

MetAP-1 (m): 293T Lysate: sc-121609

BACKGROUND

Methionine aminopeptidases (MetAP), also designated peptidase M proteins, are members of the M24 family of proteins. MetAP proteins remove the amino-terminal methionine residue from nascent polypeptides. MetAP-1 is a 394 amino acid protein that is expressed at low levels in all tissues, but is highly expressed in skeletal muscles. The active site of MetAP-1 contains two adjacent divalent metal ions connected by a water molecule or hydroxide ion. The control of cell proliferation in mammalian cells is directly linked and strictly dependent on the evolutionarily highly conserved mechanism that MetAP-1 employs. Eukaryotes contain both MetAP-1 and MetAP-2, whereas prokaryotes possess only the MetAP-1 enzyme. Pyridine-2-carboxylic acid thiazol-2-ylamide (PCAT) forms a scaffold that inhibits the action of MetAP-1, while 1,2,4-triazol is a non-peptide inhibitor of MetAP-1 binding to the active site with the N1 and N2 atoms of the triazole moiety complexing two divalent ions.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610151. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Oefner, C., et al. 2003. The 1.15Å crystal structure of the *Staphylococcus aureus* methionyl-aminopeptidase and complexes with triazole based inhibitors. J. Mol. Biol. 332: 13-21.
3. Brdlik, C.M. and Crews, C.M. 2004. A single amino acid residue defines the difference in ovalicin sensitivity between type I and II methionine aminopeptidases. J. Biol. Chem. 279: 9475-9480.
4. Swierczek, K., et al. 2005. Molecular discrimination of type-I over type-II methionyl aminopeptidases. Biochemistry 44: 12049-12056.
5. Bernier, S.G., et al. 2005. Methionine aminopeptidases type I and type II are essential to control cell proliferation. J. Cell. Biochem. 95: 1191-1203.
6. Luo, Q.L., et al. 2005. Inhibitors of type I MetAPs containing pyridine-2-carboxylic acid thiazol-2-ylamide. Part 1: SAR studies on the determination of the key scaffold. Bioorg. Med. Chem. Lett. 15: 635-638.
7. Luo, Q.L., et al. 2005. Inhibitors of type I MetAPs containing pyridine-2-carboxylic acid thiazol-2-ylamide. Part 2: SAR studies on the pyridine RING 3-substituent. Bioorg. Med. Chem. Lett. 15: 639-644.
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9. Ye, Q.Z., et al. 2006. Structural basis of catalysis by monometalated methionine aminopeptidase. Proc. Natl. Acad. Sci. USA 103: 9470-9475.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Metap1 (mouse) mapping to 3 G3.

PRODUCT

MetAP-1 (m): 293T Lysate represents a lysate of mouse MetAP-1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

MetAP-1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive MetAP-1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

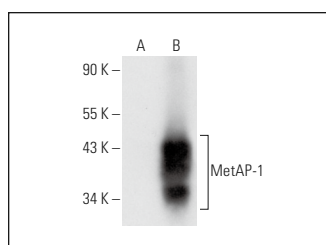
MetAP-1 (A-2): sc-514653 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse MetAP-1 expression in MetAP-1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



MetAP-1 (A-2): sc-514653. Western blot analysis of MetAP-1 expression in non-transfected: sc-117752 (A) and mouse MetAP-1 transfected: sc-121609 (B) 293T whole cell lysates.

RESEARCH USE

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