

CD3 epsilon/CD3e Protein, Mouse, Recombinant (hFc)

General Information

Synonyms:	CD3;CD3epsilon;T3e
Protein Construction:	A DNA sequence encoding the Mouse CD3E (NP_031674.1) (Met1-Asp108) was expressed with the Fc region of human IgG1 at the C-terminus.
Species:	Mouse
Expression Host:	CHO Cells
Accession:	P22646
Molecular Weight:	36.92 kDa (predicted); 44.14 kDa? 37.81 kDa and 33.38 kDa (reducing contition)

QC Testing

Biological Activity:	Immobilized Recombinant Mouse CD3 epsilon/CD3e Protein (ECD, Fc Tag) at 2 µg/ml (100 µl/well) can bind CD3e/CD3 epsilon Antibody, Rabbit Mab, the EC50 is 400-1000 ng/mL.
Purity:	≥ 90% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from sterile PBS, pH 7.4. Please contact us for any concerns or special requirements. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hardcopy of datasheet or the lot-specific COA.

Preparation and Storage

Reconstitution:
Please refer to the lot-specific COA.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

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, staphylococcal 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 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 block in T-cell development and thus to an early-onset severe combined immunodeficiency phenotype. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

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