

# MVD (H-11): sc-376975

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: MVD (human) mapping to 16q24.3; Mvd (mouse) mapping to 8 E1.

## SOURCE

MVD (H-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 165-203 within an internal region of MVD 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.

MVD (H-11) is available conjugated to agarose (sc-376975 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376975 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376975 PE), fluorescein (sc-376975 FITC), Alexa Fluor<sup>®</sup> 488 (sc-376975 AF488), Alexa Fluor<sup>®</sup> 546 (sc-376975 AF546), Alexa Fluor<sup>®</sup> 594 (sc-376975 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-376975 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-376975 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-376975 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376975 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

MVD (H-11) is recommended for detection of MVD 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) 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 siRNA (m): sc-149724, MVD shRNA Plasmid (h): sc-93276-SH, MVD shRNA Plasmid (m): sc-149724-SH, MVD shRNA (h) Lentiviral Particles: sc-93276-V and MVD shRNA (m) Lentiviral Particles: sc-149724-V.

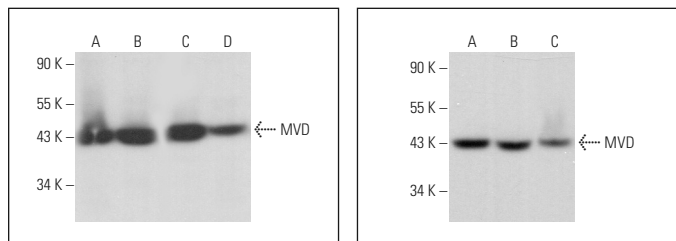
Molecular Weight of MVD: 43 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HEL 92.1.7 cell lysate: sc-2270 or CCRF-CEM cell lysate: sc-2225.

## STORAGE

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

## DATA



MVD (H-11): sc-376975. Western blot analysis of MVD expression in TF-1 (A), SJRH30 (B), SK-N-SH (C) and NIH/3T3 (D) whole cell lysates.

MVD (H-11): sc-376975. Western blot analysis of MVD expression in K-562 (A), CCRF-CEM (B) and HEL 92.1.7 (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Cangelosi, D., et al. 2019. A proteomic analysis of GSD-1a in mouse livers: evidence for metabolic reprogramming, inflammation, and macrophage polarization. *J. Proteome Res.* 18: 2965-2978.
- Iresjö, B.M., et al. 2019. Estrogen biosynthesis in cultured skeletal muscle cells (L6) induced by amino acids. *Genes Nutr.* 14: 29.
- Shu, C., et al. 2019. Inhibitory effect of AQP1 silencing on adhesion and angiogenesis in ectopic endometrial cells of mice with endometriosis through activating the Wnt signaling pathway. *Cell Cycle* 18: 2026-2039.
- Shang, D., et al. 2020. Pancreatic cancer cell-derived exosomal microRNA-27a promotes angiogenesis of human microvascular endothelial cells in pancreatic cancer via BTG2. *J. Cell. Mol. Med.* 24: 588-604.
- Li, P., et al. 2021. Extracellular vesicle-encapsulated microRNA-424 exerts inhibitory function in ovarian cancer by targeting MYB. *J. Transl. Med.* 19: 4.
- Zong, Q., et al. 2022. Sodium butyrate alleviates deoxynivalenol-induced hepatic cholesterol metabolic dysfunction via RORγ-mediated histone acetylation modification in weaning piglets. *J. Anim. Sci. Biotechnol.* 13: 133.
- Wang, C., et al. 2022. Effects of HSYA on serum and brain cholesterol levels in AD rats based on quantitative proteomics. *Int. J. Neurosci.* E-published.
- Sano, Y., et al. 2023. Hypoxia-adapted multiple myeloma stem cells resist γδ-T-cell-mediated killing by modulating the mevalonate pathway. *Anticancer Res.* 43: 547-555.

## RESEARCH USE

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

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