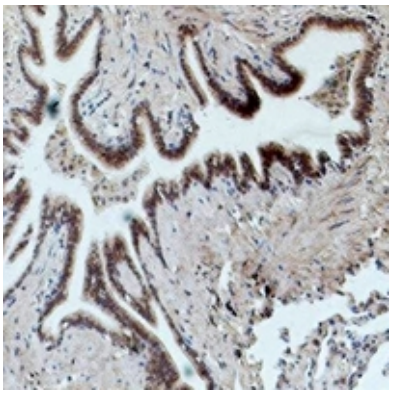
Tissue Location

Expressed in natural killer cells (at protein level) (PubMed:2526846). Expressed in a subset of circulating monocytes (at protein level) (PubMed:27670158).

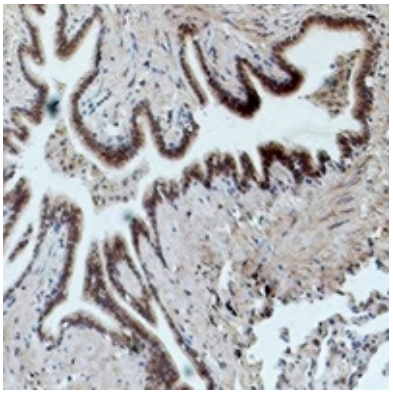
Images



Western blot analysis of CD16 expression in Jurkat (A), K562 (B) whole cell lysates. (Predicted band size: 29; 26 kD; Observed band size: 45 kD)



Immunohistochemical analysis of CD16 staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



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