10320 Camino Santa Fe, Suite G
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Tel: 858.875.1900 Fax: 858.875.1999

CD3E/CD3 epsilon
Catalog # PVGS1884

Specification

CD3E/CD3 epsilon - Product Information

Primary Accession P07766

Species
Human

Sequence
Asp23-Asp126 (C119S, C122S)

Purity
> 95% as determined by Bis-Tris PAGE

Endotoxin Level
Less than 1EU per μg by the LAL method.

Biological Activity
Measured by its binding ability in a functional ELISA. Immobilized CD3E/CD3 epsilon hFc Chimera, Human at 2 μg/ml (100 μl/well) on the plate can bind Biotinylated Anti-CD3 Antibody, hFc Tag. Test result was comparable to standard batch.

Expression System
HEK293

Theoretical Molecular Weight
36.1 kDa

Formulation **Lyophilized from a 0.22 μm filtered solution in PBS□(pH 7.4).**

Reconstitution
Centrifuge the tube before opening. Reconstituting to a concentration more than 100 μg/ml is recommended. Dissolve the lyophilized protein in distilled water.

Storage & Stability
Upon receiving, the product remains stable up to 6 months at -20 °C or below. Upon reconstitution, the product should be stable for 3 months at -80 °C. Avoid repeated freeze-thaw cycles.

CD3E/CD3 epsilon - 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

Target Background

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T-cell surface glycoprotein CD3 epsilon&CD3 gamma chain, also known as CD3E&CD3G, are single-pass type I membrane proteins. 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.

CD3E/CD3 epsilon - 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). 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. Participates also 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

CD3E/CD3 epsilon - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CD3E/CD3 epsilon - Images