SANTA CRUZ BIOTECHNOLOGY, INC.

MAT Iα/IIα (H-300): sc-32929

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Methionine adenosyltransferase (MAT) catalyzes the formation of S-adenosyltransferase (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. Martinez-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: MAT1A (human) mapping to 10q23.1, MAT2A (human) mapping to 2p11.2; Mat1a (mouse) mapping to 14 B, Mat2a (mouse) mapping to 6 C1.

SOURCE

MAT Iα/IIα (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of MAT IIα of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MAT Iα/IIα (H-300) is recommended for detection of MAT Iα and MAT IIα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

MAT Iα/IIα (H-300) is also recommended for detection of MAT Iα and MAT IIα in additional species, including equine, canine, bovine and porcine.

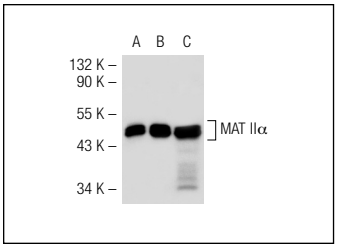
Molecular Weight of MAT Iα/IIα: 44 kDa.

Positive Controls: MAT IIα (m): 293T Lysate: sc-121527, Hep G2 cell lysate: sc-2227 or HeLa nuclear extract: sc-2120.

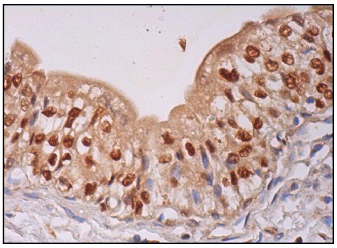
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



MAT Iα/IIα (H-300): sc-32929. Western blot analysis of MAT IIα expression in non-transfected 293T: sc-117752 (**A**), mouse MAT IIα transfected 293T: sc-121527 (**B**) and Hep G2 (**C**) whole cell lysates.



MAT Iα/IIα (H-300): sc-32929. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells.

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 or our catalog for detailed protocols and support products.