

CMPK2 (G-14): sc-242477

BACKGROUND

CMPK2 (cytidine monophosphate (UMP-CMP) kinase 2, mitochondrial), also known as TYKi, thymidylate kinase family LPS-inducible member, TMPK2 (thymidine monophosphate kinase 2) or UMP-CMPK2, is a 449 amino acid mitochondrial protein and component of the salvage pathway for nucleotide synthesis. A member of the thymidylate kinase family, CMPK2 is abundantly expressed in leukemia cells and exists as four alternatively spliced isoforms. The gene encoding CMPK2 maps to human chromosome 2, which consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2. Harlequin ichthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene. The lipid metabolic disorder sitosterolemia is associated with ABCG5 and ABCG8. An extremely rare recessive genetic disorder, Alström syndrome, is due to mutations in the ALMS1 gene.

REFERENCES

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3. Shulenin, S., et al. 2001. An ATP-binding cassette gene (ABCG5) from the ABCG (white) gene subfamily maps to human chromosome 2p21 in the region of the Sitosterolemia locus. *Cytogenet. Cell Genet.* 92: 204-208.
4. Hearn, T., et al. 2002. Mutation of ALMS1, a large gene with a tandem repeat encoding 47 amino acids, causes Alström syndrome. *Nat. Genet.* 31: 79-83.
5. Kelsell, D.P., et al. 2005. Mutations in ABCA12 underlie the severe congenital skin disease harlequin ichthyosis. *Am. J. Hum. Genet.* 76: 794-803.
6. Xu, Y., et al. 2008. Human UMP-CMP kinase 2, a novel nucleoside monophosphate kinase localized in mitochondria. *J. Biol. Chem.* 283: 1563-1571.
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CHROMOSOMAL LOCATION

Genetic locus: CMPK2 (human) mapping to 2p25.2; Cmpk2 (mouse) mapping to 12 A2.

SOURCE

CMPK2 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CMPK2 of human origin.

STORAGE

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

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-242477 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CMPK2 (G-14) is recommended for detection of CMPK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with CMPK.

CMPK2 (G-14) is also recommended for detection of CMPK2 in additional species, including bovine, porcine and avian.

Suitable for use as control antibody for CMPK2 siRNA (h): sc-94433, CMPK2 siRNA (m): sc-142417, CMPK2 shRNA Plasmid (h): sc-94433-SH, CMPK2 shRNA Plasmid (m): sc-142417-SH, CMPK2 shRNA (h) Lentiviral Particles: sc-94433-V and CMPK2 shRNA (m) Lentiviral Particles: sc-142417-V.

Molecular Weight of CMPK2: 49/33/40/45 kDa.

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) 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.

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.