Human CD73 / NT5E Protein, His Tag (HPLC-verified) (active enzyme)

Catalog # CD3-H52H7

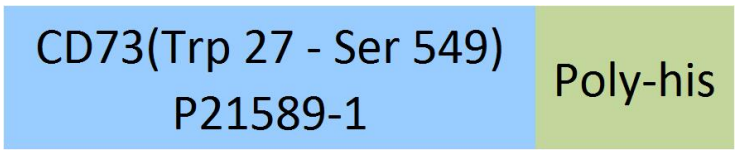
Synonym

CD73,NT5E,5'-Nucleotidase,5'-NT,NT5,NTE

Source

Human CD73 Protein, His Tag(CD3-H52H7) is expressed from human 293 cells (HEK293). It contains AA Trp 27 - Ser 549 (Accession # P21589-1).
Predicted N-terminus: Trp 27

Molecular Characterization



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

The protein has a calculated MW of 59.9 kDa. The protein migrates as 65 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method / rFC method.

Purity

>90% as determined by SDS-PAGE.

>90% as determined by SEC-HPLC.

Formulation

Lyophilized from 0.22 μm filtered solution in 20 mM Tris, 120 mM NaCl, pH7.5 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

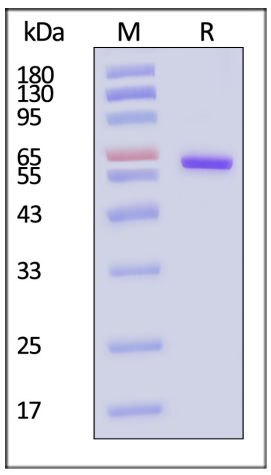
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

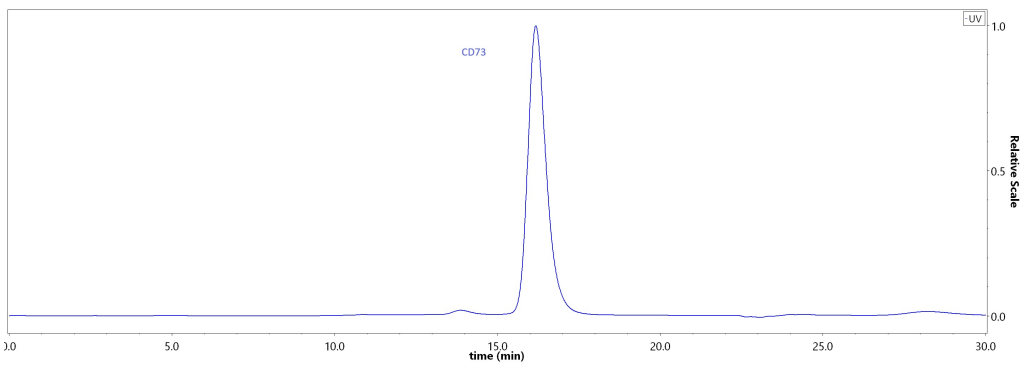
- -20°C to -70°C for 24 months in lyophilized state;
- -70°C for 12 months under sterile conditions after reconstitution.

SDS-PAGE



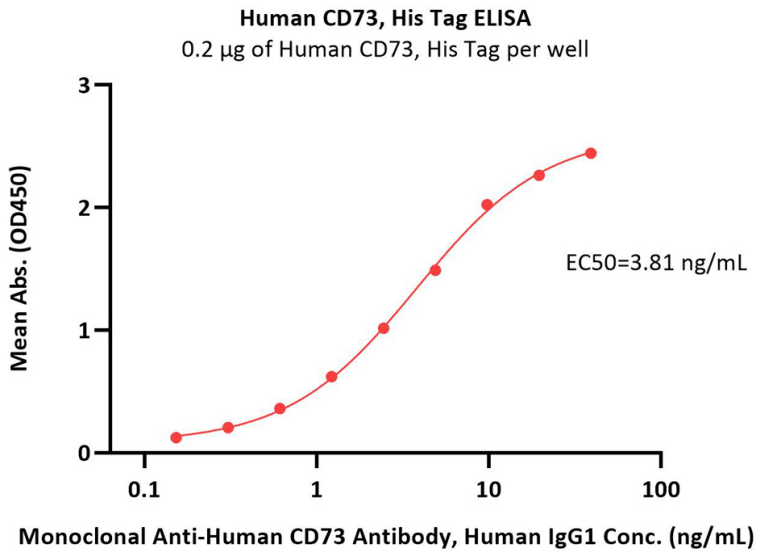
Human CD73 Protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With Star Ribbon Pre-stained Protein Marker).

SEC-HPLC



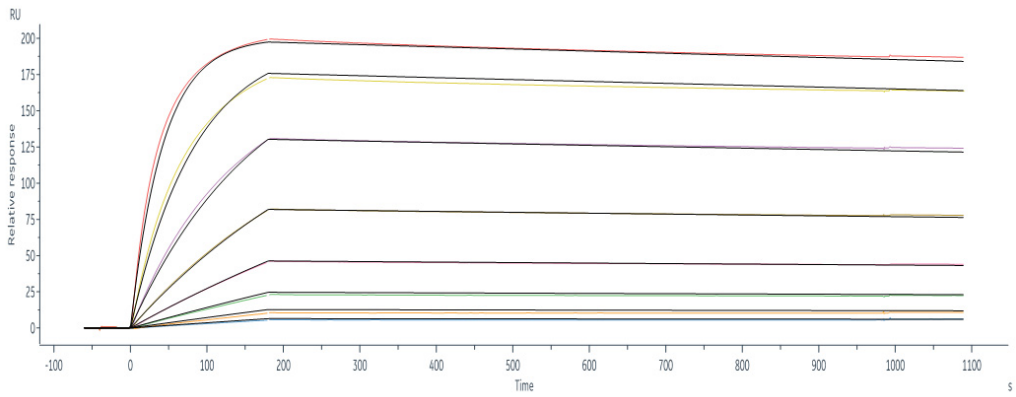
The purity of Human CD73 Protein, His Tag (Cat. No. CD3-H52H7) was greater than 90% as determined by SEC-HPLC.

Bioactivity-ELISA

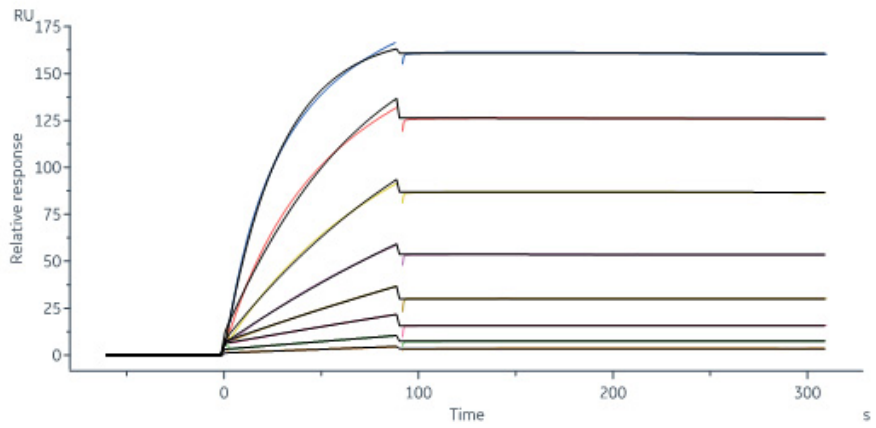


Immobilized Human CD73 Protein, His Tag (Cat. No. CD3-H52H7) at 2 μg/mL (100 μL/well) can bind Monoclonal Anti-Human CD73 Antibody, Human IgG1 with a linear range of 0.15-5 ng/mL (QC tested).

Bioactivity-SPR

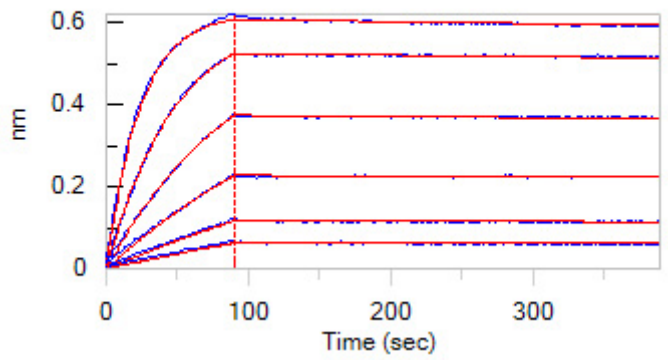


Anti-CD73 antibody (Human IgG1) captured on CM5 chip via Anti-human IgG Fc antibodies surface can bind Human CD73 Protein, His Tag (Cat. No. CD3-H52H7) with an affinity constant of 0.164 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).



Anti-CD73 Antibody captured on Protein A Chip can bind Human CD73 Protein, His Tag (Cat. No. CD3-H52H7) with an affinity constant of 0.108 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

Bioactivity-BLI



Loaded Anti-CD73 MAb (Human IgG1) on AHC Biosensor, can bind Human CD73 Protein, His Tag (Cat. No. CD3-H52H7) with an affinity constant of 0.179 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Bioactivity

Measured by its ability to hydrolyze the 5’-
phosphate group from the substrate adenosine-5’-monophosphate (AMP). The
specific activity is >100000pmol/min/μg (QC tested).

Background

5'-nucleotidase (5'-NT), also known as ecto-5'-nucleotidase or CD73 (cluster of differentiation 73), is an enzyme that is encoded by the NT5E gene. CD73 commonly serves to convert AMP to adenosine. Ecto-5-prime-nucleotidase (5-prime-ribonucleotide phosphohydrolase) catalyzes the conversion at neutral pH of purine 5-prime mononucleotides to nucleosides, the preferred substrate being AMP. Other forms of 5-prime nucleotidase exist in the cytoplasm and lysosomes and can be distinguished from ecto-NT5 by their substrate affinities, requirement for divalent magnesium ion, activation by ATP, and inhibition by inorganic phosphate. Rare allelic variants are associated with a syndrome of adult-onset calcification of joints and arteries (CALJA) affecting the iliac, femoral, and tibial arteries reducing circulation in the legs and the joints of the hands and feet causing pain.