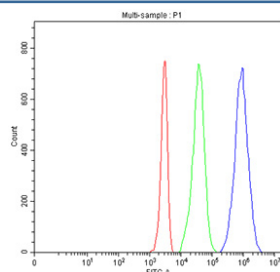


CD5 Antibody (RQ4443)

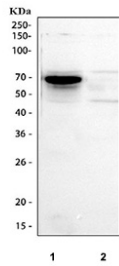
Catalog No.	Formulation	Size
RQ4443	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

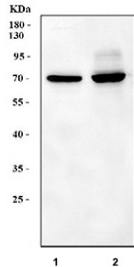
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P06127
Localization	Cell membrane
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Direct ELISA : 0.1-0.5ug/ml (human recombinant protein) Flow Cytometry : 1-3ug/million cells
Limitations	This CD5 antibody is available for research use only.



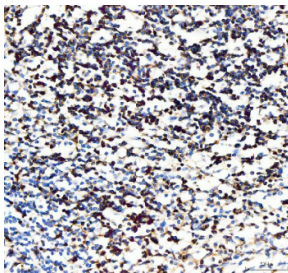
Flow cytometry testing of human Jurkat cells with CD5 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= CD5 antibody.



Western blot testing of 1) human Jurkat and 2) human HeLa cell lysate with CD5 antibody at 0.5ug/ml. Expected molecular weight: 55-67 kDa depending on glycosylation level.



Western blot testing of 1) rat spleen and 2) mouse spleen tissue lysate with CD5 antibody at 0.5ug/ml. Expected molecular weight: 55-67 kDa depending on glycosylation level.



IHC staining of FFPE human appendix tissue with CD5 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

CD5 antibody is a widely used reagent for studying lymphocyte biology, signaling, and immune regulation. The encoded protein, CD5, is a type I transmembrane glycoprotein expressed primarily on T cells, thymocytes, and a subset of B cells known as B-1a cells. As a member of the scavenger receptor cysteine-rich superfamily, CD5 plays an important role as a negative regulator of antigen receptor-mediated signaling, helping to fine-tune immune activation and maintain tolerance.

CD5 functions by associating with the T cell receptor (TCR) complex and B cell receptor (BCR), where it dampens signaling intensity. This modulation prevents excessive activation, reducing the risk of autoimmunity while preserving effective immune responses. In T cells, CD5 is upregulated during thymic selection, supporting the survival of developing T cells with intermediate affinity for self-antigens. In B cells, CD5 expression is characteristic of the B-1a subset, which contributes to innate-like immune responses and natural antibody production.

Research has shown that CD5 also participates in signaling pathways beyond its inhibitory role. It can interact with intracellular effectors, modulating cytokine production, proliferation, and survival. In addition, CD5 expression patterns have diagnostic relevance in hematological malignancies. Chronic lymphocytic leukemia (CLL) and mantle cell lymphoma often display CD5 on malignant B cells, making it a valuable biomarker for disease classification. These connections emphasize the significance of CD5 in both normal immunity and clinical diagnostics.

At the molecular level, CD5 contains a long extracellular region with scavenger receptor domains and a short cytoplasmic tail that interacts with signaling proteins. Although it lacks intrinsic enzymatic activity, CD5 transduces signals by recruiting adaptors and phosphatases that influence receptor pathways. Its structural design supports its role as a modulator of immune receptor signaling rather than a direct activator of downstream pathways.

The CD5 antibody is widely applied in flow cytometry, immunohistochemistry, immunofluorescence, and western blotting to detect expression and evaluate immune cell subsets. These applications are essential for studies of thymocyte development, T cell biology, B-1 cell function, and the diagnosis of lymphoid malignancies. For researchers examining

adaptive immunity, autoimmunity, or hematological cancers, the CD5 antibody offers a dependable and specific detection tool. NSJ Bioreagents provides validated antibodies that deliver reproducibility and precision for advanced immunological research.

Application Notes

Optimal dilution of the CD5 antibody should be determined by the researcher.

Immunogen

Human CD5 recombinant protein (amino acids R25-L495) was used as the immunogen for the CD5 antibody.

Storage

After reconstitution, the CD5 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.