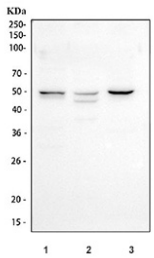
CD48 Antibody (R32674)

Catalog No.	Formulation	Size
R32674	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
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P09326
Applications	Western Blot : 0.5-1ug/ml
Limitations	This CD48 antibody is available for research use only.



Western blot testing of human 1) HEL, 2) RT-4 and 3) HaCaT cell lysate with CD48 antibody at 0.5ug/ml. Expected molecular weight 28 kDa (unmodified), up to 50 kDa (glycosylated).

Description

CD48 antibody is a valuable reagent for exploring immune cell interactions and signaling pathways. The encoded protein, CD48, is a glycosylphosphatidylinositol (GPI)-anchored cell surface molecule that belongs to the signaling lymphocyte activation molecule (SLAM) family of immunoglobulin superfamily receptors. CD48 is expressed broadly on hematopoietic cells, including T cells, B cells, NK cells, monocytes, and dendritic cells, where it functions as a costimulatory molecule to regulate immune responses.

CD48 interacts primarily with CD2 and CD244 (2B4), mediating adhesion and signaling between immune cells. Through

its binding to CD2, CD48 facilitates T cell activation and enhances antigen recognition. Engagement with CD244 promotes NK cell activity and cytotoxicity, contributing to innate immune defense. These interactions make CD48 an important mediator of both adaptive and innate immunity, coordinating the cross-talk between different leukocyte populations.

Research has linked CD48 to diverse biological and disease processes. Altered expression of CD48 has been reported in autoimmune conditions such as systemic lupus erythematosus, where dysregulation of costimulatory signaling contributes to immune imbalance. In hematological malignancies, CD48 expression may influence tumor immune evasion or serve as a biomarker of disease state. Additionally, studies suggest that CD48 plays roles in infectious disease, where it can modulate immune recognition and pathogen clearance.

At the molecular level, CD48 is anchored to the plasma membrane via a GPI linkage, which confers mobility within lipid rafts and enhances its ability to cluster at the immunological synapse. This localization supports effective signal transduction during immune cell contact. The absence of a transmembrane signaling domain means that CD48 relies on its partners, such as CD2 and CD244, to propagate intracellular signals. This cooperative activity underscores its role as a facilitator of immune communication rather than a direct signaling receptor.

The CD48 antibody is widely used in western blotting, immunohistochemistry, immunofluorescence, and flow cytometry to detect expression patterns and evaluate immune cell subsets. These applications support research into autoimmunity, tumor immunology, and infectious disease. For investigators studying lymphocyte activation, NK cell biology, or costimulatory signaling pathways, the CD48 antibody provides a dependable detection tool. NSJ Bioreagents supplies validated antibodies that ensure accuracy and reproducibility in advanced molecular studies.

Application Notes

Optimal dilution of the CD48 antibody should be determined by the researcher.

Immunogen

Amino acids E51-D146 from the human protein were used as the immunogen for the CD48 antibody.

Storage

After reconstitution, the CD48 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.