

PMVK (H-9): sc-390775

BACKGROUND

PMVK (phosphomevalonate kinase), also known as PMK, PMKA, PMKASE or HUMPMK, is a 192 amino acid peroxisomal enzyme belonging to the nucleoside monophosphate (NMP) kinase family and is expressed in heart, liver, skeletal muscle, kidney, and pancreas with lower expression in brain, placenta and lung. Induced by sterol, PMVK participates in isopentenyl diphosphate biosynthesis via the mevalonate pathway. PMVK catalyzes the conversion of mevalonate 5-phosphate into mevalonate 5-diphosphate in the fifth reaction of the cholesterol biosynthetic pathway. PMVK exists as a monomer and is encoded by a gene located on human chromosome 1, which houses over 3,000 genes and is the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome.

REFERENCES

1. Cho, Y.K., et al. 2001. Investigation of invariant serine/threonine residues in mevalonate kinase. Tests of the functional significance of a proposed substrate binding motif and a site implicated in human inherited disease. *J. Biol. Chem.* 276: 12573-12578.
2. Pilloff, D., et al. 2003. The kinetic mechanism of phosphomevalonate kinase. *J. Biol. Chem.* 278: 4510-4515.
3. Hogenboom, S., et al. 2003. Cholesterol biosynthesis is not defective in peroxisome biogenesis defective fibroblasts. *Mol. Genet. Metab.* 80: 290-295.
4. Hogenboom, S., et al. 2004. Phosphomevalonate kinase is a cytosolic protein in humans. *J. Lipid Res.* 45: 697-705.
5. Eyzaguirre, J., et al. 2006. Pig liver phosphomevalonate kinase: kinetic mechanism. *Arch. Biochem. Biophys.* 454: 189-196.
6. Herdendorf, T.J., et al. 2006. Phosphomevalonate kinase: functional investigation of the recombinant human enzyme. *Biochemistry* 45: 3235-3242.

CHROMOSOMAL LOCATION

Genetic locus: PMVK (human) mapping to 1q21.3.

SOURCE

PMVK (H-9) is a mouse monoclonal antibody raised against amino acids 1-192 representing full length PMVK of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PMVK (H-9) is available conjugated to agarose (sc-390775 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390775 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390775 PE), fluorescein (sc-390775 FITC), Alexa Fluor® 488 (sc-390775 AF488), Alexa Fluor® 546 (sc-390775 AF546), Alexa Fluor® 594 (sc-390775 AF594) or Alexa Fluor® 647 (sc-390775 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390775 AF680) or Alexa Fluor® 790 (sc-390775 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

PMVK (H-9) is recommended for detection of PMVK 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 PMVK siRNA (h): sc-76180, PMVK shRNA Plasmid (h): sc-76180-SH and PMVK shRNA (h) Lentiviral Particles: sc-76180-V.

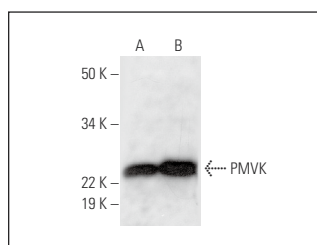
Molecular Weight of PMVK: 22 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, Hep G2 cell lysate: sc-2227 or human liver extract: sc-363766.

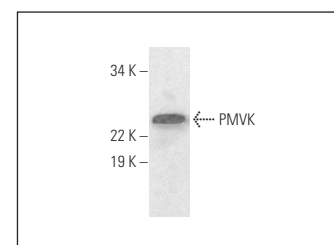
RECOMMENDED SUPPORT REAGENTS

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



PMVK (H-9): sc-390775. Western blot analysis of PMVK expression in Hep G2 whole cell lysate (A) and human liver tissue extract (B).



PMVK (H-9): sc-390775. Western blot analysis of PMVK expression in Caki-1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Aersilan, A., et al. 2022. MicroRNA-874 targets phosphomevalonate kinase and inhibits cancer cell growth via the mevalonate pathway. *Sci. Rep.* 12: 18443.

STORAGE

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

RESEARCH USE

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