

# MoCo Sulfurase (D-6): sc-398172

## BACKGROUND

The biosynthesis of molybdenum cofactor is a highly conserved pathway that leads to the activation of molybdenum, a transitional element used as a metal hetero-atom in the active site of certain enzymes. MoCo Sulfurase (molybdenum cofactor sulfurase), also known as HMCS and MOS, is a 888 amino acid enzyme that sulfurates molybdenum cofactor so that it can be utilized by xanthine dehydrogenase and aldehyde oxidase. Defects in the gene encoding MoCo Sulfurase is the cause of type II xanthinuria, a condition that is characterized by excretion of large amounts of xanthine in urine and the subsequent formation of xanthine stones. Due to the deficiencies of xanthine dehydrogenase and aldehyde oxidase, patients suffering from type II xanthinuria also cannot metabolize allopurinol into oxypurinol, leading to decreases in uric acid formation and purine synthesis.

## REFERENCES

1. Ichida, K., et al. 2001. Mutation of human molybdenum cofactor sulfurase gene is responsible for classical xanthinuria type II. *Biochem. Biophys. Res. Commun.* 282: 1194-1200.
2. Sagi, M., et al. 2002. The absence of molybdenum cofactor sulfuration is the primary cause of the flacca phenotype in tomato plants. *Plant J.* 31: 305-317.
3. Kômoto, N., et al. 2003. Mutations of the silkworm molybdenum cofactor sulfurase gene, og, cause translucent larval skin. *Insect Biochem. Mol. Biol.* 33: 417-427.
4. Yamamoto, T., et al. 2003. Identification of a new point mutation in the human molybdenum cofactor sulfurase gene that is responsible for xanthinuria type II. *Metab. Clin. Exp.* 52: 1501-1504.

## CHROMOSOMAL LOCATION

Genetic locus: MOCOS (human) mapping to 18q12.2.

## SOURCE

MoCo Sulfurase (D-6) is a mouse monoclonal antibody raised against amino acids 359-485 mapping within an internal region of MoCo Sulfurase of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MoCo Sulfurase (D-6) is available conjugated to agarose (sc-398172 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398172 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398172 PE), fluorescein (sc-398172 FITC), Alexa Fluor<sup>®</sup> 488 (sc-398172 AF488), Alexa Fluor<sup>®</sup> 546 (sc-398172 AF546), Alexa Fluor<sup>®</sup> 594 (sc-398172 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-398172 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-398172 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-398172 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

MoCo Sulfurase (D-6) is recommended for detection of MoCo Sulfurase of 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 MoCo Sulfurase siRNA (h): sc-75806, MoCo Sulfurase shRNA Plasmid (h): sc-75806-SH and MoCo Sulfurase shRNA (h) Lentiviral Particles: sc-75806-V.

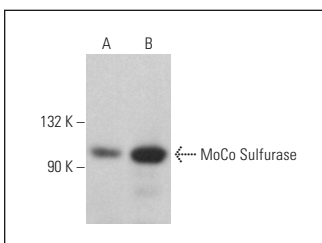
Molecular Weight of MoCo Sulfurase: 98 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or A2058 whole cell lysate: sc-364178.

## 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



MoCo Sulfurase (D-6): sc-398172. Western blot analysis of MoCo Sulfurase expression in Hep G2 (A) and A2058 (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.

## PROTOCOLS

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

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