SANTA CRUZ BIOTECHNOLOGY, INC.

Thimet oligopeptidase (D-11): sc-515659

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The Power to Question

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 β-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 β-Amyloid precursor protein intracellular domain (AICD). J. Biol. Chem. 277: 13389-13393.
5. Oliveira, V., et al. 2002. Temperature and salts effects on the peptidase activities of the recombinant metallooligopeptidases neurolysin and thimet oligopeptidase. Eur. J. Biochem. 269: 4326-4334.
6. York, I.A., et al. 2003. The cytosolic endopeptidase, Thimet oligopeptidase, destroys antigenic peptides and limits the extent of MHC class I antigen presentation. Immunity 18: 429-440.
7. Ray, K., et al. 2004. Crystal structure of human Thimet oligopeptidase provides insight into substrate recognition, regulation, and localization. J. Biol. Chem. 279: 20480-20489.

CHROMOSOMAL LOCATION

Genetic locus: Thop1 (mouse) mapping to 10 C1.

SOURCE

Thimet oligopeptidase (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 390-409 within an internal region of Thimet oligopeptidase of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515659 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Thimet oligopeptidase (D-11) is recommended for detection of Thimet oligopeptidase of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

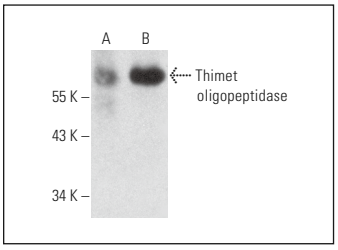
Molecular Weight of Thimet oligopeptidase: 74 kDa.

Positive Controls: mouse cerebellum extract: sc-2403 or rat uterus extract: sc-364812.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Thimet oligopeptidase (D-11): sc-515659. Western blot analysis of Thimet oligopeptidase expression in mouse cerebellum (**A**) and rat uterus (**B**) tissue extracts.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.