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Anti-CD3e (T-Cell Marker) Antibody

Mouse Monoclonal Antibody
Catalog # AH13600

Product Information

Application	WB, IHC-P, IF, FC
Primary Accession	P07766
Other Accession	3003
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1
Clone Names	PC3/188A
Calculated MW	23147

Additional Information

Gene ID	916
Other Names	CD 3E, CD3 epsilon, CD3 TCR complex, CD3E, CD3e antigen epsilon polypeptide (TiT3 complex), T cell antigen receptor complex epsilon subunit of T3, T-cell surface antigen T3/Leu-4 epsilon chain, T-cell surface glycoprotein CD3 epsilon chain, T3E, TCRE, TiT3 complex
Application Note	Flow Cytometry (0.5-1ug/million cells); ,Immunofluorescence (1-2ug/ml); ,Western Blotting (1-2ug/ml for 60 minutes at RT);,Immunohistology (Formalin-fixed) (1-2ug/ml for 30 minutes at RT),(Staining of formalin-fixed tissues requires boiling tissue sections in 10mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes),Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified from rabbit anti-serum by Protein A. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-CD3e (T-Cell Marker) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

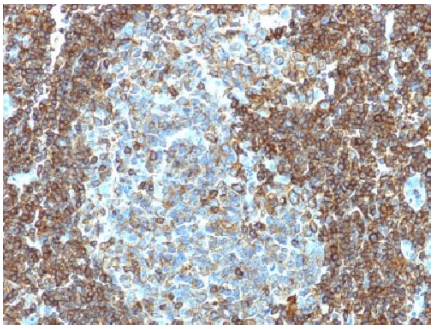
Name	CD3E
Synonyms	T3E

Function	Part of the TCR-CD3 complex present on T-lymphocyte cell surface that plays an essential role in adaptive immune response (PubMed:15294938, PubMed:15546002, PubMed:2470098, PubMed:40592325, PubMed:8490660). 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:2470098, PubMed:40592325). All CD3 chains contain immunoreceptor tyrosine-based activation motifs (ITAMs) in their cytoplasmic domain (PubMed:2470098, 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:2470098, 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 (By similarity). In addition of this role of signal transduction in T-cell activation, CD3E plays an essential role in correct T-cell development (By similarity). 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 (PubMed:38614099). 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:12110186, PubMed:38614099).
Cellular Location	Cell membrane; Single-pass type I membrane protein

Background

Recognizes the -chain of CD3, which consists of five different polypeptide chains (designated as gamma, delta, epsilon, zeta, and eta) with MW ranging from 16-28kDa. The CD3 complex is closely associated at the lymphocyte cell surface with the T cell antigen receptor (TCR). Reportedly, CD3 complex is involved in signal transduction to the T cell interior following antigen recognition. The CD3 antigen is first detectable in early thymocytes and probably represents one of the earliest signs of commitment to the T cell lineage. In cortical thymocytes, CD3 is predominantly intra-cytoplasmic. However, in medullary thymocytes, it appears on the T cell surface. CD3 antigen is a highly specific marker for T cells, and is present in majority of T cell neoplasms.

Images



Formalin-fixed, paraffin-embedded human Tonsil stained with CD3 epsilon Monoclonal Antibody (PC3/188A).

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