SANTA CRUZ BIOTECHNOLOGY, INC.

MetAP-1 (A-2): sc-514653

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Methionine aminopeptidases (MetAP), also designated peptidase M proteins, are members of the M24 family of proteins. MetAP proetins 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.

CHROMOSOMAL LOCATION

Genetic locus: METAP1 (human) mapping to 4q23; Metap1 (mouse) mapping to 3 G3.

SOURCE

MetAP-1 (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 67-89 near the N-terminus of MetAP-1 of human 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.

MetAP-1 (A-2) is available conjugated to agarose (sc-514653 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514653 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514653 PE), fluorescein (sc-514653 FITC), Alexa Fluor® 488 (sc-514653 AF488), Alexa Fluor® 546 (sc-514653 AF546), Alexa Fluor® 594 (sc-514653 AF594) or Alexa Fluor® 647 (sc-514653 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514653 AF680) or Alexa Fluor® 790 (sc-514653 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514653 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® 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.

PROTOCOLS

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

APPLICATIONS

MetAP-1 (A-2) is recommended for detection of MetAP-1 of mouse, rat and human 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 MetAP-1 siRNA (h): sc-61022, MetAP-1 siRNA (m): sc-61023, MetAP-1 shRNA Plasmid (h): sc-61022-SH, MetAP-1 shRNA Plasmid (m): sc-61023-SH, MetAP-1 shRNA (h) Lentiviral Particles: sc-61022-V and MetAP-1 shRNA (m) Lentiviral Particles: sc-61023-V.

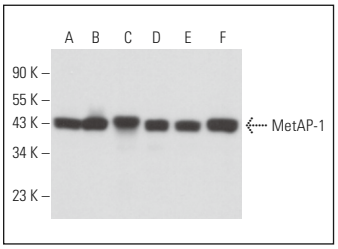
Molecular Weight of MetAP-1: 43 kDa.

Positive Controls: MetAP-1 (m): 293T Lysate: sc-121609, COLO 205 whole cell lysate: sc-364177 or Hep G2 cell lysate: sc-2227.

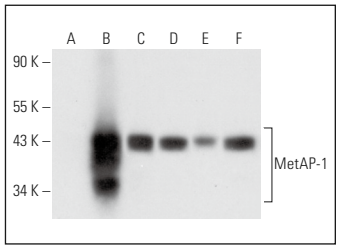
RECOMMENDED SUPPORT REAGENTS

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



MetAP-1 (A-2): sc-514653. Western blot analysis of MetAP-1 expression in COLO 205 (**A**), MOLT-4 (**B**), HL-60 (**C**), NIH/3T3 (**D**), RAW 264.7 (**E**) and KNRK (**F**) whole cell lysates.



MetAP-1 (A-2): sc-514653. Western blot analysis of MetAP-1 expression in non-transfected 293T: sc-117752 (**A**), mouse MetAP-1 transfected 293T: sc-121609 (**B**), COLO 205 (**C**), A-375 (**D**), A549 (**E**) and Hep G2 (**F**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Rossiter, N.J., et al. 2021. CRISPR screens in physiologic medium reveal conditionally essential genes in human cells. Cell Metab. 33: 1248-1263.e9.
2. Friese-Hamim, M., et al. 2024. Novel methionine aminopeptidase 2 inhibitor M8891 synergizes with VEGF receptor inhibitors to inhibit tumor growth of renal cell carcinoma models. Mol. Cancer Ther. 23: 159-173.

RESEARCH USE

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