SANTA CRUZ BIOTECHNOLOGY, INC.

MVD (2B5): sc-100559

BACKGROUND

MVD (mevalonate [diphospho] decarboxylase), also known as MPD (mevalonate pyrophosphate decarboxylase), is a 400 amino acid protein that belongs to the diphosphomevalonate decarboxylase family. Expressed in lung, liver, heart, skeletal muscle, brain, pancreas, placenta and kidney, MVD enzymatically catalyzes the first step in isoprene biosynthesis, namely the ATP-dependent conversion of mevalonate pyrophosphate into isopentenyl pyrophosphate, a cholesterol precursor. MVD exists as a homodimer that simultaneously dehydrates and decarboxylates its substrate while hydrolyzing ATP. As MVD is a crucial enzyme in early cholesterol synthesis, it may be a useful target for drugs that aim to lower serum cholesterol levels.

REFERENCES

1. Ku, E.C. 1996. Regulation of fatty acid biosynthesis by intermediates of the cholesterol biosynthetic pathway. Biochem. Biophys. Res. Commun. 225: 173-179.
2. Toth, M.J. and Huwyler, L. 1996. Molecular cloning and expression of the cDNAs encoding human and yeast mevalonate pyrophosphate decarboxylase. J. Biol. Chem. 271: 7895-7898.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603236. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Michihara, A., Akasaki, K., Yamori, Y. and Tsuji, H. 2003. Subcellular distribution of mouse mevalonate pyrophosphate decarboxylase. Biol. Pharm. Bull. 26: 579-584.
5. Wadhwa, R., Yaguchi, T., Hasan, M.K., Taira, K. and Kaul, S.C. 2003. Mortalin-MPD (mevalonate pyrophosphate decarboxylase) interactions and their role in control of cellular proliferation. Biochem. Biophys. Res. Commun. 302: 735-742.
6. Flock, G., Baggio, L.L., Longuet, C. and Drucker, D.J. 2007. Incretin receptors for glucagon-like peptide 1 and glucose-dependent Insulinotropic polypeptide are essential for the sustained metabolic actions of vildagliptin in mice. Diabetes 56: 3006-3013.

CHROMOSOMAL LOCATION

Genetic locus: MVD (human) mapping to 16q24.3.

SOURCE

MVD (2B5) is a mouse monoclonal antibody raised against recombinant MVD of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

MVD (2B5) is recommended for detection of MVD 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 MVD siRNA (h): sc-93276, MVD shRNA Plasmid (h): sc-93276-SH and MVD shRNA (h) Lentiviral Particles: sc-93276-V.

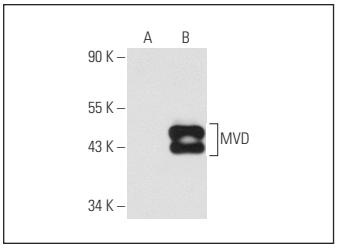
Molecular Weight of MVD: 43 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or MVD (h): 293T Lysate: sc-159765.

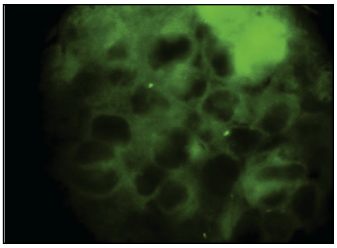
RECOMMENDED SUPPORT REAGENTS

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



MVD (2B5): sc-100559. Western blot analysis of MVD expression in non-transfected: sc-117752 (**A**) and human MVD transfected: sc-159765 (**B**) 293T whole cell lysates.



MVD (2B5): sc-100559. Immunofluorescence staining of paraformaldehyde-fixed A-431 cells showing cytoplasmic localization.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.