

CD3E Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1389a**Specification**

CD3E Antibody - Product Information

Application	WB, FC, E
Primary Accession	P07766
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	23kDa KDa

Description

The protein encoded by this gene is the CD3-epsilon polypeptide, which together with CD3-gamma, -delta and -zeta, and the T-cell receptor alpha/beta and gamma/delta heterodimers, forms the T-cell receptor-CD3 complex. This complex plays an important role in coupling antigen recognition to several intracellular signal-transduction pathways. The genes encoding the epsilon, gamma and delta polypeptides are located in the same cluster on chromosome 11. The epsilon polypeptide plays an essential role in T-cell development. Defects in this gene cause immunodeficiency. This gene has also been linked to a susceptibility to type I diabetes in women.

Immunogen

Purified recombinant fragment of CD3E expressed in E. Coli.

Formulation

Ascitic fluid containing 0.03% sodium azide.

CD3E Antibody - Additional Information

Gene ID 916

Other Names

T-cell surface glycoprotein CD3 epsilon chain, T-cell surface antigen T3/Leu-4 epsilon chain, CD3e, CD3E, T3E

Dilution

WB~~1/500 - 1/2000

FC~~1/200 - 1/400

E~~N/A

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

CD3E Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

CD3E Antibody - Protein Information

Name CD3E

Synonyms T3E

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: [2470098](http://www.uniprot.org/citations/2470098)). In addition to this role of signal transduction in T-cell activation, CD3E plays an essential role in correct T-cell development. Initiates the TCR-CD3 complex assembly by forming the two heterodimers CD3D/CD3E and CD3G/CD3E. Also participates in internalization and cell surface down-regulation of TCR-CD3 complexes via endocytosis sequences present in CD3E cytosolic region (PubMed: [10384095](http://www.uniprot.org/citations/10384095), PubMed: [26507128](http://www.uniprot.org/citations/26507128)). In addition to its role as a TCR coreceptor, it serves as a receptor for ITPRIPL1. Ligand recognition inhibits T-cell activation by promoting interaction with NCK1, which prevents CD3E-ZAP70 interaction and blocks the ERK-NFkB signaling cascade and calcium influx (PubMed: [38614099](http://www.uniprot.org/citations/38614099)).

Cellular Location

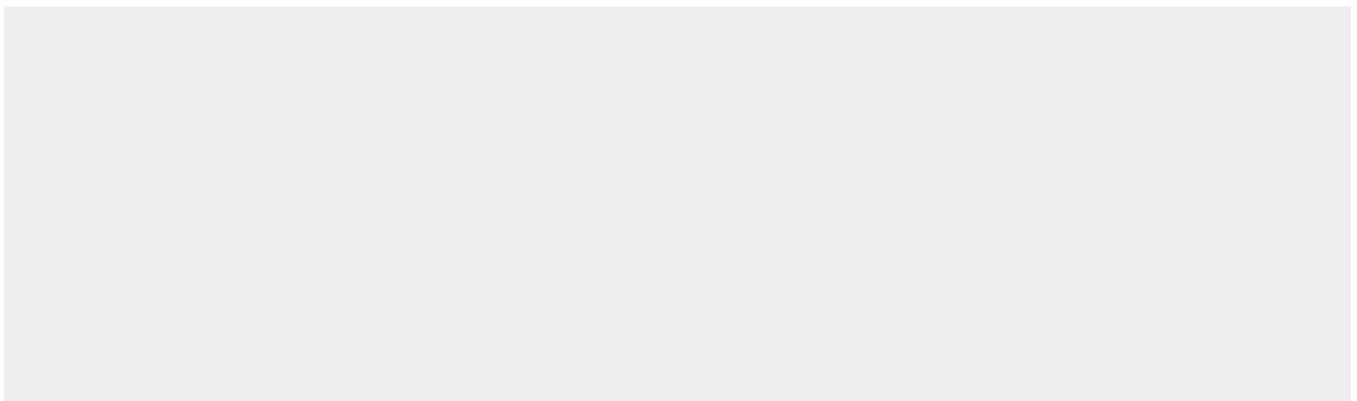
Cell membrane; Single-pass type I membrane protein

CD3E 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](#)

CD3E Antibody - Images



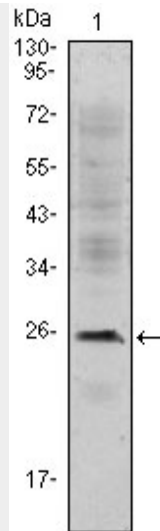


Figure 1: Western blot analysis using CD3E mouse mAb against Jurkat (1) cell lysate.

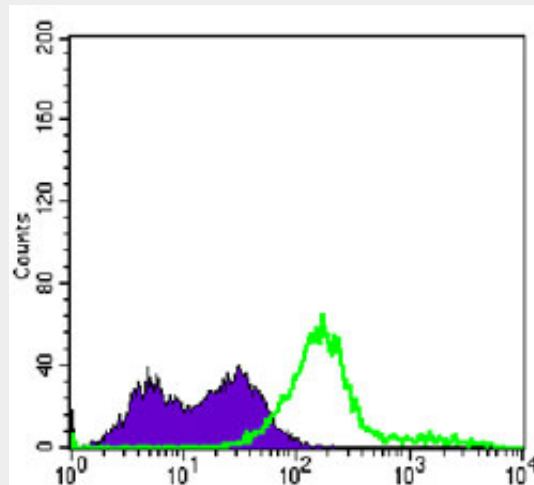


Figure 2: Flow cytometric analysis of Jurkat cells using CD3E mouse mAb (green) and negative control (purple).

CD3E Antibody - References

1. Nat Methods. 2005 Aug;2(8):591-8.
2. J Cell Physiol. 2006 Dec;209(3):695-700. Review.
3. J Biol Chem. 2006 Dec 1;281(48):36977-84. Epub 2006 Oct 5.