

**CD247 Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1370a****Specification**

---

**CD247 Antibody - Product Information**

Application	<b>IF, WB, IHC, FC</b>
Primary Accession	<a href="#">P20963</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>
Calculated MW	<b>18kDa KDa</b>

**Description**

The protein encoded by this gene is T-cell receptor zeta, which together with T-cell receptor alpha/beta and gamma/delta heterodimers, and with CD3-gamma, -delta and -epsilon, forms the T-cell receptor-CD3 complex. The zeta chain plays an important role in coupling antigen recognition to several intracellular signal-transduction pathways. Low expression of the antigen results in impaired immune response. Two alternatively spliced transcript variants encoding distinct isoforms have been found for this gene.

**Immunogen**

Purified recombinant fragment of human CD247 expressed in E. Coli.

**Formulation**

Ascitic fluid containing 0.03% sodium azide. <br />

**CD247 Antibody - 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

**Dilution**

IF~~1/200 - 1/1000  
WB~~1/500 - 1/2000  
IHC~~1/500 - 1/2000  
FC~~1/200 - 1/400

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

CD247 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## CD247 Antibody - 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/1384049" target="\_blank">1384049</a>, PubMed:<a href="http://www.uniprot.org/citations/1385158" target="\_blank">1385158</a>, 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

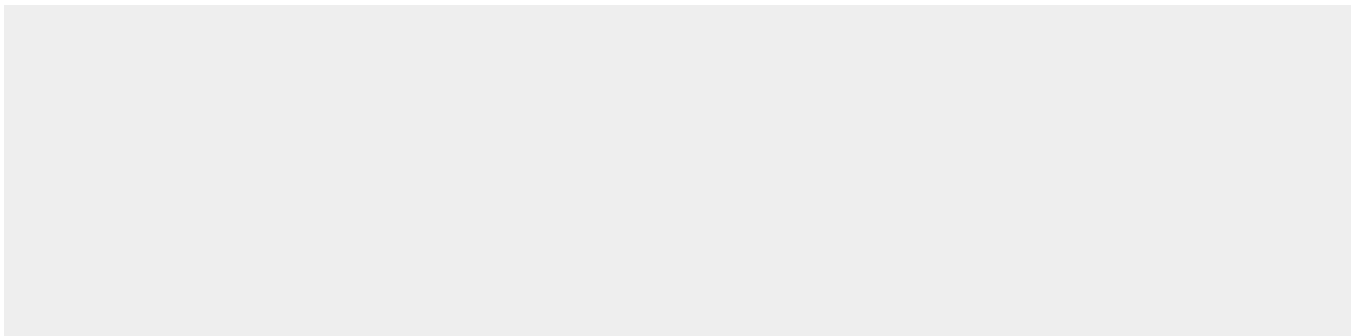
CD3Z is expressed in normal lymphoid tissue and in peripheral blood mononuclear cells (PBMCs) (PubMed:11722641)

## CD247 Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## CD247 Antibody - Images



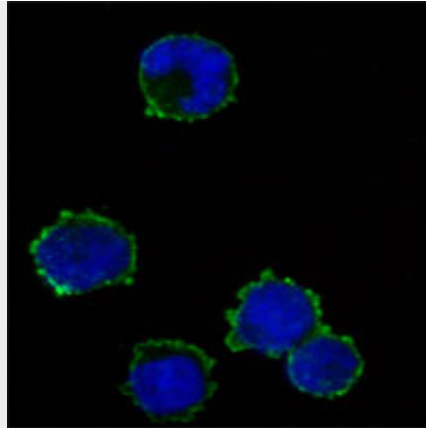


Figure3: Immunofluorescence analysis of K562 cells using anti-CD247 mAb (green). Blue: DRAQ5 fluorescent DNA dye.

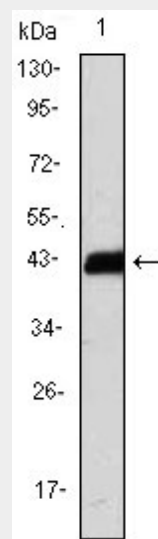


Figure 1: Western blot analysis using CD247 mAb against CD247(AA: 52-164)-hIgGfc transfected HEK293 cell lysate.

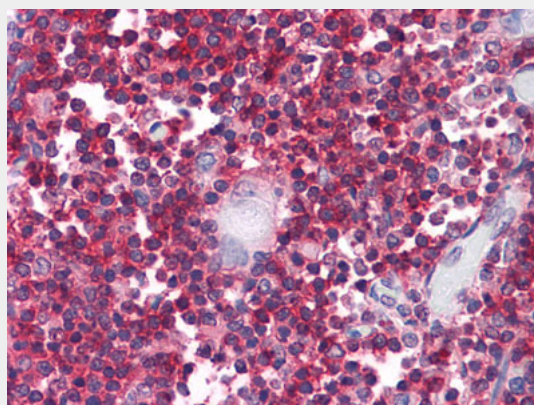


Figure 2: Immunohistochemical analysis of paraffin-embedded human Thymus tissues using anti-CD247 mouse mAb

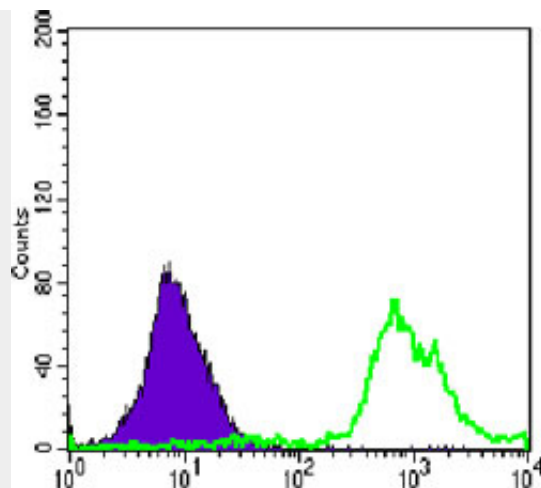


Figure 4: Flow cytometric analysis of Jurkat cells using anti-CD247 mAb (green) and negative control (purple).

#### **CD247 Antibody - References**

1. J Immunol. 2002 Aug 15;169(4):1705-12.
2. Arthritis Rheum. 2003 Jul;48(7):1948-55.
3. Nat Methods. 2005 Aug;2(8):591-8.