

MTHFD2 (N-14): sc-74985

BACKGROUND

MTHFD2 (methylenetetrahydrofolate dehydrogenase 2), also known as NMDMC, is a 350 amino acid bifunctional protein that is responsible for the consecutive interconversion of tetrahydrofolate derivatives which drive the synthesis of purine, methionine and thymidylate. MTHFD2 is bifunctional in that it has methylenetetrahydrofolate dehydrogenase and methenyltetrahydrofolate cyclohydrolase activity. MTHFD2 requires either NADP or NAD as a cofactor for interconversion. Activity of these cofactors is affected by intracellular magnesium and phosphate concentrations. MTHFD2 functions as a homodimer and is localized to the mitochondria where it is expressed during the development of normal tissue.

CHROMOSOMAL LOCATION

Genetic locus: MTHFD2 (human) mapping to 2p13.1; Mthfd2 (mouse) mapping to 6 C3.

SOURCE

MTHFD2 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MTHFD2 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-74985 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MTHFD2 (N-14) is recommended for detection of MTHFD2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MTHFD2 (N-14) is also recommended for detection of MTHFD2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MTHFD2 siRNA (h): sc-75937, MTHFD2 siRNA (m): sc-75938, MTHFD2 shRNA Plasmid (h): sc-75937-SH, MTHFD2 shRNA Plasmid (m): sc-75938-SH, MTHFD2 shRNA (h) Lentiviral Particles: sc-75937-V and MTHFD2 shRNA (m) Lentiviral Particles: sc-75938-V.

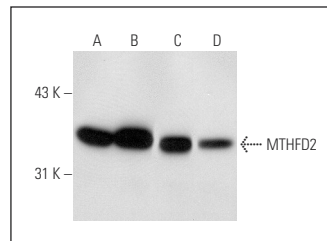
Molecular Weight of MTHFD2: 38 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, MTHFD2 (h): 293T Lysate: sc-112798 or HeLa whole cell lysate: sc-2200.

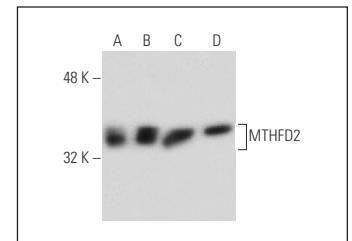
RECOMMENDED SECONDARY REAGENTS

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



MTHFD2 (N-14): sc-74985. Western blot analysis of MTHFD2 expression in non-transfected 293T: sc-117752 (A), human MTHFD2 transfected 293T: sc-112798 (B), Hep G2 (C) and HeLa (D) whole cell lysates.



MTHFD2 (N-14): sc-74985. Western blot analysis of MTHFD2 expression in Hep G2 (A), SW480 (B), HeLa (C) and U-937 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Ost, M., et al. 2015. Muscle mitohormesis promotes cellular survival via serine/glycine pathway flux. *FASEB J.* 29: 1314-1328.

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.


 MONOS
Satisfaction
Guaranteed

Try **MTHFD2 (A-2): sc-390708** or **MTHFD2 (D-4): sc-515167**, our highly recommended monoclonal alternatives to MTHFD2 (N-14).