

# Mouse ENTPD5 Protein (His Tag)

Catalog Number: 50473-M08B



**Sino Biological Inc.**

Biological Solution Specialist

## General Information

### Gene Name Synonym:

CD39L4; NTPDase-5; PCPH; AI196558; AI987697; Cd39l4; ER-UDPase; mNTPase; NTPDase-5; NTPDase5; Pcph

### Protein Construction:

A DNA sequence encoding the mouse ENTPD5 (Q9WUZ9) (Thr19-Ser427) was fused with a polyhistidine tag at the C-terminus.

**Source:** Mouse

**Expression Host:** Baculovirus-Insect Cells

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE

### Bio Activity:

**Measured by its ability to hydrolyze the 5'phosphate groups from the substrate guanosine 5'diphosphate (GDP). The specific activity is > 15000 pmols/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 19

### Molecular Mass:

The recombinant mouse ENTPD5 consists of 419 amino acids and has a calculated molecular mass of 46.6 kDa. The recombinant protein migrates as an approximately 45 kDa band in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, 3mM DTT, 10% glycerol, pH 7.4

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:

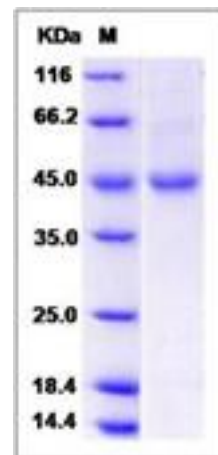
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Ectonucleoside triphosphate diphosphohydrolase 5 (ENTPD5), also known as CD39 antigen-like 4, ER-UDPase, Guanosine-diphosphatase ENTPD5, Nucleoside diphosphatase Uridine-diphosphatase ENTPD5. This hydrolase is expressed in response to phosphoinositide 3-kinase (PI3K) signaling. Activation of PI3K results in FOXO phosphorylation by AKT1 and loss of ENTPD5 transcriptional repression. It is Up-regulated in PTEN-deficient cells. Uridine diphosphatase (UDPase) that promotes protein N-glycosylation and ATP level regulation. ENTPD5 promotes protein N-glycosylation and folding in the endoplasmic reticulum, as well as elevated ATP consumption in the cytosol via an ATP hydrolysis cycle. Together with CMPK1 and AK1, ENTPD5 constitutes an ATP hydrolysis cycle that converts ATP to AMP and results in a compensatory increase in aerobic glycolysis. ENTPD5 also hydrolyzes GDP and IDP but not any other nucleoside di-, mono- or triphosphates, nor thiamine pyrophosphate. This enzyme Plays a key role in the AKT1-PTEN signaling pathway by promoting glycolysis in proliferating cells in response to phosphoinositide 3-kinase (PI3K) signaling.

## References

1. Villar J, *et al.* (2009) PCPH/ENTPD5 expression confers to prostate cancer cells resistance against cisplatin-induced apoptosis through protein kinase Calpha-mediated Bcl-2 stabilization. *Cancer Res.* 69(1): 102-10.
2. Fang M, *et al.* (2010) The ER UDPase ENTPD5 promotes protein N-glycosylation, the Warburg effect, and proliferation in the PTEN pathway. *Cell.* 143(5): 711-24.
3. Paez JG, *et al.* (2001) Identity between the PCPH proto-oncogene and the CD39L4 (ENTPD5) ectonucleoside triphosphate diphosphohydrolase gene. *Int J Oncol.* 19(6): 1249-54.

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