

CD3E Antibody

Purified Mouse Monoclonal Antibody

Catalog # AO1389a

Product Information

Application	WB, FC, E
Primary Accession	P07766
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4E2
Isotype	IgG1
Calculated MW	23147
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.

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.

Protein Information

Name	CD3E
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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](#)). In addition of 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](#), PubMed:[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](#)).

Cellular Location

Cell membrane; Single-pass type I membrane protein

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.

Images

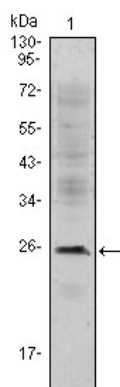


Figure 1: Western blot analysis using CD3E mouse mAb against Jurkat (1) cell lysate.

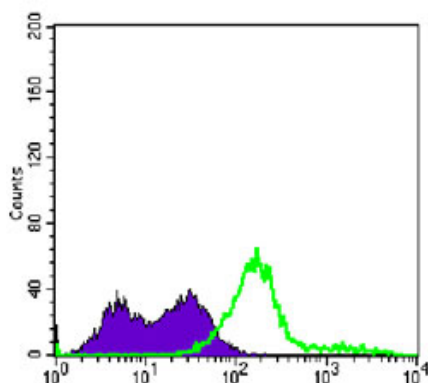


Figure 2: Flow cytometric analysis of Jurkat cells using CD3E mouse mAb (green) and negative control (purple).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.