SANTA CRUZ BIOTECHNOLOGY, INC.

MOSC2 (H-7): sc-514202

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MOSC2 (MOCO sulphurase C-terminal domain containing 2) is a 335 amino acid peripheral membrane protein that localizes to the mitochondria. Containing a MOSC domain, MOSC2 utilizes molybdenum as a cofactor and is a component of the benzamidoxime prodrug-converting complex that is comprised of cytochrome β5, NADH-cytochrome β5 reductase (CYB5R3). CYB5R3 belongs to the flavoprotein pyridine nucleotide cytochrome reductase family and is involved in the desaturation and elongation of fatty acids, cholesterol biosynthesis, drug metabolism and, in erythrocytes, methemoglobin reduction. Benzamidoxime prodrug-converting complex is required to reduce N-hydroxylated structures, such as benzamidoxime prodrug. MOSC2 exists as two alternatively spliced isoforms and is encoded by a gene mapping to human chromosome 1q41.

REFERENCES

1. Clement, B. 2002. Reduction of N-hydroxylated compounds: amidoximes (N-hydroxyamidines) as pro-drugs of amidines. Drug Metab. Rev. 34: 565-579.
2. Porter, T.D. 2002. The roles of cytochrome β5 in cytochrome P450 reactions. J. Biochem. Mol. Toxicol. 16: 311-316.
3. Schenkman, J.B. and Jansson, I. 2003. The many roles of cytochrome β5. Pharmacol. Ther. 97: 139-152.
4. Percy, M.J., et al. 2005. Recessive congenital methaemoglobinaemia: functional characterization of the novel D239G mutation in the NADH-binding lobe of cytochrome β5 reductase. Br. J. Haematol. 129: 847-853.

CHROMOSOMAL LOCATION

Genetic locus: MARC2 (human) mapping to 1q41; Marc2 (mouse) mapping to 1 H5.

SOURCE

MOSC2 (H-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 190-215 within an internal region of MOSC2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MOSC2 (H-7) is available conjugated to agarose (sc-514202 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514202 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514202 PE), fluorescein (sc-514202 FITC), Alexa Fluor® 488 (sc-514202 AF488), Alexa Fluor® 546 (sc-514202 AF546), Alexa Fluor® 594 (sc-514202 AF594) or Alexa Fluor® 647 (sc-514202 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514202 AF680) or Alexa Fluor® 790 (sc-514202 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514202 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MOSC2 (H-7) is recommended for detection of MOSC2 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 MOSC2 siRNA (h): sc-88738, MOSC2 siRNA (m): sc-149511, MOSC2 shRNA Plasmid (h): sc-88738-SH, MOSC2 shRNA Plasmid (m): sc-149511-SH, MOSC2 shRNA (h) Lentiviral Particles: sc-88738-V and MOSC2 shRNA (m) Lentiviral Particles: sc-149511-V.

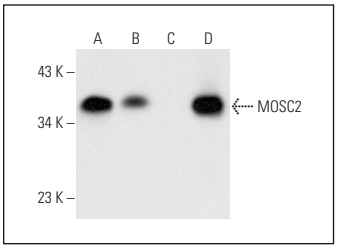
Molecular Weight of MOSC2: 38 kDa.

Positive Controls: P 23 whole cell lysate, mouse liver extract: sc-2256 or c4 whole cell lysate: sc-364186.

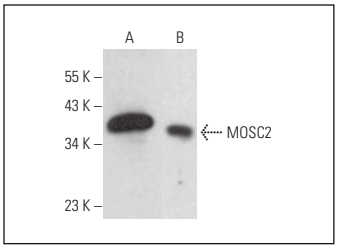
RECOMMENDED SUPPORT REAGENTS

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



MOSC2 (H-7): sc-514202. Western blot analysis of MOSC2 expression in c4 (**A**), P 23 (**B**) and Hep G2 (**C**) whole cell lysates and mouse liver tissue extract (**D**). Note lack of reactivity with human MOSC2 in lane **C**.



MOSC2 (H-7): sc-514202. Western blot analysis of MOSC2 expression in c4 (**A**) and U-251-MG (**B**) whole cell lysates.

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.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA