

# MOCS2 (F-9): sc-377169



The Power to Question

## BACKGROUND

MOCS2 (molybdopterin synthase) is a heterotetrameric synthase composed of two small (MOCS2A) and two large (MOCS2B) subunits. The small and large subunits are both encoded by a single bicistronic mRNA, with the open reading frames overlapping by 77 nucleotides. MOCS2 functions in the second step of the synthesis of molybdenum cofactor or molybdopterin (MPT). It catalyzes the formation of MPT from precursor Z by incorporating a dithiolene functional group. The C-terminus of the small subunit of MOCS2 acts as the sulfur donor for the synthesis of this functional group. MPT is inserted into molybdoenzymes and is required for the proper function of aldehyde oxidase, xanthine dehydrogenase and sulphite oxidase enzymes. Mutations in the gene encoding MOCS2 can lead to molybdenum cofactor deficiency and can result in early childhood death.

## REFERENCES

1. Reiss, J., et al. 1999. Human molybdopterin synthase gene: genomic structure and mutations in molybdenum cofactor deficiency type B. *Am. J. Hum. Genet.* 64: 706-711.
2. Rudolph, M.J., et al. 2003. Structural studies of molybdopterin synthase provide insights into its catalytic mechanism. *J. Biol. Chem.* 278: 14514-14522.
3. Leimkuhler, S., et al. 2003. Mechanistic studies of human molybdopterin synthase reaction and characterization of mutants identified in group B patients of molybdenum cofactor deficiency. *J. Biol. Chem.* 278: 26127-26134.

## CHROMOSOMAL LOCATION

Genetic locus: MOCS2 (human) mapping to 5q11.2; Mocs2 (mouse) mapping to 13 D2.2.

## SOURCE

MOCS2 (F-9) is a mouse monoclonal antibody raised against amino acids 1-188 representing full length MOCS2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MOCS2 (F-9) is available conjugated to agarose (sc-377169 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377169 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377169 PE), fluorescein (sc-377169 FITC), Alexa Fluor® 488 (sc-377169 AF488), Alexa Fluor® 546 (sc-377169 AF546), Alexa Fluor® 594 (sc-377169 AF594) or Alexa Fluor® 647 (sc-377169 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377169 AF680) or Alexa Fluor® 790 (sc-377169 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

MOCS2 (F-9) is recommended for detection of MOCS2 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), 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 MOCS2 siRNA (h): sc-72268, MOCS2 siRNA (m): sc-72269, MOCS2 shRNA Plasmid (h): sc-72268-SH, MOCS2 shRNA Plasmid (m): sc-72269-SH, MOCS2 shRNA (h) Lentiviral Particles: sc-72268-V and MOCS2 shRNA (m) Lentiviral Particles: sc-72269-V.

Molecular Weight of MOCS2 large subunit: 21 kDa.

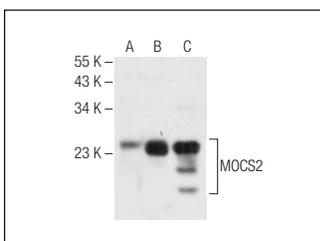
Molecular Weight of MOCS2 small subunit: 10 kDa.

Positive Controls: MOCS2 (m): 293T Lysate: sc-121709 or Jurkat whole cell lysate: sc-2204.

## 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



MOCS2 (F-9): sc-377169. Western blot analysis of MOCS2 expression in non-transfected 293T: sc-117752 (A), mouse MOCS2 transfected 293T: sc-121709 (B) and Jurkat (C) whole cell lysates.



MOCS2 (F-9): sc-377169. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS

1. Suganuma, T., et al. 2022. MOCS2 links nucleotide metabolism to nucleoli function. *J. Mol. Cell Biol.* 13: 838-840.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.