

# Mouse CD39 / ENTPD1 Protein (His Tag)

Catalog Number: 50398-M08B



**Sino Biological Inc.**

Biological Solution Specialist

## General Information

### Gene Name Synonym:

ATPDase; CD39; NTPDase-1; SPG64; 2610206B08Rik; AA408691; Cd39; NTPDase-1

### Protein Construction:

A DNA sequence encoding the mouse ENTPD1 (P55772) extracellular domain (Thr 38-Ile 478) was fused with a polyhistidine tag at the C-terminus and a signal peptide at the N-terminus.

**Source:** Mouse

**Expression Host:** Baculovirus-Insect Cells

## QC Testing

**Purity:** > 97 % as determined by SDS-PAGE

### Bio Activity:

**Measured by its ability to hydrolyze the 5'phosphategroups from the substrate adenosine 5'triphosphate(ATP). The specific activity is > 25,000 pmoles/min/μg.**

### 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 °C

**Predicted N terminal:** Thr 38

### Molecular Mass:

The secreted recombinant mouse ENTPD1 consists of 451 amino acids and has a calculated molecular mass of 51 kDa. The recombinant protein migrates as an approximately 105 kDa band in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4, 10% gly

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:

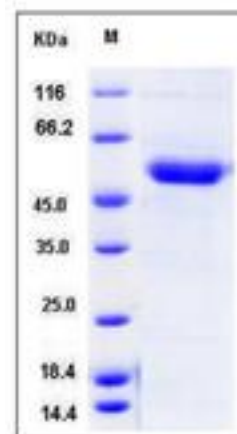
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

CD39, also known as ENTPD1, belongs to the GDA1/CD39 NTPase family. It is expressed primarily on activated lymphoid cells and can also be detected in endothelial tissues. The vascular isoform and the placental isoform II are present in both placenta and umbilical vein, whereas placental isoform I is present in placenta only. CD39 can hydrolyze both nucleoside triphosphates and diphosphates. It is the dominant ecto nucleotidase of vascular and placental trophoblastic tissues and appears to modulate the functional expression of type 2 purinergic (P2) G protein coupled receptors (GPCRs). CD39 transgenic mice exhibit impaired platelet aggregation, prolonged bleeding times, and resistance to systemic thromboembolism. There is a correlation between ATP hydrolysis and triglycerides in patients with chronic heart disease, suggesting a relationship between ATP diphosphohydrolase and thrombogenesis. In the nervous system, CD39 could hydrolyze ATP and other nucleotides to regulate purinergic neurotransmission.

## References

- 1.Kunzli BM, *et al.* (2011) Variable impact of CD39 in experimental murine colitis. *Dig Dis Sci.* 2011 56 (5): 1393-403.
- 2.Clayton A, *et al.* (2011) Cancer exosomes express CD39 and CD73, which suppress T cells through adenosine production. *J Immunol.* 187 (2): 676-83.
- 3.Loza MJ, *et al.* (2011) T-cell specific defect in expression of the NTPDase CD39 as a biomarker for lupus. *Cell Immunol.* 271 (1): 110-7.

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