

# MAT II $\beta$ (A-3): sc-390586

## BACKGROUND

Methionine adenosyltransferase (MAT) catalyzes the formation of S-adenosyltransferase (AdoMet) for methionine catabolism in the liver. MAT II $\beta$  (methionine adenosyltransferase II,  $\beta$ ), 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 II $\alpha$  subunits, MAT II $\beta$  functions as a non-catalytic regulatory protein that mediates the activity of MAT II $\alpha$ , specifically by changing the kinetic properties of MAT II $\alpha$ , thereby rendering it more susceptible to inhibition. MAT II $\beta$  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 II $\beta$  exist due to alternative splicing events.

## REFERENCES

- Okada, G., et al. 1981. Multiple species of mammalian S-adenosylmethionine synthetase. Partial purification and characterization. *Biochemistry* 20: 934-940.
- LeGros, H.L., et al. 2000. Cloning, expression, and functional characterization of the  $\beta$  regulatory subunit of human methionine adenosyltransferase (MAT II). *J. Biol. Chem.* 275: 2359-2366.
- LeGros, L., et al. 2001. Regulation of the human MAT2B gene encoding the regulatory  $\beta$  subunit of methionine adenosyltransferase, MAT II. *J. Biol. Chem.* 276: 24918-24924.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 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 II $\beta$  (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 32-51 of MAT II $\beta$  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.

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

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

## APPLICATIONS

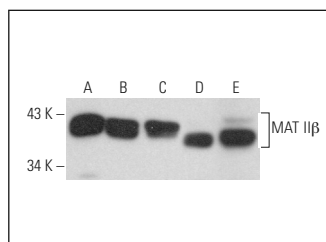
MAT II $\beta$  (A-3) is recommended for detection of MAT II $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting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

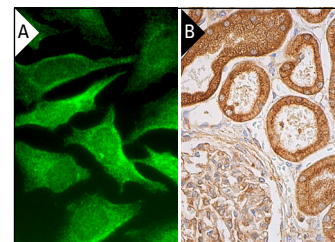
Molecular Weight of MAT II $\beta$ : 38 kDa.

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

## DATA



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



MAT II $\beta$  (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

- 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.
- 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.

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