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# CD247 / CD3 Zeta Antibody (clone 4B10)

**Mouse Monoclonal Antibody**
**Catalog # ALS13193**

## Specification

### CD247 / CD3 Zeta Antibody (clone 4B10) - Product Information

| | |
|---|---|
| Application | **IF, IHC** |
| Primary Accession | P20963 |
| Reactivity | **Human** |
| Host | **Mouse** |
| Clonality | **Monoclonal** |
| Calculated MW | **19kDa KDa** |

### CD247 / CD3 Zeta Antibody (clone 4B10) - Additional Information

**Gene ID** 919

**Other Names**
T-cell surface glycoprotein CD3 zeta chain, T-cell receptor T3 zeta chain, CD247, CD247, CD3Z, T3Z, TCRZ

**Target/Specificity**
Human CD247

**Reconstitution & Storage**
Long term: -20°C; Short term: +4°C. Avoid repeat freeze-thaw cycles.

**Precautions**
CD247 / CD3 Zeta Antibody (clone 4B10) is for research use only and not for use in diagnostic or therapeutic procedures.

### CD247 / CD3 Zeta Antibody (clone 4B10) - Protein Information

**Name** CD247

**Synonyms** CD3Z, T3Z, TCRZ

**Function**
Part of the TCR-CD3 complex present on T-lymphocyte cell surface that plays an essential role in adaptive immune response. When antigen presenting cells (APCs) activate T-cell receptor (TCR), TCR- mediated signals are transmitted across the cell membrane by the CD3 chains CD3D, CD3E, CD3G and CD3Z. All CD3 chains contain immunoreceptor tyrosine-based activation motifs (ITAMs) in their cytoplasmic domain. Upon TCR engagement, these motifs become phosphorylated by Src family protein tyrosine kinases LCK and FYN, resulting in the activation of downstream signaling pathways (PubMed:<a href="http://www.uniprot.org/citations/2470098" target="_blank">2470098</a>, PubMed:<a href="http://www.uniprot.org/citations/7509083" target="_blank">7509083</a>). CD3Z ITAMs phosphorylation creates multiple docking sites for the protein kinase ZAP70 leading to ZAP70 phosphorylation and its conversion into a catalytically

active enzyme (PubMed:<a href="http://www.uniprot.org/citations/7509083" target="_blank">7509083</a>). Plays an important role in intrathymic T-cell differentiation. Additionally, participates in the activity-dependent synapse formation of retinal ganglion cells (RGCs) in both the retina and dorsal lateral geniculate nucleus (dLGN) (By similarity).

**Cellular Location**
Cell membrane {ECO:0000250|UniProtKB:P24161}; Single-pass type I membrane protein

**Tissue Location**
CD3Z is expressed in normal lymphoid tissue and in peripheral blood mononuclear cells (PBMCs) (PubMed:11722641)

## CD247 / CD3 Zeta Antibody (clone 4B10) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

## CD247 / CD3 Zeta Antibody (clone 4B10) - Images

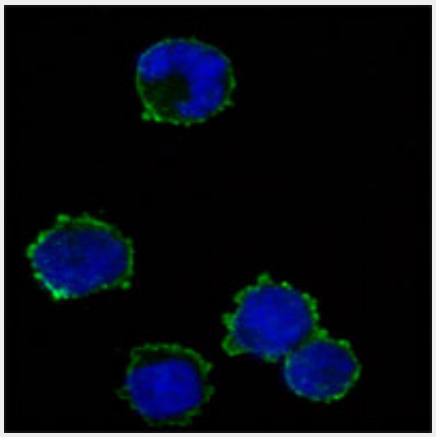

Figure3: Immunofluorescence of K562 cells using anti-CD247 monoclonal antibody (green).

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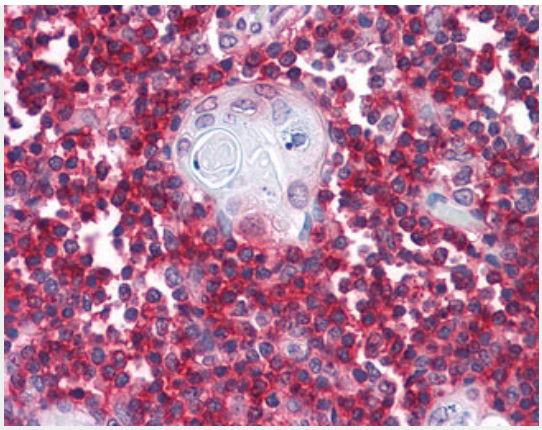
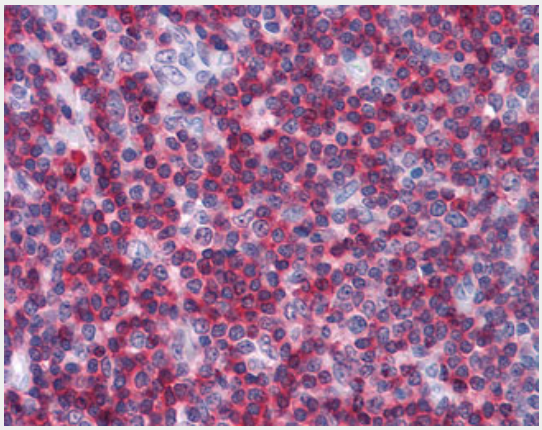


Anti-CD247 / CD3-Zeta antibody IHC of human thymus.



Anti-CD247 / CD3-Zeta antibody IHC of human tonsil.

## CD247 / CD3 Zeta Antibody (clone 4B10) - Background

Probable role in assembly and expression of the TCR complex as well as signal transduction upon antigen triggering.

## CD247 / CD3 Zeta Antibody (clone 4B10) - References

Weissman A.M.,et al.Proc. Natl. Acad. Sci. U.S.A. 85:9709-9713(1988).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Gregory S.G.,et al.Nature 441:315-321(2006).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
Howe A.Y.,et al.J. Virol. 72:9827-9834(1998).