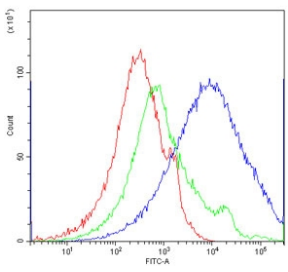
CD16 Antibody / Fc Gamma Receptor III Immune Marker (RQ4193)

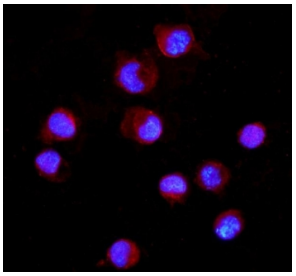
Catalog No.	Formulation	Size
RQ4193	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

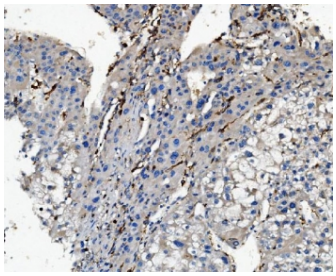
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P08637
Applications	Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence (FFPE) : 5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This CD16 Antibody / Fc Gamma Receptor III Immune Marker is available for research use only.



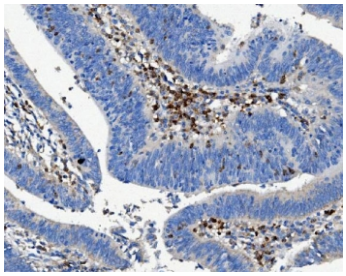
CD16 Antibody PBMC FACS. Flow cytometry analysis of human peripheral blood mononuclear cells stained with CD16 Antibody / Fc Gamma Receptor III Immune Marker at 1 ug/million cells following blocking with goat sera. A pronounced rightward fluorescence shift is observed relative to cells alone and isotype control populations, consistent with surface expression of FCGR3 / CD16 on immune cell subsets involved in antibody-dependent cellular cytotoxicity and Fc-mediated innate immune signaling pathways.



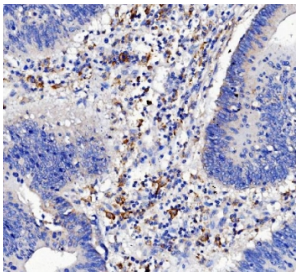
CD16 Antibody K562 IF. Immunofluorescence analysis of FFPE human K562 cells stained with CD16 Antibody / Fc Gamma Receptor III Immune Marker (red) together with DAPI nuclear stain (blue). Following HIER in pH 6 citrate buffer, membranous and cytoplasmic fluorescence is observed in K562 cells, consistent with expression of FCGR3 / CD16, an Fc receptor involved in antibody-dependent cellular cytotoxicity and innate immune signaling pathways.



CD16 Antibody Liver Cancer IHC. Immunohistochemistry analysis of FFPE human liver cancer tissue stained with CD16 antibody following HIER in pH 8 EDTA buffer. HRP-DAB brown membranous and cytoplasmic staining is observed in scattered immune-associated stromal cell populations within the tumor microenvironment, consistent with expression of FCGR3 / CD16, an Fc gamma receptor involved in antibody-dependent cellular cytotoxicity and innate immune activation pathways.



CD16 Antibody Rectal Cancer IHC. Immunohistochemistry analysis of FFPE human rectal cancer tissue stained with CD16 antibody following HIER in pH 8 EDTA buffer. Distinct HRP-DAB brown staining is observed in infiltrating immune cell populations within the tumor stroma and gland-associated regions, consistent with expression of FCGR3 / CD16, an Fc gamma receptor associated with innate immune activation and antibody-dependent cellular cytotoxicity pathways.



CD16 Antibody Rectal Carcinoma IHC. Immunohistochemistry analysis of FFPE human rectal carcinoma tissue stained with CD16 antibody following HIER in pH 8 EDTA buffer. HRP-DAB brown staining is predominantly observed in stromal and infiltrating immune cell populations surrounding malignant glandular structures, consistent with expression of FCGR3 / CD16, an Fc gamma receptor involved in antibody-dependent cellular cytotoxicity and innate immune signaling within the tumor microenvironment.

Description

Fc gamma receptor III (FCGR3), commonly known as CD16, is a low-affinity IgG Fc receptor involved in antibody-dependent immune activation, leukocyte signaling, and innate immune responses. CD16 Antibody / Fc Gamma Receptor III Immune Marker is useful for studying natural killer cell biology, Fc-mediated cytotoxicity, neutrophil activation, macrophage signaling, and antibody-dependent cellular responses. CD16 receptors are encoded primarily by the FCGR3A and FCGR3B genes and are broadly expressed on natural killer cells, neutrophils, macrophages, monocytes, and additional immune-associated cell populations.

CD16 antibody, also referred to as FCGR3 antibody, FCGR3A antibody, FCGR3B antibody, or Fc gamma receptor III antibody in the literature, recognizes a transmembrane Fc receptor family involved in recognition of IgG-containing immune complexes and antibody-coated target cells. CD16-mediated signaling contributes to antibody-dependent cellular cytotoxicity (ADCC), phagocytosis, cytokine release, inflammatory activation, and immune-cell communication pathways central to innate immunity. Because CD16 is highly expressed on natural killer cells and activated myeloid populations, the receptor is widely used in immunophenotyping, flow cytometry, tumor immunology, and immune monitoring applications.

FCGR3A is primarily expressed on natural killer cells, macrophages, and subsets of monocytes where it functions in Fc-mediated cytotoxic signaling and immune activation. FCGR3B is predominantly expressed on neutrophils and contributes to immune complex handling and inflammatory responses. Together, CD16 family receptors participate in clearance of antibody-coated pathogens and regulation of inflammatory signaling within innate immune pathways.

CD16 signaling occurs through association with Fc receptor gamma chain-containing complexes that activate downstream tyrosine kinase pathways involved in cytoskeletal remodeling, degranulation, and inflammatory activation. The receptor has additionally been implicated in therapeutic antibody responses, cancer immunotherapy, chronic inflammation, autoimmune disease, and infectious disease biology. Because Fc receptor-mediated cytotoxicity is central

to antibody-based immunity, CD16 remains an important target in immunology and translational immune research.

FCGR3 genes are located within the Fc receptor cluster on chromosome 1q23 and produce glycosylated membrane-associated receptors containing extracellular immunoglobulin-like domains responsible for IgG binding. Differential glycosylation and isoform expression may influence observed molecular weights and staining patterns in experimental applications. CD16 proteins localize predominantly to the plasma membrane where they mediate Fc-dependent immune signaling and leukocyte activation pathways.

This rabbit polyclonal CD16 antibody has been supported using immunohistochemistry, immunofluorescence, and flow cytometry approaches to confirm endogenous Fc gamma receptor III detection in immune-associated cell populations and tissues. The antibody supports analysis of CD16-positive leukocyte populations relevant to antibody-dependent cytotoxicity, innate immune activation, and Fc-mediated inflammatory signaling research applications.

Explore the CD Antibodies product page for additional antibodies targeting leukocyte differentiation markers, Fc receptors, and immune-associated surface proteins involved in innate and adaptive immune signaling pathways.

Application Notes

Optimal dilution of the CD16 Antibody / Fc Gamma Receptor III Immune Marker should be determined by the researcher.

Immunogen

A recombinant human protein corresponding to amino acids Q101-D166 was used as the immunogen for the CD16 antibody.

Storage

After reconstitution, the CD16 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

FCGR3 antibody, FCGR3A antibody, FCGR3B antibody, Fc gamma receptor III antibody, CD16 innate immune marker antibody