

# MOCS2 (C-13): sc-54104



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

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3. Leimkuhler, S., Freuer, A., Araujo, J.A., Rajagopalan, K.V. and Mendel, R.R. 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.
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5. Leimkuhler, S., Charcosset, M., Latour, P., Dorche, C., Kleppe, S., Scaglia, F., Szymczak, I., Schupp, P., Hahnewald, R. and Reiss, J. 2005. Ten novel mutations in the molybdenum cofactor genes MOCS1 and MOCS2 and *in vitro* characterization of a MOCS2 mutation that abolishes the binding ability of molybdopterin synthase. *Hum. Genet.* 117: 565-570.

## CHROMOSOMAL LOCATION

Genetic locus: MOCS2 (human) mapping to 5q11; Mocs2 (mouse) mapping to 13 D2.3.

## SOURCE

MOCS2 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of MOCS2 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.

Blocking peptide available for competition studies, sc-54104 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MOCS2 (C-13) is recommended for detection of MOCS2 large subunit of 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) 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; and as shRNA Plasmid control antibody for MOCS2 shRNA Plasmid (h): sc-72268-SH.

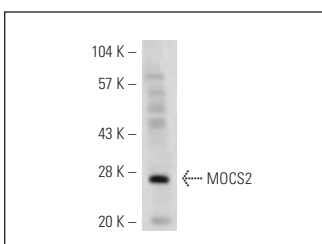
Molecular Weight of MOCS2 large subunit: 21 kDa.

Molecular Weight of MOCS2 small subunit: 10 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



MOCS2 (C-13): sc-54104. Western blot analysis of MOCS2 expression in Jurkat 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.