

Recombinant Human CD3E Protein, His-tagged

Cat. No. CD3E-321H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human CD3E (NP_000724.1) (Met1-Asp126) was expressed with a polyhistidine tag at the C-terminus.
Species	Human
Source	CHO
ProteinLength	Met1-Asp126
Description	T-cell surface glycoprotein CD3 epsilon chain, also known as CD3E, is a single-pass type I membrane protein. 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. The CD3 epsilon subunit of the T cell receptor (TCR) complex contains two defined signaling domains, a proline-rich sequence and an immune tyrosine activation motifs (ITAMs), and this complex undergoes a conformational change upon ligand binding that is thought to be important for the activation of T cells. In the CD3 epsilon mutant mice, all stages of T cell development and activation that are TCR-dependent were impaired, but not eliminated, including activation of mature naïve T cells with the MHCII presented superantigen, staphyl centigrade centigradecal enterotoxin B, or with a strong TCR cross-linking antibody specific for either TCR-Cbeta or CD3 epsilon. T cell receptor-CD3 complex plays an important role in coupling antigen recognition to several intracellular signal-transduction pathways. This complex is critical for T-cell development and function, and represents one of the

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most complex transmembrane receptors. CD3E plays an essential role in T-cell development, and defects in CD3E gene cause severe immunodeficiency. Homozygous mutations in CD3D and CD3E genes lead to a complete bl centigrade in T-cell development and thus to an early-onset severe combined immunodeficiency phenotype.

Predicted N Terminal	Asp 23
Form	Lyophilized from sterile PBS, pH 7.4. Normally 5 %- 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.
Molecular Mass	The recombinant human CD3E consists of 115 amino acids and predicts a molecular mass of 13.2 kDa.
Endotoxin	< 1.0 EU per µg protein as determined by the LAL method.
Purity	> 95 % as determined by SDS-PAGE.
Storage	Samples are stable for up to twelve months from date of receipt at -70 centigrade. Store it under sterile conditions at -20 centigrade to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4°C before opening to recover the entire contents.

GENE INFORMATION

Gene Name	CD3E CD3e molecule, epsilon (CD3-TCR complex) [Homo sapiens]
Official Symbol	CD3E

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Synonyms	CD3E; CD3e molecule, epsilon (CD3-TCR complex); CD3e antigen, epsilon polypeptide (TiT3 complex); T-cell surface glycoprotein CD3 epsilon chain; CD3-epsilon; T-cell surface antigen T3/Leu-4 epsilon chain; T-cell antigen receptor complex, epsilon subunit of T3; T3E; TCRE; FLJ18683;
Gene ID	916
mRNA Refseq	NM_000733
Protein Refseq	NP_000724
UniProt ID	P07766

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