

# dCK (N-16): sc-49285

## 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 dGK 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.
3. Bergman, A.M., et al. 2005. *In vivo* induction of resistance to gemcitabine results in increased expression of ribonucleotide reductase subunit M1 as the major determinant. *Cancer Res.* 65: 9510-9516.
4. Karbownik, M., et al. 2005. Increased expression of mRNA specific for thymidine kinase, deoxycytidine kinase or thymidine phosphorylase in human papillary thyroid carcinoma. *Cancer Lett.* 225: 267-273.
5. Hubeek, I., et al. 2005. Immuno-cytochemical detection of deoxycytidine kinase in haematological malignancies and solid tumours. *J. Clin. Pathol.* 58: 695-699.
6. Smal, C., et al. 2006. Identification of *in vivo* phosphorylation sites on human deoxycytidine kinase. Role of Ser 74 in the control of enzyme activity. *J. Biol. Chem.* 281: 4887-4893.

## CHROMOSOMAL LOCATION

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

## SOURCE

dCK (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of dCK of human origin.

## 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-49285 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

dCK (N-16) is recommended for detection of Deoxycytidine kinase of human, mouse and, to a lesser extent, rat origin by Western Blotting (starting dilution 1:200, 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 (N-16) is also recommended for detection of Deoxycytidine kinase in additional species, including bovine.

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.

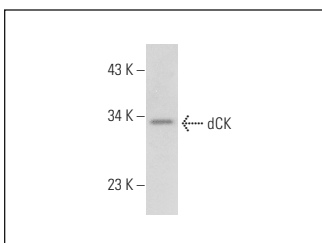
Molecular Weight of dCK: 30 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



dCK (N-16): sc-49285. Western blot analysis of dCK expression in Jurkat whole cell lysate.

## RESEARCH USE

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

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Try **dCK (H-3): sc-393099** or **dCK (H-5): sc-393098**, our highly recommended monoclonal alternatives to dCK (N-16).