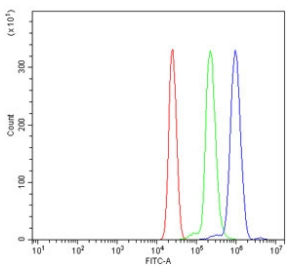
FCGR1A Antibody / Innate Immune Receptor (RQ4109)

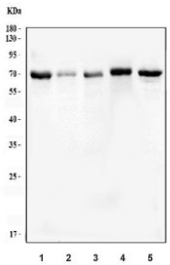
Catalog No.	Formulation	Size
RQ4109	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Rat
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	P12314
Applications	Western Blot: 0.5-1ug/ml Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml
Limitations	This FCGR1A Antibody / Innate Immune Receptor is available for research use only.



FCGR1A Antibody U937 FACS. Flow cytometry analysis of human U937 monocytic cells stained with FCGR1A antibody at 1 ug/million cells following goat serum blocking. A clear rightward fluorescence shift is observed relative to cells alone and isotype controls, supporting selective surface detection of FCGR1A / CD64, an innate immune receptor involved in IgG-mediated leukocyte activation and Fc receptor signaling pathways.



FCGR1A Antibody Multi-Cell Line WB. Western blot analysis of human SiHa, A431, HCCT, HeLa, and rat PC-12 cell lysates using rabbit polyclonal FCGR1A antibody. Immunoreactive bands are detected within the expected approximately 39-75 kDa molecular weight range, consistent with known glycosylation-dependent migration of Fc gamma receptor 1A / CD64, a high-affinity IgG receptor involved in innate immune signaling and antibody-dependent cellular responses.

Description

Fc gamma receptor 1A (FCGR1A) is a high-affinity IgG Fc receptor encoded by the FCGR1A gene and functions in antibody-mediated immune activation, pathogen recognition, and leukocyte signaling. FCGR1A Antibody / Innate Immune Receptor is useful for studying Fc receptor biology, inflammatory signaling, macrophage activation, and antibody-dependent immune responses. FCGR1A is more commonly known as CD64 and belongs to the Fc gamma receptor family expressed predominantly on monocytes, macrophages, dendritic cells, and activated neutrophils.

FCGR1A antibody, also referred to as CD64 antibody, Fc gamma receptor 1A antibody, or Fc gamma RI antibody in published studies, recognizes a transmembrane immune receptor with high affinity for IgG. Following antibody engagement, FCGR1A activates signaling pathways involved in phagocytosis, cytokine production, antigen presentation, and innate immune activation. The receptor contributes to clearance of immune complexes and antibody-coated pathogens and plays an important role in inflammatory and host-defense responses.

FCGR1A expression is tightly associated with activated myeloid lineage cells and is frequently increased during inflammatory activation or interferon signaling. Because of its role in innate immune activation, FCGR1A has been widely investigated in infectious disease, sepsis, autoimmune disorders, and tumor-associated immune responses. The receptor additionally contributes to immune-cell communication and Fc-mediated regulation of leukocyte function.

CD64 signaling occurs through association with Fc receptor gamma chain-containing complexes that activate downstream tyrosine kinase pathways involved in cytoskeletal remodeling and inflammatory activation. The receptor participates in antibody-dependent cellular responses and immune-cell activation pathways critical for innate immunity and inflammatory regulation.

FCGR1A is encoded on chromosome 1q21 and produces a glycosylated transmembrane receptor containing extracellular immunoglobulin-like domains responsible for high-affinity IgG binding. The receptor localizes primarily to the plasma membrane and is commonly detected on activated monocyte and macrophage populations in flow cytometry and immunoblot applications.

This rabbit polyclonal FCGR1A antibody has been supported using flow cytometry and western blot validation approaches to confirm selective endogenous CD64 detection in immune-related cell systems. Flow cytometry studies support cell surface detection of FCGR1A-positive populations, while western blot analysis further supports endogenous receptor detection in immune-associated samples relevant to innate immune signaling research.

Researchers studying Fc receptor signaling, monocyte activation, and antibody-dependent immune responses may also benefit from the CD64 Antibody / High-Affinity Fc Gamma Receptor page featuring the widely published clone 10.1 and flow cytometry validation in PBMC immune cell populations.

Application Notes

Optimal dilution of the FCGR1A Antibody / Innate Immune Receptor should be determined by the researcher.

Immunogen

A recombinant human partial protein corresponding to amino acids Q16-H292 was used as the immunogen for the FCGR1A antibody.

Storage

After reconstitution, the FCGR1A 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

CD64 antibody, Fc gamma receptor 1A antibody, Fc gamma RI antibody, FCGR1A leukocyte receptor antibody, High-affinity Fc receptor antibody

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