

**Synonym**

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

**Source**

Human CD39 (R138A, M139A, E142K) Protein, His Tag(CD9-H52H7) is expressed from human 293 cells (HEK293). It contains AA Thr 38 - Val 478 (Accession # [P49961-1](#) (R138A, M139A, E142K)).

**Molecular Characterization**

CD39(Thr 38 - Val 478) P49961-1 (R138A, M139A, E142K)	Poly-his
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This protein carries a polyhistidine tag at the C-terminus

The protein has a calculated MW of 52.2 kDa. The protein migrates as 60-68 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**

Less than 1.0 EU per µg by the LAL method.

**Purity**

>95% as determined by SDS-PAGE.

**Formulation**

Lyophilized from 0.22 µm filtered solution in 50 mM Tris, 150 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.*

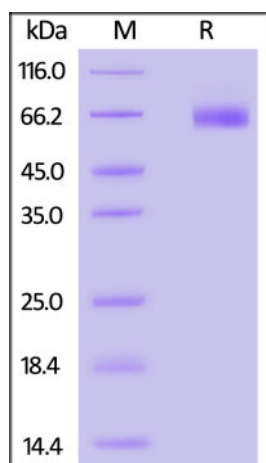
**Storage**

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

*Please avoid repeated freeze-thaw cycles.*

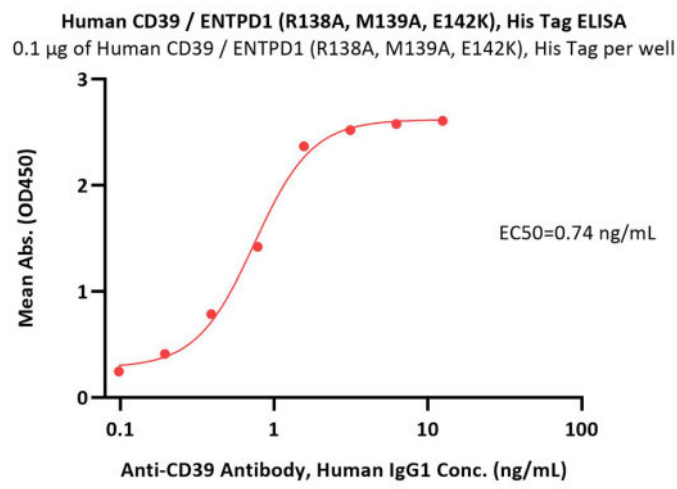
This product is stable after storage at:

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

**SDS-PAGE**

Human CD39 (R138A, M139A, E142K) 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 95%.

**Bioactivity-ELISA**



Immobilized Human CD39 / ENTPD1 (R138A, M139A, E142K), His Tag (Cat. No. CD9-H52H7) at 1 µg/mL (100 µL/well) can bind Anti-CD39 Antibody, Human IgG1 with a linear range of 0.1-2 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 > 9,000 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.

### Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.