

# DGUOK (H-2): sc-376463

## BACKGROUND

DGUOK (deoxyguanosine kinase), also known as DGK, is a 277 amino acid protein that localizes to mitochondria and exists as multiple alternatively spliced isoforms. Functioning as a homodimer and highly expressed in a variety of tissues, including liver, muscle and brain, DGUOK uses ATP to catalyze the conversion of deoxyguanosine to dGMP. Via its catalytic activity, DGUOK is essential for the phosphorylation of purine deoxyribonucleosides in the mitochondrial matrix and is an important antiviral and chemotherapeutic tool. Defects in the gene encoding DGUOK are the cause of hepatocerebral mitochondrial DNA depletion syndrome (MDS), a group of disorders that result in reduced mtDNA (mitochondrial DNA) copy number and are characterized by liver failure and neurologic abnormalities.

## REFERENCES

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- Mandel, H., et al. 2001. The deoxyguanosine kinase gene is mutated in individuals with depleted hepatocerebral mitochondrial DNA. *Nat. Genet.* 29: 337-341.
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- Dimmock, D.P., et al. 2008. Clinical and molecular features of mitochondrial DNA depletion due to mutations in deoxyguanosine kinase. *Hum. Mutat.* 29: 330-331.

## CHROMOSOMAL LOCATION

Genetic locus: DGUOK (human) mapping to 2p13.1; Dguok (mouse) mapping to 6 C3.

## SOURCE

DGUOK (H-2) is a mouse monoclonal antibody raised against amino acids 170-277 mapping at the C-terminus of DGUOK of mouse origin.

## RESEARCH USE

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

## 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.

## APPLICATIONS

DGUOK (H-2) is recommended for detection of DGUOK 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 DGUOK siRNA (h): sc-77139, DGUOK siRNA (m): sc-77140, DGUOK shRNA Plasmid (h): sc-77139-SH, DGUOK shRNA Plasmid (m): sc-77140-SH, DGUOK shRNA (h) Lentiviral Particles: sc-77139-V and DGUOK shRNA (m) Lentiviral Particles: sc-77140-V.

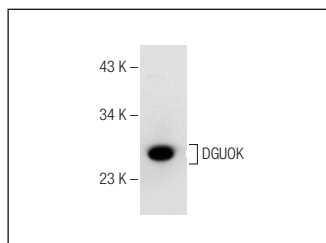
Molecular Weight of DGUOK: 28 kDa.

Positive Controls: mouse kidney extract: sc-2255.

## 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



DGUOK (H-2): sc-376463. Western blot analysis of DGUOK expression in mouse kidney tissue extract.

## SELECT PRODUCT CITATIONS

- Deckx, S., et al. 2018. Osteoglycin prevents the development of age-related diastolic dysfunction during pressure overload by reducing cardiac fibrosis and inflammation. *Matrix Biol.* 66: 110-124.

## STORAGE

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