SANTA CRUZ BIOTECHNOLOGY, INC.

MAT II (F-12): sc-398917

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Methionine adenosyltransferase (MAT) catalyzes the formation of S-adenosyl-transferase (AdoMet) for methionine catabolism in the liver. Two different genes, MAT1A and MAT2A, encode a liver specific and non-liver specific form of MAT, respectively. Inactivation of the liver specific gene product, designated MAT I/III, associates with liver diseases such as cirrhosis. MAT1A expression also correlates with a differentiated phenotype, whereas liver cells expressing MAT2A present a dedifferentiated phenotype and lowered AdoMet synthesis. Likewise, NFκB and TNFα cause a switch from MAT1A to MAT2A expression in human hepatocellular carcinoma (HCC), which facilitates cancer cell growth.

REFERENCES

1. Lu, S.C., et al. 2002. Role of abnormal methionine metabolism in alcoholic liver injury. Alcohol 27: 155-162.
2. Avila, M.A., et al. 2002. S-adenosylmethionine revisited: its essential role in the regulation of liver function. Alcohol 27: 163-167.
3. Martínez-Chantar, M.L., et al. 2003. L-methionine availability regulates expression of the methionine adenosyltransferase 2A gene in human hepatocarcinoma cells: role of S-adenosylmethionine. J. Biol. Chem. 278: 19885-19890.
4. Yang, H., et al. 2003. Induction of human methionine adenosyltransferase 2A expression by tumor necrosis factor α. Role of NFκB and AP-1. J. Biol. Chem. 278: 50887-50896.

CHROMOSOMAL LOCATION

Genetic locus: MAT2A (human) mapping to 2p11.2; Mat2a (mouse) mapping to 6 C1.

SOURCE

MAT II (F-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 69-92 near the N-terminus of MAT IIα of human origin.

PRODUCT

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

MAT II (F-12) is available conjugated to agarose (sc-398917 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398917 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398917 PE), fluorescein (sc-398917 FITC), Alexa Fluor® 488 (sc-398917 AF488), Alexa Fluor® 546 (sc-398917 AF546), Alexa Fluor® 594 (sc-398917 AF594) or Alexa Fluor® 647 (sc-398917 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398917 AF680) or Alexa Fluor® 790 (sc-398917 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398917 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MAT II (F-12) is recommended for detection of MAT IIα 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 MAT IIα siRNA (h): sc-106203, MAT IIα siRNA (m): sc-149292, MAT IIα shRNA Plasmid (h): sc-106203-SH, MAT IIα shRNA Plasmid (m): sc-149292-SH, MAT IIα shRNA (h) Lentiviral Particles: sc-106203-V and MAT IIα shRNA (m) Lentiviral Particles: sc-149292-V.

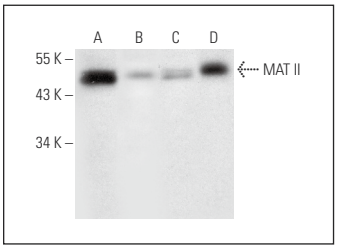
Molecular Weight of MAT II: 44 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or HeLa nuclear extract: sc-2120.

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



MAT II (F-12): sc-398917. Western blot analysis of MAT II expression in HeLa (**A**), Hep G2 (**B**) and Ramos (**C**) whole cell lysates and HeLa nuclear extract (**D**).

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.

PROTOCOLS

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