

# CDK5RAP2 (K-18): sc-82803

## BACKGROUND

Cyclin dependent kinase 5 (Cdk5) is a key regulator of cell cycle progression in neuronal differentiation that physically associates with and is activated by the neuron-specific protein p35. CDK5RAP1 (CDK5 regulatory subunit-associated protein 1) specifically inhibits Cdk5 activation by p35 through formation of a dimer that inhibits kinase activity. CDK5RAP2, also known as Centrosome-associated protein 215, is a 1893 amino acid centrosomal protein that regulates activity of CDK5 through complex formation with CDK5RAP1. Expressed in placenta, liver, pancreas, heart, skeletal muscle, lung, brain and kidney, CDK5RAP2 associates with centrosomes throughout the cell cycle. Mutations in the gene encoding CDK5RAP2 results in primary microcephaly autosomal recessive type 3, which is characterized by markedly reduced head size, brain weight and significant neurological deficits. There are four isoforms of CDK5RAP2 that are produced as a result of alternative splicing events.

## REFERENCES

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3. Walz, C., et al. 2006. Transient response to imatinib in a chronic eosinophilic leukemia associated with ins(9;4)(q33;q12q25) and a CDK5RAP2-PDGFRFA fusion gene. *Genes Chromosomes Cancer* 45: 950-956.
4. Cox, J., et al. 2006. What primary microcephaly can tell us about brain growth. *Trends Mol Med.* 12: 358-366.
5. Graser, S., et al. 2007. Cep68 and Cep215 (Cdk5rap2) are required for centrosome cohesion. *J. Cell Sci.* 120: 4321-4331.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 608201. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Fong, K.W., et al. 2008. CDK5RAP2 is a pericentriolar protein that functions in centrosomal attachment of the  $\gamma$ -tubulin ring complex. *Mol. Biol. Cell* 19: 115-125.
8. Zhang, X., et al. 2009. CDK5RAP2 is required for spindle checkpoint function. *Cell Cycle* 8: 1206-1216.
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## CHROMOSOMAL LOCATION

Genetic locus: CDK5RAP2 (human) mapping to 9q33.2; Cdk5rap2 (mouse) mapping to 4 C2.

## SOURCE

CDK5RAP2 (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CDK5RAP2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82803 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-82803 X, 200  $\mu$ g/0.1 ml.

## APPLICATIONS

CDK5RAP2 (K-18) is recommended for detection of CDK5RAP2 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).

CDK5RAP2 (K-18) is also recommended for detection of CDK5RAP2 in additional species, including porcine.

Suitable for use as control antibody for CDK5RAP2 siRNA (h): sc-72847, CDK5RAP2 siRNA (m): sc-72848, CDK5RAP2 shRNA Plasmid (h): sc-72847-SH, CDK5RAP2 shRNA Plasmid (m): sc-72848-SH, CDK5RAP2 shRNA (h) Lentiviral Particles: sc-72847-V and CDK5RAP2 shRNA (m) Lentiviral Particles: sc-72848-V.

CDK5RAP2 (K-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of CDK5RAP2: 215 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or SK-MEL-28 cell lysate: sc-2236.

## 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.

## 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) or our catalog for detailed protocols and support products.