

# DCAMKL2 (T-19): sc-103450

## BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. DCAMKL2, also known as DCLK2 (doublecortin-like kinase 2), DCK2, DCDC3 or DCDC3B, is a 766 amino acid protein that contains one protein kinase domain and 2 doublecortin domains. One of several members of the Ser/Thr protein kinase family, DCAMKL2 functions to catalyze the ATP-dependent attachment of a phospho residue to target proteins, an event that may play a role in various cellular processes. Multiple isoforms of DCAMKL2 exist due to alternative splicing events.

## REFERENCES

1. Bairoch, A., et al. 1988. Sequence patterns in protein kinases. *Nature* 331: 22.
2. Hanks, S.K., et al. 1988. The protein kinase family: conserved features and deduced phylogeny of the catalytic domains. *Science* 241: 42-52.
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4. Sapir, T., et al. 2000. Doublecortin mutations cluster in evolutionarily conserved functional domains. *Hum. Mol. Genet.* 9: 703-712.
5. Edelman, A.M., et al. 2005. Doublecortin kinase-2, a novel Doublecortin-related protein kinase associated with terminal segments of axons and dendrites. *J. Biol. Chem.* 280: 8531-8543.
6. Ohmae, S., et al. 2006. Molecular identification and characterization of a family of kinases with homology to Ca<sup>2+</sup>/calmodulin-dependent protein kinases I/IV. *J. Biol. Chem.* 281: 20427-20439.
7. Koizumi, H. 2007. Physiological function of the DCX family in brain development. *Seikagaku* 79: 1134-1139.
8. Tuy, F.P., et al. 2008. Alternative transcripts of DCLK1 and DCLK2 and their expression in Doublecortin knockout mice. *Dev. Neurosci.* 30: 171-186.

## CHROMOSOMAL LOCATION

Genetic locus: DCLK2 (human) mapping to 4q31.23; Dclk2 (mouse) mapping to 3 F1.

## SOURCE

DCAMKL2 (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of DCAMKL2 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-103450 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

DCAMKL2 (T-19) is recommended for detection of DCAMKL2 of mouse, rat and human 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); non cross-reactive with DCAMKL1 or DCAMKL3.

DCAMKL2 (T-19) is also recommended for detection of DCAMKL2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for DCAMKL2 siRNA (h): sc-105272, DCAMKL2 siRNA (m): sc-105273, DCAMKL2 shRNA Plasmid (h): sc-105272-SH, DCAMKL2 shRNA Plasmid (m): sc-105273-SH, DCAMKL2 shRNA (h) Lentiviral Particles: sc-105272-V and DCAMKL2 shRNA (m) Lentiviral Particles: sc-105273-V.

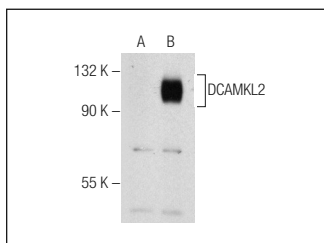
Molecular Weight of DCAMKL2: 84 kDa.

Positive Controls: DCAMKL2 (h): 293T Lysate: sc-372382.

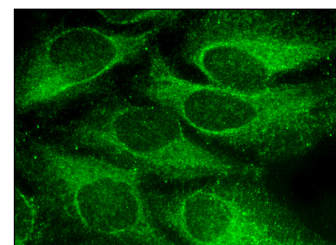
## RECOMMENDED SECONDARY REAGENTS

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



DCAMKL2 (T-19): sc-103450. Western blot analysis of DCAMKL2 expression in non-transfected: sc-117752 (A) and human DCAMKL2 transfected: sc-372382 (B) 293T whole cell lysates.



DCAMKL2 (T-19): sc-103450. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## 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.