

# Mouse THOP1 Protein (His Tag)

Catalog Number: 50828-M07B



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

AI131655; AI327041; EP24.15

### Protein Construction:

A DNA sequence encoding the mouse THOP1 (NP\_073144.3) (Lys 2-Cys 687) was fused with a polyhistidine tag at the N-terminus.

**Source:** Mouse

**Expression Host:** Baculovirus-Insect Cells

## QC Testing

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

### Bio Activity:

Measured by its ability to cleave a fluorogenic peptide substrate, (7-methoxycoumarin-4-yl)acetyl-Pro-Leu-Gly-Pro-D-Lys(2,4-dinitrophenyl)-OH or Mca-PLGPK(Dnp)-OH. The specific activity is > 100 pmoles/min/ $\mu$ g.

### Endotoxin:

< 1.0 EU per  $\mu$ g 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:** Met

### Molecular Mass:

The recombinant mouse THOP1 consists of 705 amino acids and has a calculated molecular mass of 80.1 kDa. It migrates as an approximately 75 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:

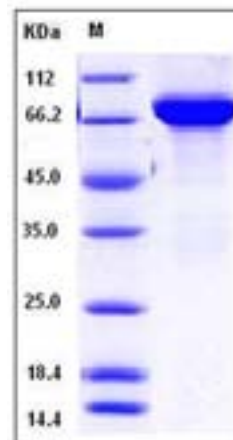
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

THOP1, also known as Thimet oligopeptidase 1, Thimet oligopeptidase, EC 3.4.24.15, or EP24.15, is a zinc(II) endopeptidase implicated in the processing of numerous physiological peptides. As an intracellular enzyme, highly expressed in the brain, kidneys and neuroendocrine tissue, THOP1 has been proposed to metabolize peptides within cells, thereby affecting antigen presentation and G protein-coupled receptor signal transduction. Its substrate is gonadotrophin-releasing hormone (GnRH), an important hypothalamic hormone that regulates the synthesis and release of oestradiol and facilitates female sexual behaviour. THOP1 against toxic effects of Abeta in the early stages of Alzheimer disease (AD) pathology, and suggest that the observed increase in THOP1 expression might be part of a compensatory defense mechanism of the brain against an increased Abeta load.

## References

1. Cyr NE, *et al.* (2010) Nuclear Thimet oligopeptidase is coexpressed with oestrogen receptor alpha in hypothalamic cells and regulated by oestradiol in female mice. *J Neuroendocrinol.* 22(8): 936-43.
2. Berti DA, *et al.* (2009) Analysis of intracellular substrates and products of thimet oligopeptidase in human embryonic kidney 293 cells. *J Biol Chem.* 284(21): 14105-16.
3. Russo LC, *et al.* (2009) Interaction with calmodulin is important for the secretion of thimet oligopeptidase following stimulation. *FEBS J.* 276(16): 4358-71.

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