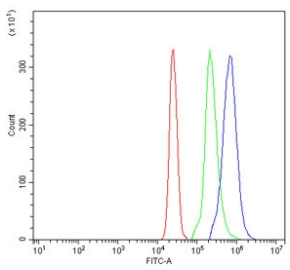
CLEC7A Antibody / Innate Immune and Beta-Glucan Receptor Marker Antibody (RQ7430)

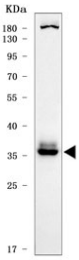
Catalog No.	Formulation	Size
RQ7430	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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
UniProt	Q9BXN2
Applications	Western Blot : 0.5-1ug/ml Flow Cytometry : 1-3ug/million cells Direct ELISA : 0.1-0.5ug/ml
Limitations	This CLEC7A Antibody / Innate Immune and Beta-Glucan Receptor Marker Antibody is available for research use only.



CLEC7A Antibody U937 FACS. Flow cytometry analysis of human U937 cells using CLEC7A antibody demonstrates a clear rightward shift in fluorescence intensity compared to the isotype control, consistent with detection of CLEC7A / Dectin-1, an innate immune beta-glucan receptor involved in fungal recognition and myeloid cell signaling; red histogram represents cells alone, green histogram represents isotype control, and blue histogram represents CLEC7A antibody staining.



CLEC7A Antibody RT4 WB. Western blot analysis of human RT4 cell lysate using CLEC7A antibody detects a prominent band at approximately 35-40 kDa, consistent with the expected molecular weight range of glycosylated CLEC7A / Dectin-1, an innate immune beta-glucan receptor involved in fungal recognition and myeloid immune signaling. Variable migration within the approximately 27-45 kDa range may occur depending on glycosylation state and receptor processing.

Description

CLEC7A, also known as Dectin-1, is a C-type lectin pattern recognition receptor that plays a central role in innate immune responses to fungal pathogens and other microbial components. CLEC7A is expressed predominantly in myeloid cell populations including macrophages, dendritic cells, monocytes, and neutrophils, where it functions as a cell surface receptor for beta-glucans present in fungal cell walls. Recognition of these carbohydrate structures initiates intracellular signaling pathways that promote phagocytosis, cytokine production, and antimicrobial immune responses.

CLEC7A antibody, also referred to as Dectin-1 antibody and beta-glucan receptor antibody in the literature, recognizes a transmembrane immune receptor involved in fungal recognition and innate immune activation. Following ligand engagement, CLEC7A activates signaling pathways involving SYK kinase and downstream inflammatory mediators that regulate antifungal defense and immune cell activation. This signaling network contributes to coordination of innate and adaptive immune responses during fungal infection and inflammatory immune processes.

This CLEC7A Antibody / Innate Immune and Beta-Glucan Receptor Marker Antibody is uniquely positioned for studies of myeloid cell biology and innate immune signaling. CLEC7A expression is commonly associated with macrophage and dendritic cell populations involved in pathogen sensing and inflammatory regulation. In tissue-based studies, CLEC7A can be used to evaluate innate immune cell distribution and fungal recognition-associated immune responses within inflammatory microenvironments.

CLEC7A signaling contributes to activation of innate immune defense programs through recruitment of SYK kinase and downstream signaling pathways that regulate NF-kB activation, cytokine production, oxidative burst responses, and phagocytic activity. Through these mechanisms, Dectin-1 functions as an important pattern recognition receptor linking microbial carbohydrate sensing to inflammatory immune responses. Activation of CLEC7A-dependent pathways promotes production of inflammatory mediators including TNF-alpha, IL-6, and IL-23, supporting antifungal immunity and coordination of downstream adaptive immune responses.

Expression of CLEC7A is particularly prominent in macrophages, dendritic cells, monocytes, and tissue-associated myeloid populations involved in pathogen surveillance and inflammatory regulation. In addition to fungal immunity, CLEC7A signaling has been investigated in sterile inflammation, tumor-associated immune responses, and regulation of myeloid cell activation within the tumor microenvironment. Because Dectin-1 integrates extracellular pathogen recognition with intracellular inflammatory signaling, it serves as an important marker for studies of innate immune activation and myeloid cell biology.

In immunohistochemistry applications, CLEC7A is typically observed as membranous and cytoplasmic staining in myeloid-derived immune cells. In western blot analysis, CLEC7A is detected as a glycosylated membrane-associated receptor that may migrate across a heterogeneous molecular weight range due to post-translational modification. Flow cytometry analysis supports detection of CLEC7A-positive immune cell populations involved in innate immune surveillance and pathogen recognition.

This rabbit polyclonal antibody is designed to detect CLEC7A with consistent performance in research applications. A CLEC7A antibody is suitable for detecting Dectin-1 expression in studies of fungal immunity, macrophage biology, dendritic cell signaling, and innate immune receptor function.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the CLEC7A Antibody / Innate Immune and Beta-Glucan Receptor Marker Antibody should be determined by the researcher.

Immunogen

E. coli-derived recombinant human protein (amino acids M1-C233) was used as the immunogen for the CLEC7A antibody.

Storage

After reconstitution, the CLEC7A 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

CLEC7A antibody, Dectin-1 antibody, C-type lectin domain family 7 member A antibody, Beta-glucan receptor antibody, CLECSF12 antibody