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CD3E Mouse mAb

Catalog # AP96159

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P22646
Other Accession	P22646
Reactivity	Rat, Human, Mouse
Host	Mouse
Clonality	Monoclonal
Calculated MW	21393
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from mouse CD3E
Isotype	IgG
Purity	affinity purified by Protein G
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane; Single-pass type I membrane protein.
SIMILARITY	Contains 1 Ig-like (immunoglobulin-like) domain.Contains 1 ITAM domain.
SUBUNIT	he TCR/CD3 complex of T-lymphocytes consists of either a TCR alpha/beta or TCR gamma/delta heterodimer coexpressed at the cell surface with the invariant subunits of CD3 labeled gamma, delta, epsilon, zeta, and eta.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	CD3e molecule, epsilon is also known as CD3E, is a T-cell surface single-pass type I membrane glycoprotein. CD3E contains 1 Ig-like (immunoglobulin-like) domain and 1 ITAM domain. CD3E, together with CD3-gamma, CD3-delta and CD3-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. CD3E plays an essential role in T-cell development, and defects in CD3E gene cause severe immunodeficiency. CD3E gene has also been linked to a susceptibility to type I diabetes in women. CD3E has been shown to interact with TOP2B, CD3EAP and NCK2.

Additional Information

Gene ID	12501
Other Names	CD3epsilon; IMD18; T3E; TCRE; CD3; CD3E_HUMAN; CD3E; T-cell surface antigen T3/Leu-4 epsilon chain; CD3E_MOUSE; CD3 epsilon subunit of T-cell receptor complex; CD3e antigen, epsilon polypeptide (TiT3 complex); CD3e molecule, epsilon (CD3-TCR complex); CD3e molecule; T-cell surface glycoprotein CD3 epsilon chain
Dilution	WB=1:1000-2000,IHC-P=1:200-800,IHC-F=1:200-800,IF=1:200-800

Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	Cd3e
Function	Part of the TCR-CD3 complex present on T-lymphocyte cell surface that plays an essential role in adaptive immune response (PubMed:9843989, PubMed:10952314, PubMed:19956738, PubMed:24470497, PubMed:24899501, PubMed:40592325). 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 CD247/CD3Z (PubMed:10952314, PubMed:19956738, PubMed:24899501, PubMed:40592325). All CD3 chains contain immunoreceptor tyrosine-based activation motifs (ITAMs) in their cytoplasmic domain (PubMed:10952314, PubMed:19956738, PubMed:24899501, PubMed:40592325). 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:10952314, PubMed:19956738, PubMed:24899501, PubMed:40592325). CD3E ITAM phosphorylation creates docking sites for the protein kinase ZAP70 leading to ZAP70 phosphorylation and its conversion into a catalytically active enzyme (PubMed:10952314). In addition of this role of signal transduction in T-cell activation, CD3E plays an essential role in correct T-cell development (PubMed:10952314, PubMed:19956738, PubMed:24899501). Also participates in internalization and cell surface down-regulation of TCR-CD3 complexes via endocytosis sequences present in CD3E cytosolic region (By similarity). In addition to its role as a TCR coreceptor, it serves as a receptor for ITPRIPL1 (By similarity). 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 (By similarity).
Cellular Location	Cell membrane; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P07766}

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