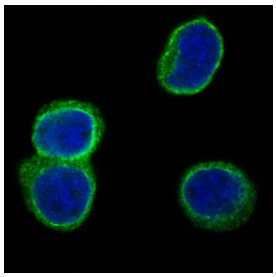
CD3D Antibody Rabbit Monoclonal / CD3 delta [clone IDE-3] (RQ5046)

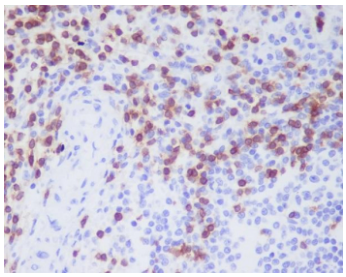
Catalog No.	Formulation	Size
RQ5046	Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA	100 ul

Bulk quote request

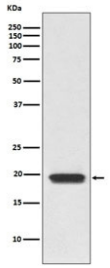
Availability	1-2 weeks
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	IDE-3
Purity	Affinity purified
UniProt	P04234
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200 Immunofluorescence : 1:50-1:200
Limitations	This CD3D antibody is available for research use only.



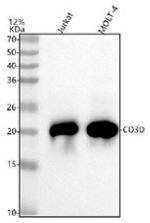
Immunofluorescence analysis of CD3D antibody in human Jurkat cells. CD3D antibody (green) demonstrates prominent membrane-associated fluorescence outlining the cell surface, consistent with CD3 delta localization within the T cell receptor CD3 complex. Nuclear counterstain with DAPI (blue) highlights cell nuclei and confirms cellular integrity. The staining pattern is consistent with surface expression of CD3 delta in T lymphoblastic Jurkat cells.



Immunohistochemistry analysis of CD3D antibody in human spleen tissue. Paraffin-embedded spleen demonstrates membranous HRP-DAB brown staining in numerous lymphocytes within periarteriolar lymphoid sheaths and surrounding white pulp regions, consistent with CD3 delta expression in mature T cells. Red pulp areas show comparatively fewer positive cells, reflecting the expected distribution of T lymphocytes. Hematoxylin counterstain highlights nuclear morphology and splenic architecture.



Western blot testing of human Jurkat cell lysate with CD3D antibody. Predicted molecular weight ~19 kDa.



Western blot analysis of CD3D antibody in human Jurkat and MOLT-4 cell lysates. A prominent band is observed at approximately 20-22 kDa in both lanes, consistent with the predicted molecular weight of CD3 delta, which is approximately 19 kDa based on amino acid sequence. The slight upward shift in apparent molecular weight is commonly observed in SDS-PAGE and may reflect electrophoretic migration differences or post-translational modifications. Strong signal intensity in both Jurkat and MOLT-4 cells is expected due to high endogenous expression of CD3 delta in T lymphoblastic cell lines. Molecular weight markers are indicated in kDa on the left.

Description

CD3D antibody recognizes CD3 delta subunit, a type I transmembrane protein encoded by the CD3D gene and commonly referred to as CD3 delta chain. CD3 delta is an essential component of the T cell receptor CD3 complex, which mediates antigen recognition and intracellular signaling in T lymphocytes. As part of the multimeric TCR-CD3 signaling complex, CD3 delta contributes to receptor assembly, membrane expression, and signal transduction required for adaptive immune responses. CD3D antibody supports research applications focused on T cell biology, immune signaling pathways, and lymphoid tissue characterization.

CD3 delta associates with CD3 gamma, CD3 epsilon, and CD3 zeta chains to form the invariant signaling module of the T cell receptor. Upon antigen engagement, immunoreceptor tyrosine-based activation motifs within the cytoplasmic domains of CD3 subunits undergo phosphorylation, triggering downstream signaling cascades that regulate T cell activation, proliferation, and cytokine production. CD3 delta localizes primarily to the plasma membrane of mature T cells, where it stabilizes receptor expression and contributes to immune synapse formation and signal amplification.

In normal human tissues, CD3 delta expression is restricted to T lymphocytes within thymus, lymph node, spleen, tonsil, and peripheral blood. Within lymphoid organs, CD3 staining highlights T cell-rich areas such as the paracortex of lymph nodes and interfollicular regions of tonsil, while B cell follicles and non-lymphoid stromal compartments remain largely negative. This lineage-specific distribution makes CD3D antibody a valuable marker for identifying T cell populations in research settings. Alterations in CD3 complex expression are relevant in studies of T cell immunodeficiencies and T cell leukemias or lymphomas, where receptor composition and signaling capacity may be disrupted.

Clone IDE-3 is a rabbit monoclonal antibody generated to recognize CD3 delta with defined specificity. CD3D antibody can be used to investigate T cell receptor signaling mechanisms, lymphoid architecture, and adaptive immune responses in experimental models. Its defined target recognition and membrane-associated staining profile support studies of T cell distribution and immune system function in normal and disease-associated tissues.

Application Notes

Optimal dilution of the CD3D antibody should be determined by the researcher.

Immunogen

A synthetic peptide specific to human CD3D was used as the immunogen for the CD3D antibody.

Storage

Store the CD3D antibody at -20oC.