

**CD3 Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1035a****Specification**

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**CD3 Antibody - Product Information**

Application	<b>IF, WB</b>
Primary Accession	<a href="#">P20963</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG2a</b>

**Description**

CD3 is a component of T cell surface receptor (TCR), it contains 5 invariable chains: gamma-, delta-, epsilon-, and zeta/eta. Clevers et al. (1988) showed the TCR/CD3 complex consists of either a TCR alpha/beta or TCR gamma/delta heterodimer coexpressed at the cell surface with the invariant subunits. CD3 is responsible for the signal transduction of the TCR.

**Immunogen**

Purified recombinant fragment of human CD3 expressed in E. Coli.

**Formulation**

Purified antibody in PBS containing 0.03% sodium azide.

**CD3 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 ~ 2000

**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**

CD3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**CD3 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:[1384049](http://www.uniprot.org/citations/1384049), PubMed:[1385158](http://www.uniprot.org/citations/1385158), PubMed:[2470098](http://www.uniprot.org/citations/2470098), PubMed:[7509083](http://www.uniprot.org/citations/7509083)). 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:[7509083](http://www.uniprot.org/citations/7509083)). 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)

## CD3 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](#)

## CD3 Antibody - Images

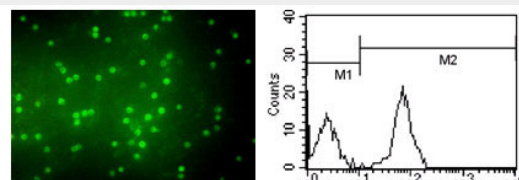


Figure 1: Immunofluorescence analysis of peripheral blood T cells using CD3 mouse mAb (A) and flow cytometric analysis of peripheral blood T cells using CD3 mouse mAb (B).

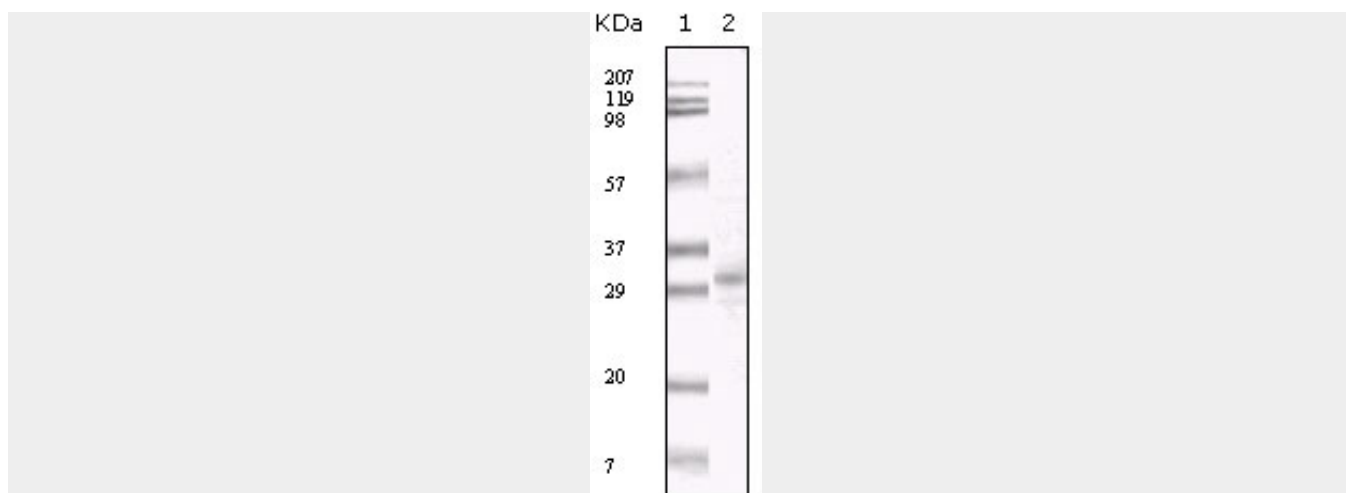


Figure 1: Western blot analysis using KSHV ORF26 mouse mAb against TPA induced BCBL-1 cell lysate.

### CD3 Antibody - References

1. Clevers, H. Annu. Rev. 1988. Immun. 6: 629-662.