

# dCK (H-5): sc-393098

## BACKGROUND

The dCK/dGK family of proteins includes four different deoxyribonucleoside kinases including the cytoplasmic (TK1) and mitochondrial (TK2) thymidine kinases, and the deoxycytidine (dCK) and deoxyguanosine (dGK) kinases. Deoxyribonucleoside kinases catalyze the 5'-phosphorylation of 2'-deoxyribonucleosides with nucleoside triphosphates (NTPs) as phosphate donors. The dCK enzyme is associated with drug resistance and sensitivity, as both dCK and TK2 phosphorylate several antiviral and chemotherapeutic nucleoside analogs. Deficiency of dCK activity corresponds with resistance to antiviral and chemotherapeutic agents. dCK and TK1 localize to the cytosol, whereas dCK and TK2 localize to the mitochondria. These deoxyribonucleoside kinases are most abundantly expressed in muscle, brain and liver.

## REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 125450. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Galmarini, C.M., et al. 2005. The prognostic value of cN-II and cN-III enzymes in adult acute myeloid leukemia. *Haematologica* 90: 1699-1701.

## CHROMOSOMAL LOCATION

Genetic locus: DCK (human) mapping to 4q13.3; Dck (mouse) mapping to 5 E1.

## SOURCE

dCK (H-5) is a mouse monoclonal antibody raised against amino acids 203-241 mapping near the C-terminus of dCK of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

dCK (H-5) is recommended for detection of dCK 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).

dCK (H-5) is also recommended for detection of dCK in additional species, including bovine and porcine.

Suitable for use as control antibody for dCK siRNA (h): sc-60509, dCK siRNA (m): sc-60510, dCK shRNA Plasmid (h): sc-60509-SH, dCK shRNA Plasmid (m): sc-60510-SH, dCK shRNA (h) Lentiviral Particles: sc-60509-V and dCK shRNA (m) Lentiviral Particles: sc-60510-V.

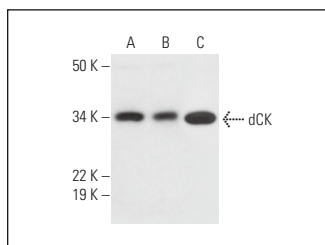
Molecular Weight of dCK: 30 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, MES-SA/Dx5 cell lysate: sc-2284 or Raji whole cell lysate: sc-364236.

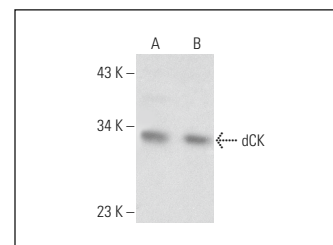
## RECOMMENDED SUPPORT REAGENTS

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



dCK (H-5): sc-393098. Western blot analysis of dCK expression in K-562 (A), MES-SA/Dx5 (B) and Raji (C) whole cell lysates.



dCK (H-5): sc-393098. Western blot analysis of dCK expression in A-431 (A) and MCF7 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Levin, M., et al. 2019. Surmounting Cytarabine-resistance in acute myeloblastic leukemia cells and specimens with a synergistic combination of hydroxyurea and azidothymidine. *Cell Death Dis.* 10: 390.
2. Gu, X., et al. 2021. Decitabine- and 5-azacytidine resistance emerges from adaptive responses of the pyrimidine metabolism network. *Leukemia* 35: 1023-1036.
3. Biswas, S., et al. 2023. Neuroendocrine lineage commitment of small cell lung cancers can be leveraged into p53-independent non-cytotoxic therapy. *Cell Rep.* 42: 113016.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.