SANTA CRUZ BIOTECHNOLOGY, INC.

CDK5RAP3 (E-7): sc-271776

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The Power to Question

BACKGROUND

CDK5RAP3 (cyclin dependent kinase 5 regulatory subunit-associated protein 3), also designated C53 or IC53, may be involved in neuronal differentiation, cell proliferation and DNA repair. The role CDK5RAP3 plays in neuronal differentiation may be attributed to its interaction with the Cdk5 activator protein called p35. p35 physically associates with Cdk5 to activate enzymatic activity. Cdk5 activity increases significantly during neuronal differentiation. Upon transfection, CDK5RAP3 is capable of increasing the rate of cell proliferation, suggesting that it may play a role in tumorigenesis. CDK5RAP3 is a regulatory component of the G_2/M DNA damage checkpoint in response to genotoxic stress. CDK5RAP3 is expressed in brain, heart, placenta, liver, skeletal muscle, lung, kidney and pancreas and is overexpressed in tumor tissue. Three named isoforms exist for CDK5RAP3 as a result of alternative splicing events. CDK5RAP3 contains two leucine zipper motifs, putative phosphorylation and potential N-myristoylation sites.

REFERENCES

1. Ching, Y.P., et al. 2000. Cloning of three novel neuronal Cdk5 activator binding proteins. Gene 242: 285-294.
2. Wang, X., et al. 2000. Identification of a common protein association region in the neuronal Cdk5 activator. J. Biol. Chem. 275: 31763-31769.
3. Chen, J., et al. 2002. A novel gene IC53 stimulates ECV304 cell proliferation and is upregulated in failing heart. Biochem. Biophys. Res. Commun. 294: 161-166.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608202. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Xie, Y.H., et al. 2003. Cloning and characterization of human IC53-2, a novel Cdk5 activator binding protein. Cell Res. 13: 83-91.

CHROMOSOMAL LOCATION

Genetic locus: CDK5RAP3 (human) mapping to 17q21.32.

SOURCE

CDK5RAP3 (E-7) is a mouse monoclonal antibody raised against amino acids 207-506 mapping at the C-terminus of CDK5RAP3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CDK5RAP3 (E-7) is available conjugated to agarose (sc-271776 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271776 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271776 PE), fluorescein (sc-271776 FITC), Alexa Fluor® 488 (sc-271776 AF488), Alexa Fluor® 546 (sc-271776 AF546), Alexa Fluor® 594 (sc-271776 AF594) or Alexa Fluor® 647 (sc-271776 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271776 AF680) or Alexa Fluor® 790 (sc-271776 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CDK5RAP3 (E-7) is recommended for detection of CDK5RAP3 of 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 CDK5RAP3 siRNA (h): sc-93759, CDK5RAP3 shRNA Plasmid (h): sc-93759-SH and CDK5RAP3 shRNA (h) Lentiviral Particles: sc-93759-V.

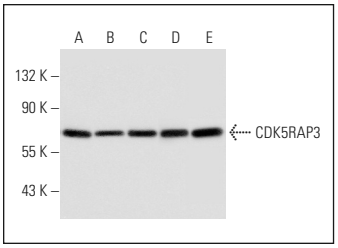
Molecular Weight of CDK5RAP3: 57 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HEK293 whole cell lysate: sc-45136 or HeLa whole cell lysate: sc-2200.

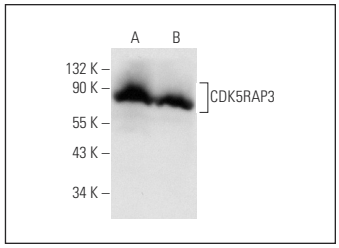
RECOMMENDED SUPPORT REAGENTS

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



CDK5RAP3 (E-7): sc-271776. Western blot analysis of CDK5RAP3 expression in HEK293 (**A**), Jurkat (**B**), U-251-MG (**C**), K-562 (**D**) and Hep G2 (**E**) whole cell lysates.



CDK5RAP3 (E-7): sc-271776. Western blot analysis of CDK5RAP3 expression in A-431 (**A**) and HeLa (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lin, J.X., et al. 2020. CDK5RAP3 as tumour suppressor negatively regulates self-renewal and invasion and is regulated by ERK1/2 signalling in human gastric cancer. Br. J. Cancer 123: 1131-1144.

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.