SANTA CRUZ BIOTECHNOLOGY, INC.

MVK (D-3): sc-390669

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mevalonate kinase (MVK) is an early enzyme in isoprenoid and sterol synthesis. Mevalonate kinase catalyzes the ATP-dependent phosphorylation of mevalonic acid to form mevalonate 5-phosphate. Mevalonate is a key intermediate, and mevalonate kinase a key early enzyme, in isoprenoid and sterol synthesis. Deficiency in MVK activity contributes to mevalonic aciduria and hyperimmunoglobulinemia D/periodic fever syndrome (HIDS). Mevalonic acid accumulates because of failure of conversion to 5-phosphomevalonic acid, which is catalyzed by mevalonate kinase. Mevalonic acid is synthesized from 3-hydroxy-3-methylglutaryl-CoA, a reaction catalyzed by HMG-CoA reductase.

CHROMOSOMAL LOCATION

Genetic locus: MVK (human) mapping to 12q24.11.

SOURCE

MVK (D-3) is a mouse monoclonal antibody raised against amino acids 97-396 mapping at the C-terminus of MVK of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MVK (D-3) is available conjugated to agarose (sc-390669 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390669 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390669 PE), fluorescein (sc-390669 FITC), Alexa Fluor® 488 (sc-390669 AF488), Alexa Fluor® 546 (sc-390669 AF546), Alexa Fluor® 594 (sc-390669 AF594) or Alexa Fluor® 647 (sc-390669 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390669 AF680) or Alexa Fluor® 790 (sc-390669 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

MVK (D-3) is recommended for detection of MVK 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 MVK siRNA (h): sc-106266, MVK shRNA Plasmid (h): sc-106266-SH and MVK shRNA (h) Lentiviral Particles: sc-106266-V.

Molecular Weight (predicted) of MVK: 42 kDa.

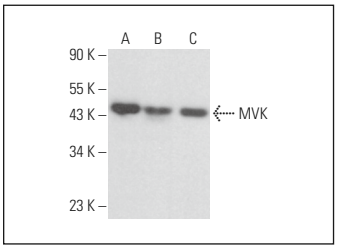
Molecular Weight (observed) of MVK: 43/46 kDa.

Positive Controls: MVK (h): 293T Lysate: sc-112229, A2058 whole cell lysate: sc-364178 or Caki-1 cell lysate: sc-2224.

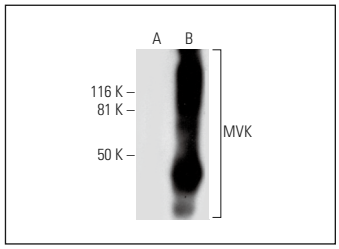
RECOMMENDED SUPPORT REAGENTS

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



MVK (D-3): sc-390669. Western blot analysis of MVK expression in A2058 (**A**), Caki-1 (**B**) and HEK293 (**C**) whole cell lysates.



MVK (D-3): sc-390669. Western blot analysis of MVK expression in non-transfected: sc-117752 (**A**) and human MVK transfected: sc-112229 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Romeo, M.A., et al. 2020. Stat3 and mutp53 engage a positive feedback loop involving HSP90 and the mevalonate pathway. Front. Oncol. 10: 1102.
2. Lanceta, L., et al. 2021. Differential gene expression analysis of palbociclib-resistant TNBC via RNA-seq. Breast Cancer Res. Treat. 186: 677-686.
3. 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.
4. Romeo, M.A., et al. 2022. c-Myc sustains pancreatic cancer cell survival and mutp53 stability through the mevalonate pathway. Biomedicines 10: 2489.
5. Yeo, X.H., et al. 2023. The effect of inhibition of receptor tyrosine kinase AXL on DNA damage response in ovarian cancer. Commun. Biol. 6: 660.
6. Zhang, J., et al. 2024. Influenza A virus infection activates STAT3 to enhance SREBP2 expression, cholesterol biosynthesis, and virus replication. iScience 27: 110424.

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 for detailed protocols and support products.