

# MAT II $\beta$ (N-13): sc-83841

## 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™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605527. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Martínez-Chantar, M.L., et al. 2003. Methionine adenosyltransferase II  $\beta$  subunit gene expression provides a proliferative advantage in human hepatoma. *Gastroenterology* 124: 940-948.
- Yang, H., et al. 2008. Expression pattern, regulation, and functions of methionine adenosyltransferase 2 $\beta$  splicing variants in hepatoma cells. *Gastroenterology* 134: 281-291.
- Ramani, K., et al. 2008. Leptin's mitogenic effect in human liver cancer cells requires induction of both methionine adenosyltransferase 2A and 2 $\beta$ . *Hepatology* 47: 521-531.
- Attia, R.R., et al. 2008. Selective targeting of leukemic cell growth *in vivo* and *in vitro* using a gene silencing approach to diminish S-adenosylmethionine synthesis. *J. Biol. Chem.* 283: 30788-30795.
- Wang, Q., et al. 2008. Lenti-virus mediated shRNA interference targeting MAT2B induces growth-inhibition and apoptosis in hepatocellular carcinoma. *World J. Gastroenterol.* 14: 4633-4642.

## CHROMOSOMAL LOCATION

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

## SOURCE

MAT II $\beta$  (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MAT II $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-83841 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MAT II $\beta$  (N-13) is recommended for detection of MAT II $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with MAT II.

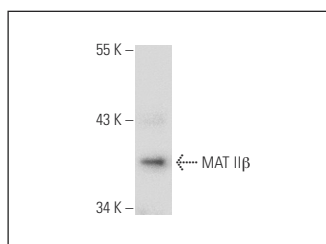
MAT II $\beta$  (N-13) is also recommended for detection of MAT II $\beta$  in additional species, including canine, bovine, porcine and avian.

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: mouse liver extract: sc-2256, c4 whole cell lysate: sc-364186 or human PBL whole cell lysate.

## DATA



MAT II $\beta$  (N-13): sc-83841. Western blot analysis of MAT II $\beta$  expression in human PBL whole cell lysate.

## 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.

**MONOS**  
Satisfaction  
Guaranteed

Try **MAT II $\beta$  (A-3): sc-390586** or **MAT II $\beta$  (H-4): sc-514069**, our highly recommended monoclonal alternatives to MAT II $\beta$  (N-13).