Rhesus CD3e / CD3 epsilon Protein (Fc Tag)

Catalog Number: **90047-C02H**

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General Information

Gene Name Synonym:

CD3 epsilon; IMD18; T3E; TCRE; AI504783; CD3; CD3epsilon; T3e

Protein Construction:

A DNA sequence encoding the rhesus CD3E (XP_001097204.1) CD3E extracellular domain (Met 1-Asp 117) was fused with the Fc region of human IgG1 at the C-terminus.

Source: Rhesus

Expression Host: Human Cells

QC Testing

Purity: > 96 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Gln 22

Molecular Mass:

The recombinant rhesus CD3E consists of 337 amino acids and has a calculated molecular mass of 38 kDa.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

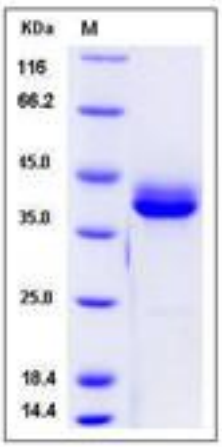
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein 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, 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.

References

1.Fischer A, *et al.* (2005) CD3 deficiencies. Curr Opin Allergy Clin Immunol. 5(6): 491-5.
2.Wang Y, *et al.* (2009) A conserved CXXC motif in CD3epsilon is critical for T cell development and TCR signaling. PLoS Biol. 7(12): e1000253.
3.Martnez-Martn N, *et al.* (2009) Cooperativity between T cell receptor complexes revealed by conformational mutants of CD3epsilon. Sci Signal. 2(83): ra43.