Alexa Fluor™ 488-Labeled Human CD3 epsilon Protein, His Tag

Catalog # CDE-HA2H3

Synonym

FLJ18683,T3E,TCRE,CD3E,CD3-epsilon

Source

Alexa Fluor 488-Labeled Human CD3 epsilon Protein, His Tag(CDE-HA2H3) is expressed from human 293 cells (HEK293). It contains AA Asp 23 - Asp 126 (Accession # P07766-1).
Predicted N-terminus: Asp 23

Molecular Characterization

This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 16.9 kDa. The protein migrates as 20-25 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation.

Conjugate

AF488

Excitation Wavelength: 488 nm

Emission Wavelength: 517 nm

Labeling

The primary amines in the side chains of lysine residues and the N-terminus of the protein are conjugated with AF488 using standard chemical labeling method. The residual AF488 is removed by molecular sieve treatment during purification process.

Protein Ratio

The AF488 to protein molar ratio is *1-2*.

Purity

>90% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

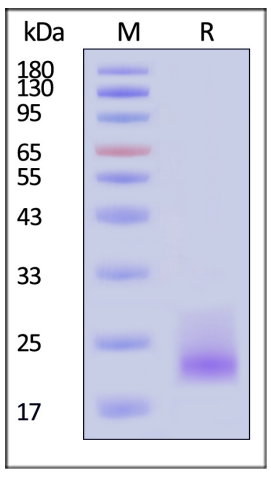
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please protect from light and avoid repeated freeze-thaw cycles.

This product is stable after storage at:

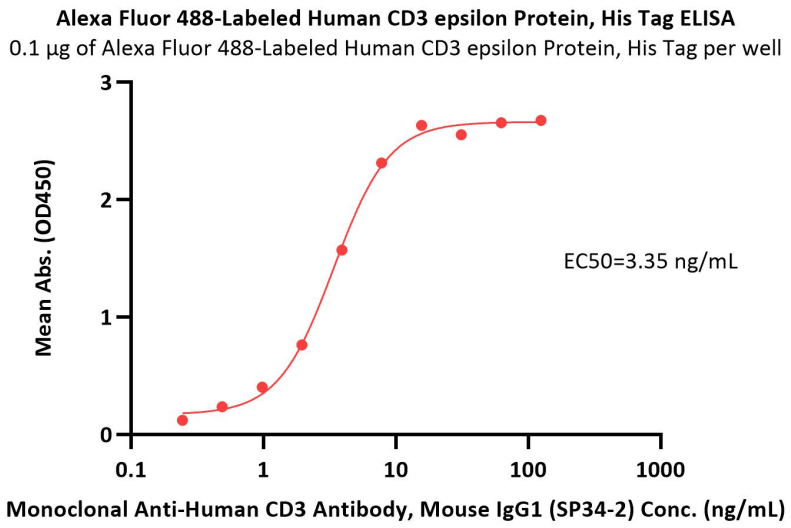
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



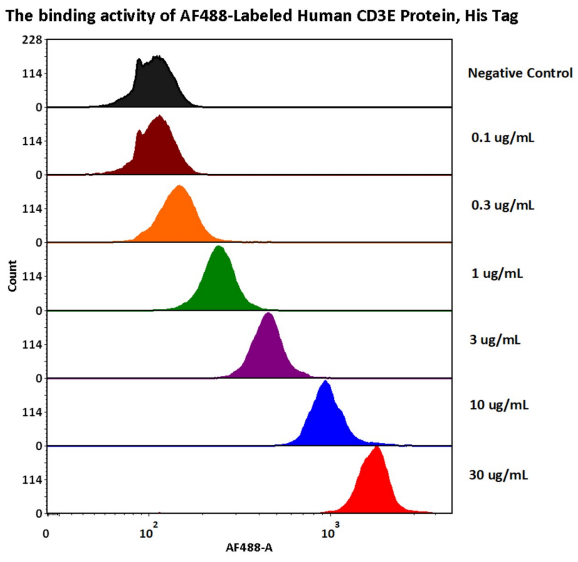
Alexa Fluor 488-Labeled Human CD3 epsilon Protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With Star Ribbon Pre-stained Protein Marker).

Bioactivity-ELISA

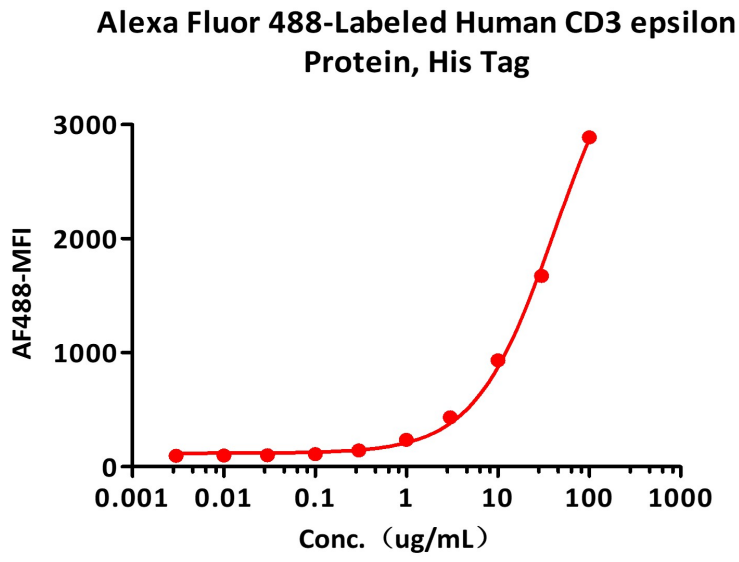


Immobilized Alexa Fluor 488-Labeled Human CD3 epsilon Protein, His Tag (Cat. No. CDE-HA2H3) at 1 μg/mL (100 μL/well) can bind Monoclonal Anti-Human CD3 Antibody, Mouse IgG1 (SP34-2) (Cat. No. CDE-M531) with a linear range of 0.2-8 ng/mL (QC tested).

Bioactivity-FACS



1e5 of Mouse Anti-CD3 antibody coupled beads (5.5μm) were stained with different concentration of Alexa Fluor 488-Labeled Human CD3 epsilon Protein, His Tag (Cat. No. CDE-HA2H3) and negative control protein respectively, AF488 signal was used to evaluate the binding activity (QC tested).



1e5 of Mouse Anti-CD3 antibody coupled beads (5.5μm) were stained with different concentration of Alexa Fluor 488-Labeled Human CD3 epsilon Protein, His Tag (Cat. No. CDE-HA2H3) and negative control protein respectively, AF488 signal was used to evaluate the binding activity (QC tested).

Background

CD3e molecule, epsilon is also known as CD3E, is a T-cell surface single-pass type I membrane glycoprotein. 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. This complex plays an important role in coupling antigen recognition to several intracellular signal-transduction pathways. The genes encoding the epsilon, gamma and delta polypeptides are located in the same cluster on chromosome 11. The epsilon polypeptide plays an essential role in T-cell development. CD3E plays an essential role in T-cell development, and defects in CD3E gene cause severe immunodeficiency. CD3E gene has also been linked to a susceptibility to type I diabetes in women. CD3E has been shown to interact with TOP2B, CD3EAP and NCK2.