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CD16 / Fc-gamma Receptor III Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone HuNK2]
Catalog # AH11208

Specification

CD16 / Fc-gamma Receptor III Antibody - With BSA and Azide - Product Information

Application	**IF, FC**
Primary Accession	P08637
Other Accession	2214, 372679
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse / IgG2a, kappa**
Calculated MW	**50-80kDa KDa**

CD16 / Fc-gamma Receptor III Antibody - With BSA and Azide - Additional Information

Gene ID 2214

Other Names
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, FCGR3A, CD16A, FCG3, FCGR3, IGFR3

Application Note
IF~~1:50~200<br \>FC~~1:10~50

Storage
Store at 2 to 8°C.Antibody is stable for 24 months.

Precautions
CD16 / Fc-gamma Receptor III Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

CD16 / Fc-gamma Receptor III Antibody - With BSA and Azide - 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:<a href="http://www.uniprot.org/citations/24412922"

target="_blank">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). Fc-binding subunit that associates with CD247 and/or FCER1G adapters to form functional signaling complexes. 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 ADCC in response to afucosylated IgGs (PubMed:34485821).

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).

CD16 / Fc-gamma Receptor III Antibody - With BSA and Azide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

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CD16 / Fc-gamma Receptor III Antibody - With BSA and Azide - Images

CD16 / Fc-gamma Receptor III Antibody - With BSA and Azide - Background

Recognizes a protein of 50-65kDa, identified as CD16 (Workshop IV; Code N39) (also known low affinity Fc receptor III for IgG (FcRIII) or Leu 11). CD16 exists as a polypepetide-anchored from (FCRIIIA or CD16A) on human natural killer (NK) cells and monocytes/ macrophages and as a glycosylphosphatidylinositol (GPI)-anchored form (FcRIIIB or CD16B) on neutrophils. CD16B is polymorphic and the two alleles are termed NA1 and NA2.3 CD16 plays a role in signal transduction, NK cell activation and antibody-dependent cellular cytotoxicity. This MAb has been showed to inhibit the binding of immune complex to NK cells, inhibit cytotoxicity of NK cells, and induce calcium fluxes in NK cells and neutrophils.

CD16 / Fc-gamma Receptor III Antibody - With BSA and Azide - References

Knapp W. et al. (eds) Leukocyte Typing IV, Oxford University Press, Oxford, 1989. | Lanier LL et al. Functional properties of a unique subset of cytotoxic CD3+ T lymphocytes that express Fc receptors for IgG (CD16/Leu-11 antigen). J Exp Med 1985, 162(6):2089-2106. | Nagarajan S et al. Ligand binding and phagocytosis by CD16 (Fc gamma receptor III) isoforms. Phagocytic signaling by associated zeta and gamma subunits in Chinese hamster ovary cells. J Biol Chem 1995, 270(43):25762-25770 | McKenzie SE and Schreiber AD. Biological advances and clinical applications of Fc receptors for IgG. Curr Opin Hematol 1994, 1(1):45-52. | Cerboni C et al. CD16-mediated activation of phosphatidylinositol-3 kinase (PI-3K) in human NK cells involves tyrosine phosphorylation of Cbl and its association with Grb2, Shc, pp36 and p85 PI-3K subunit. Eur J Immunol 1998, 28(3):1005-1015. | Braakman E et al. CD16 on human □□□T lymphocytes: expression, function, and specificity for mouse IgG isotypes. Cell Immunol 1992, 143:97-107