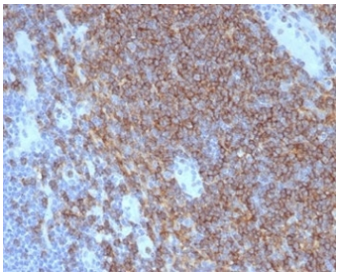
# CD4 Antibody / Immunological Synapse Formation Antibody [clone CD4/7142] (V9753)

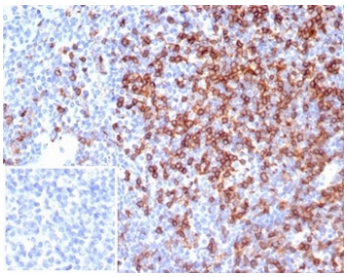
| Catalog No. | Formulation | Size |
|---|---|---|
| V9753-100UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide | 100 ug |
| V9753-20UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide | 20 ug |
| V9753SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |

**Bulk quote request**

| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human |
| **Format** | Purified |
| **Host** | Mouse |
| **Clonality** | Monoclonal (mouse origin) |
| **Isotype** | Mouse IgG2c, kappa |
| **Clone Name** | CD4/7142 |
| **Purity** | Protein A/G affinity |
| **UniProt** | P01730 |
| **Localization** | Cell surface |
| **Applications** | Immunohistochemistry (FFPE): 1-2ug/ml |
| **Limitations** | This CD4 Antibody / Immunological Synapse Formation Antibody is available for research use only. |



CD4 Antibody for IHC. Analysis of CD4 antibody staining in FFPE human lymph node tissue shows strong membranous labeling of CD4-positive T helper lymphocytes predominantly within paracortical regions, with relative sparing of B cell follicles, highlighting T cell interaction zones within lymphoid tissue. This Immunological Synapse Formation Antibody (clone CD4/7142) demonstrates selective detection of CD4-expressing lymphocytes involved in cell-cell contact and immune synapse organization. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling before testing.



CD4 Antibody for IHC. Analysis of CD4 antibody staining in FFPE human tonsil tissue shows strong membranous labeling of CD4-positive T helper lymphocytes within interfollicular regions and surrounding lymphoid follicles, highlighting sites of T cell interaction within lymphoid tissue. This Immunological Synapse Formation Antibody (clone CD4/7142) demonstrates selective detection of CD4-expressing lymphocytes involved in cell-cell contact and immune synapse organization. Inset: PBS was used in place of the primary antibody as a negative control to assess secondary antibody binding. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling before testing.

## Description

CD4 molecule (CD4) is a type I transmembrane glycoprotein expressed primarily on T helper lymphocytes, where it functions as a co-receptor for antigen recognition and plays a critical role in formation and stabilization of the immunological synapse between T cells and antigen-presenting cells. CD4 Antibody / Immunological Synapse Formation Antibody is used to detect CD4-positive immune cells and supports analysis of cell-cell interaction mechanisms that initiate and sustain adaptive immune responses.

CD4 antibody, also known as T helper cell marker antibody or CD4 surface receptor antibody, contributes directly to the organization of the immunological synapse through its interaction with major histocompatibility complex class II molecules. This interaction stabilizes contact between T cells and antigen-presenting cells, promoting formation of a structured signaling interface. CD4 Antibody / Immunological Synapse Formation Antibody enables visualization and identification of CD4-positive lymphocytes engaged in these interactions, providing insight into the spatial and functional dynamics of immune cell communication.

The immunological synapse is characterized by highly organized molecular domains, including the central supramolecular activation cluster (cSMAC) and peripheral supramolecular activation cluster (pSMAC), where receptors, adhesion molecules, and signaling proteins are spatially arranged to facilitate efficient signal transduction. CD4 plays a key role in this organization by recruiting intracellular kinases such as Lck to the synaptic interface, enhancing T cell receptor signaling and promoting sustained activation. CD4 Antibody / Immunological Synapse Formation Antibody supports investigation of these processes by enabling detection of CD4 localization within interacting cell populations.

CD4 Antibody supports study of T cell engagement with antigen-presenting cells by enabling identification of CD4-positive lymphocytes participating in synapse formation. These interactions are essential for antigen-dependent signaling, cytokine production, and coordination of downstream immune responses. Analysis of CD4 distribution in this context provides valuable information about immune cell activation, signal propagation, and the efficiency of cell-cell communication within the immune system.

CD4 is localized to the plasma membrane and undergoes dynamic redistribution during formation of the immunological synapse, concentrating at sites of cell-cell contact. A CD4 antibody can be used in research applications to support detection of CD4-expressing lymphocytes, enabling detailed analysis of immunological synapse formation, receptor clustering, and antigen-driven signaling processes in immune cell populations.

A full range of CD4 antibody reagents for immunohistochemistry, western blot, and flow cytometry is available on our CD4 Antibody collection page.

## Application Notes

Optimal dilution of the CD4 Antibody / Immunological Synapse Formation Antibody should be determined by the researcher.

## Immunogen

A portion of amino acids 200-400 was used as the immunogen for the CD4 antibody.

## Storage

Aliquot the CD4 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

## Alternate Names

CD4 synapse antibody, CD4 T cell interaction antibody, CD4 immune synapse antibody, CD4 cell signaling interface antibody


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