

# Thimet oligopeptidase (4D6): sc-53565

## BACKGROUND

Thimet oligopeptidase, also designated soluble metallo-endopeptidase, is a cytoplasmic protein belonging to the peptidase M3 family. The gene for the protein maps against chromosome 19q13.3. Thimet oligopeptidase can degrade the  $\beta$ -Amyloid precursor protein and generate amyloidogenic fragments. It is important in cytoplasmic peptide degradation and involved in metabolism of neuropeptides that are less than 20 amino acids in length. Thimet oligopeptidase is highly expressed in testis but can also be detected in liver, lung and kidney.

## REFERENCES

1. Pierotti, A., et al. 1990. Molecular cloning and primary structure of rat testes metalloendopeptidase EC 3.4.24.15. *Biochemistry* 29: 10323-10329.
2. McKie, N., et al. 1993. Thimet oligopeptidase: similarity to "soluble Angiotensin II-binding protein" and some corrections to the published amino acid sequence of the rat testis enzyme. *Biochem. J.* 295: 57-60.
3. McCool, S., et al. 2000. Expression of the Thimet oligopeptidase gene is regulated by positively and negatively acting elements. *DNA Cell Biol.* 19: 729-738.
4. Edbauer, D., et al. 2002. Insulin-degrading enzyme rapidly removes the  $\beta$ -Amyloid precursor protein intracellular domain (AICD). *J. Biol. Chem.* 277: 13389-13393.

## CHROMOSOMAL LOCATION

Genetic locus: THOP1 (human) mapping to 19q13.3; Thop1 (mouse) mapping to 10 C1.

## SOURCE

Thimet oligopeptidase (4D6) is a mouse monoclonal antibody raised against amino acids 56-72 of Thimet oligopeptidase of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Thimet oligopeptidase (4D6) is available conjugated to agarose (sc-53565 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53565 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53565 PE), fluorescein (sc-53565 FITC), Alexa Fluor<sup>®</sup> 488 (sc-53565 AF488), Alexa Fluor<sup>®</sup> 546 (sc-53565 AF546), Alexa Fluor<sup>®</sup> 594 (sc-53565 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-53565 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-53565 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-53565 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

Thimet oligopeptidase (4D6) is recommended for detection of Thimet oligopeptidase of mouse, rat, human, zebrafish, bovine and porcine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Thimet oligopeptidase siRNA (h): sc-72152, Thimet oligopeptidase siRNA (m): sc-72153, Thimet oligopeptidase shRNA Plasmid (h): sc-72152-SH, Thimet oligopeptidase shRNA Plasmid (m): sc-72153-SH, Thimet oligopeptidase shRNA (h) Lentiviral Particles: sc-72152-V and Thimet oligopeptidase shRNA (m) Lentiviral Particles: sc-72153-V.

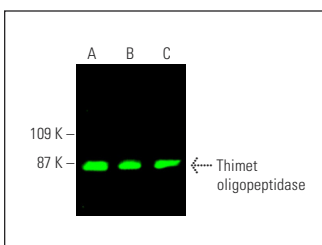
Molecular Weight of Thimet oligopeptidase: 74 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

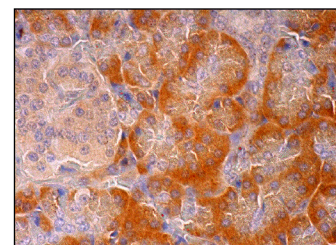
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Thimet oligopeptidase (4D6): sc-53565. Near-infrared western blot analysis of Thimet oligopeptidase expression in IMR-32 (A), HeLa (B) and K-562 (C) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgG $\kappa$  BP-CFL 680: sc-516180.



Thimet oligopeptidase (4D6): sc-53565. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells.

## SELECT PRODUCT CITATIONS

1. Kessler, J.H., et al. 2011. Antigen processing by nardilysin and Thimet oligopeptidase generates cytotoxic T cell epitopes. *Nat. Immunol.* 12: 45-53.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.