



Synonym

CD39,ENTPD1,NTPDase 1,Entpd1,Ecto-ATPDase 1,Ecto-ATPase 1

Source

Biotinylated Human CD39 (R138A, M139A, E142K) Protein, His,Avitag(CD9-H82E8) is expressed from human 293 cells (HEK293). It contains AA Thr 38 - Val 478 (Accession # [P49961-1](#) (R138A, M139A, E142K)).

Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 53.9 kDa. The protein migrates as 65-80 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Labeling

Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.

Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 µm filtered solution in 20 mM Tris,150 mM NaCl,pH8.0 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

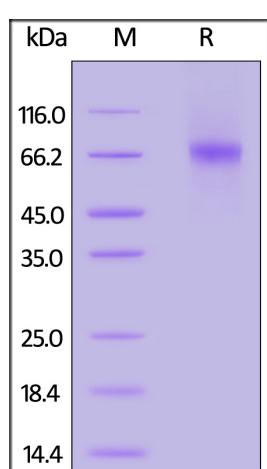
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

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

SDS-PAGE



Biotinylated Human CD39 (R138A, M139A, E142K) Protein, His,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity-ELISA

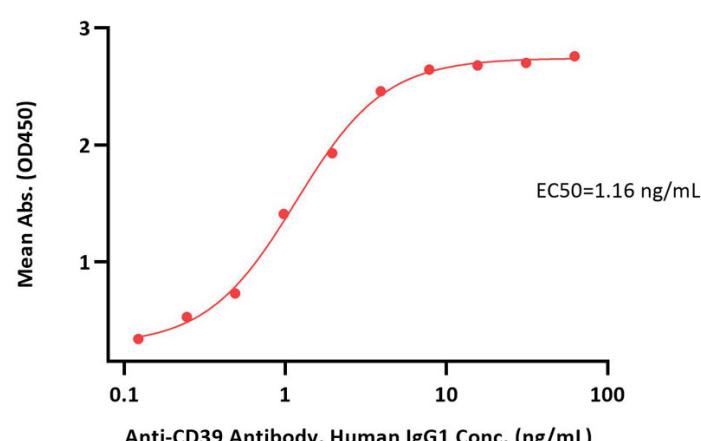
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Biotinylated Human CD39 (R138A, M139A, E142K) Protein, His,Avitag ELISA
 0.1 µg of Biotinylated Human CD39 (R138A, M139A, E142K) Protein, His,Avitag per well



Immobilized Biotinylated Human CD39 (R138A, M139A, E142K) Protein, His,Avitag (Cat. No. CD9-H82E8) at 1 µg/mL (100 µL/well) on streptavidin precoated (Cat. No. STN-N5116) (0.5 µg/well) plate can bind Anti-CD39 Antibody, Human IgG1 with a linear range of 0.1-4 ng/mL (QC tested).

Bioactivity

Measured by its ability to hydrolyze the 5'-phosphate group from the substrate adenosine-5'-triphosphate (ATP). The specific activity is > 8000 pmol/min/µg (QC tested).

Background

CD39 is also known as Ectonucleoside triphosphate diphosphohydrolase 1, ENTPD1, NTPDase 1, Ecto-ATPDase 1, in the nervous system, could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission. Could also be implicated in the prevention of platelet aggregation by hydrolyzing platelet-activating ADP to AMP. Hydrolyzes ATP and ADP equally well. NTPDase-1 was originally described as CD39, a B lymphocyte cell surface marker, but it is also present on the surface of natural killer cells, T cells, and some endothelial cells. Regulatory T cells (Tregs) mediate immunosuppression through multiple, non-redundant, cell-contact dependent and independent mechanisms, a growing body of evidence suggests an important role for the CD39-CD73-adenosine pathway. CD39 ectonucleotidase is the rate-limiting enzyme of a cascade leading to the generation of suppressive adenosine that alters CD4 and CD8 T cell and natural killer cell antitumor activities.

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