SANTA CRUZ BIOTECHNOLOGY, INC.

MAT IIβ (A-3): sc-390586

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Methionine adenosyltransferase (MAT) catalyzes the formation of S-adenosyltransferase (AdoMet) for methionine catabolism in the liver. MAT IIβ (methionine adenosyltransferase II, β), also known as TGR, MAT-II or SDR23E1, is a 334 amino acid protein that is widely expressed and plays an important role in amino acid biosynthesis. Existing as a heterotetramer with two MAT IIα subunits, MAT IIβ functions as a non-catalytic regulatory protein that mediates the activity of MAT IIα, specifically by changing the kinetic properties of MAT IIα, thereby rendering it more susceptible to inhibition. MAT IIβ is expressed in hepatoma cells and is thought to play a role in cell proliferation, possibly by increasing the rate of DNA synthesis. Multiple isoforms of MAT IIβ exist due to alternative splicing events.

REFERENCES

1. Okada, G., et al. 1981. Multiple species of mammalian S-adenosylmethionine synthetase. Partial purification and characterization. Biochemistry 20: 934-940.
2. LeGros, H.L., et al. 2000. Cloning, expression, and functional characterization of the β regulatory subunit of human methionine adenosyltransferase (MAT II). J. Biol. Chem. 275: 2359-2366.
3. LeGros, L., et al. 2001. Regulation of the human MAT2B gene encoding the regulatory β subunit of methionine adenosyltransferase, MAT II. J. Biol. Chem. 276: 24918-24924.
4. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605527. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: MAT2B (human) mapping to 5q34; Mat2b (mouse) mapping to 11 A5.

SOURCE

MAT IIβ (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 32-51 of MAT IIβ of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MAT IIβ (A-3) is available conjugated to agarose (sc-390586 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390586 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390586 PE), fluorescein (sc-390586 FITC), Alexa Fluor® 488 (sc-390586 AF488), Alexa Fluor® 546 (sc-390586 AF546), Alexa Fluor® 594 (sc-390586 AF594) or Alexa Fluor® 647 (sc-390586 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390586 AF680) or Alexa Fluor® 790 (sc-390586 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390586 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

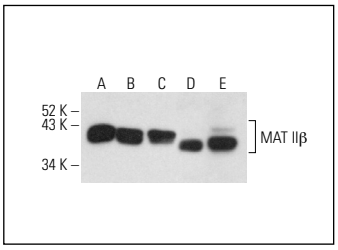
MAT IIβ (A-3) is recommended for detection of MAT IIβ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 MAT IIβ siRNA (h): sc-75753, MAT IIβ siRNA (m): sc-75754, MAT IIβ shRNA Plasmid (h): sc-75753-SH, MAT IIβ shRNA Plasmid (m): sc-75754-SH, MAT IIβ shRNA (h) Lentiviral Particles: sc-75753-V and MAT IIβ shRNA (m) Lentiviral Particles: sc-75754-V.

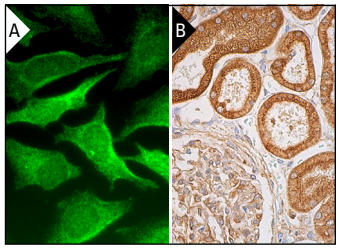
Molecular Weight of MAT IIβ: 38 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, HeLa whole cell lysate: sc-2200 or A549 cell lysate: sc-2413.

DATA



MAT IIβ (A-3): sc-390586. Western blot analysis of MAT IIβ expression in HeLa (**A**), A549 (**B**), RT-4 (**C**) and RAW 264.7 (**D**) whole cell lysates, and rat cerebellum tissue extract (**E**).



MAT IIβ (A-3): sc-390586. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and nuclear staining of cells in glomeruli and cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. García-Marqués, F., et al. 2016. A novel systems-biology algorithm for the analysis of coordinated protein responses using quantitative proteomics. Mol. Cell. Proteomics 15: 1740-1760.
2. Hu, X., et al. 2020. Curcumin reduces methionine adenosyltransferase 2B expression by interrupting phosphorylation of p38 MAPK in hepatic stellate cells. Eur. J. Pharmacol. 886: 173424.

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.