# CD3 epsilon Antibody for IF / CD3e Immunofluorescence Antibody (R31519)

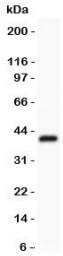
| Catalog No. | Formulation | Size |
|---|---|---|
| R31519 | 0.5mg/ml if reconstituted with 0.2ml sterile DI water | 100 ug |

**Bulk quote request**

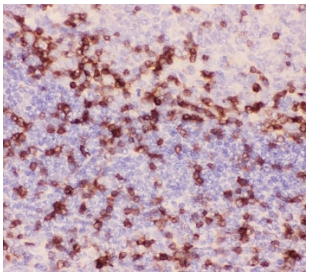
| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human, Mouse, Rat |
| **Format** | Antigen affinity purified |
| **Host** | Rabbit |
| **Clonality** | Polyclonal (rabbit origin) |
| **Isotype** | Rabbit IgG |
| **Purity** | Antigen affinity |
| **Buffer** | Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide |
| **Gene ID** | 916 |
| **Applications** | Western blot: 0.5-1ug/ml<br>IHC (FFPE): 0.5-1ug/ml<br>IHC (Frozen): 0.5-1ug/ml<br>Immunocytochemistry: 0.5-1ug/ml<br>Immunofluorescence: 1-2ug/ml |
| **Limitations** | This CD3 epsilon antibody is available for research use only. |



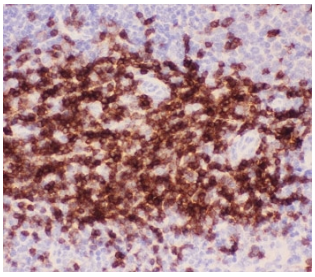

Western blot testing of CD3 epsilon antibody and Lane 1: Jurkat; 2: CEM lysate. Expected/observed molecular weight ~23 kDa.



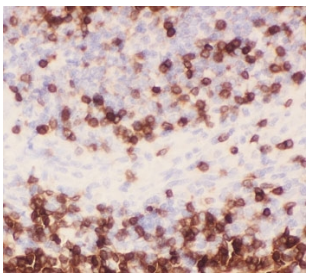

Western blot testing of CD3 epsilon antibody and recombinant human protein (0.5ng)



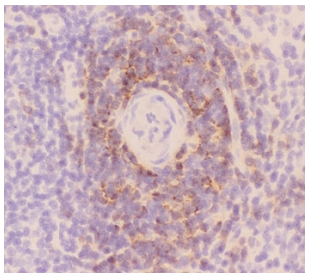
IHC-P: CD3 epsilon antibody testing of human tonsil tissue. Required HIER: steam section in pH6 citrate buffer for 20 min and allow to cool prior to testing.



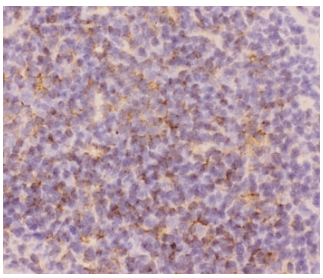
IHC-P: CD3 epsilon antibody testing of mouse spleen tissue. Required HIER: steam section in pH6 citrate buffer for 20 min and allow to cool prior to testing.



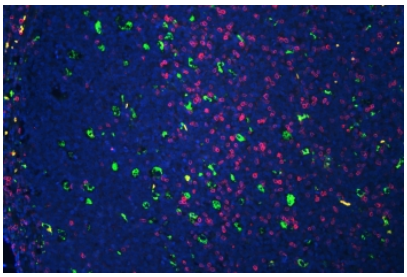
IHC-P staining of rat spleen tissue with CD3 epsilon antibody. Required HIER: steam section in pH6 citrate buffer for 20 min and allow to cool prior to testing.



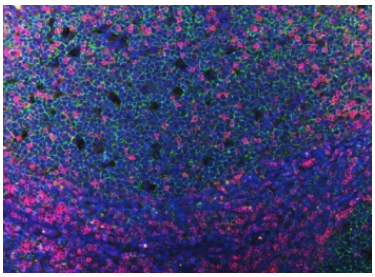
IHC-F staining of rat spleen tissue with CD3 epsilon antibody.



IHC-F staining of mouse spleen tissue with CD3 epsilon antibody.



CD3 epsilon Antibody for IF. Immunofluorescence analysis of CD3 Epsilon / CD3E antibody in FFPE human tonsil tissue using a rabbit polyclonal CD3e Immunofluorescence Antibody. CD3-positive T lymphocytes are visualized as bright pink membrane-associated and cytoplasmic fluorescence, predominantly localized within interfollicular regions, consistent with T-cell zone distribution. CD68 monoclonal antibody (green) highlights macrophages within the tissue, while DAPI (blue) marks cell nuclei. The staining demonstrates clear spatial separation between T-cell and macrophage populations and enables visualization of immune cell organization within lymphoid architecture. Heat-induced epitope retrieval was performed by steaming tissue sections in pH 6 citrate buffer for 20 minutes prior to staining.



CD3 epsilon Antibody for IF. Immunofluorescence analysis of CD3 Epsilon / CD3E antibody in FFPE human tonsil tissue using a rabbit polyclonal CD3e Immunofluorescence Antibody. CD3-positive T lymphocytes are detected as bright pink membrane-associated and cytoplasmic fluorescence predominantly within interfollicular and paracortical regions, while CD20 monoclonal antibody (green) labels B cells within follicular structures. DAPI (blue) marks cell nuclei, providing clear architectural context. The staining highlights the spatial segregation of T-cell and B-cell compartments within tonsillar lymphoid tissue. Heat-induced epitope retrieval was performed by steaming tissue sections in pH 8 EDTA buffer for 20 minutes prior to staining.

## Description

CD3 epsilon (CD3E) is a membrane-associated component of the T-cell receptor (TCR) complex that is consistently expressed in T lymphocytes and plays a central role in antigen recognition and signal transduction. CD3 epsilon Antibody for IF / CD3e Immunofluorescence Antibody is specifically optimized for fluorescence-based detection of CD3 Epsilon / CD3E, enabling high-resolution visualization of T cells at the cellular and subcellular level. CD3e antibody, also known as CD3 epsilon antibody or CD3E antibody, is widely recognized as a pan-T cell marker antibody and is frequently used in immunofluorescence workflows to define T-cell populations with spatial precision.

Within the TCR complex, CD3 epsilon associates with CD3 gamma, CD3 delta, and CD3 zeta chains to form a signaling unit that localizes to the plasma membrane. This membrane-centric distribution makes CD3 epsilon particularly well suited for immunofluorescence applications, where preservation of fine cellular detail and spatial relationships is critical. CD3e antibody reagents allow direct visualization of TCR-associated structures, supporting studies of receptor organization, clustering, and activation-dependent redistribution at the cell surface.

In immunofluorescence applications, CD3 epsilon Antibody for IF enables bright, well-defined membrane-associated fluorescence in T lymphocytes, often accompanied by cytoplasmic signal depending on fixation and permeabilization conditions. This staining pattern provides clear discrimination of T cells from surrounding cell populations while preserving cellular morphology and enabling single-cell level analysis. Compared to chromogenic approaches, CD3e Immunofluorescence Antibody staining allows more precise localization within individual cells, making it particularly valuable for identifying T-cell positioning, density, and interactions within complex samples.

This CD3 epsilon Antibody for IF is uniquely positioned for high-resolution imaging workflows where spatial context is essential. Fluorescence detection enables detailed analysis of T-cell distribution within tissue sections, including localization relative to epithelial structures, stromal compartments, and vascular regions. In addition, CD3e antibody staining is highly compatible with multiplex immunofluorescence panels, where it serves as a backbone marker for T cells alongside additional immune markers such as CD4, CD8, or activation markers. This allows simultaneous visualization of multiple cell types and functional states within a single sample.

In tissue-based immunofluorescence studies, CD3 epsilon staining highlights both resident and infiltrating T cells with

strong contrast against surrounding tissue. In lymphoid organs such as tonsil and lymph node, dense populations of CD3-positive cells can be visualized with clear cellular boundaries, while in peripheral tissues and tumor samples, CD3e Immunofluorescence Antibody staining reveals patterns of immune cell infiltration and spatial organization. The ability to resolve these patterns at high resolution supports investigations into immune cell trafficking, tissue residency, and cell-to-cell interactions.

As a rabbit polyclonal antibody, this CD3e Immunofluorescence Antibody recognizes multiple epitopes on CD3 epsilon, contributing to strong fluorescence signal and robust detection across a range of sample preparations. This multi-epitope recognition supports consistent labeling even in conditions where epitope accessibility may vary. CD3 epsilon Antibody for IF provides a reliable tool for fluorescence-based detection of T cells, enabling detailed visualization of immune architecture and cellular interactions in both research and tissue imaging applications.

A full range of CD3e antibody reagents for immunohistochemistry, western blot, and flow cytometry is available on our CD3e Antibody collection page.

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## Application Notes

The stated application concentrations are suggested starting amounts. Titration of the CD3 epsilon Antibody for IF / CD3e Immunofluorescence Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

## Immunogen

Human partial recombinant protein (AA 23-207) was used as the immunogen for this CD3 epsilon Antibody for IF / CD3e Immunofluorescence Antibody.

## Storage

After reconstitution, the CD3 epsilon 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

CD3E antibody, CD3 epsilon immunofluorescence antibody, CD3 IF antibody, T cell marker immunofluorescence antibody, CD3 TCR complex antibody


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