

p39 (C-20): sc-18945

BACKGROUND

Cyclin dependent kinases, known as Cdks, regulate transitions in the eukaryotic cell cycle. Cdk 5 is required for proper development of the mammalian central nervous system and is predominantly expressed in neurons. Neuronal Cdk5 can be activated by two accessory proteins designated p35^{nck5a} and p39^{nck5ai}, which is also known as p39. The human p39 gene maps to chromosome 2q35 and encodes a 367-amino acid protein. p35 and p39 both share limited similarity to cyclins and may define a distinct family of cyclin-dependent kinase activating proteins. During embryonic rat brain development, the expression pattern of p39 appears to have an inverse relationship to that of Cdk5 and p35, suggesting that these proteins may have region-specific and developmental stage-specific functions in rat brain. p39 can localize to lamellipodial and filopodial structures of cells and in growth cones of neurons. In addition, p39 can colocalize with actin, suggesting that p39 plays a role in regulating actin cytoskeletal dynamics in cells. The temporal and spatial expression of p39 in synaptic junctions indicates a possible role of the p39/cdk5 kinase at the synapse.

REFERENCES

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2. Cai, X.H., et al. 1997. Changes in the expression of novel Cdk5 activator messenger RNA (p39^{nck5ai} mRNA) during rat brain development. *Neurosci. Res.* 28: 355-360.
3. Honjyo, Y., et al. 1999. Immunohistochemical localization of CDK5 activator p39 in the rat brain. *Neuroreport* 10: 3375-3379.
4. Wu, D.C., et al. 2000. The expression of Cdk5, p35, p39, and Cdk5 kinase activity in developing, adult, and aged rat brains. *Neurochem. Res.* 25: 923-929.
5. Humbert, S., et al. 2000. Synaptic localization of p39, a neuronal activator of cdk5. *Neuroreport* 11: 2213-2216.
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7. Online Mendelian Inheritance in Man, OMIM[™]. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 123831. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
9. LocusLink Report (LocusID: 8941). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATIONS

Genetic locus: CDK5R2 (human) mapping to 2q35; Cdk5r2 (mouse) mapping to 1 C3.

SOURCE

p39 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of p39 of human origin.

STORAGE

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

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-18945 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p39 (C-20) is recommended for detection of p39 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).

p39 (C-20) is also recommended for detection of p39 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for p39 siRNA (h): sc-42156, p39 siRNA (m): sc-42157, p39 shRNA Plasmid (h): sc-42156-SH, p39 shRNA Plasmid (m): sc-42157-SH, p39 shRNA (h) Lentiviral Particles: sc-42156-V and p39 shRNA (m) Lentiviral Particles: sc-42157-V.

Molecular Weight of p39: 39 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410.

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.

SELECT PRODUCT CITATIONS

1. Ryan, S.D., et al. 2009. Amyloid-β42 signals tau hyperphosphorylation and compromises neuronal viability by disrupting alkylacylglycerophosphocholine metabolism. *Proc. Natl. Acad. Sci. USA* 106: 20936-20941.

RESEARCH USE

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


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Try **p39 (F-4): sc-365781** or **p39 (D-9): sc-374030**, our highly recommended monoclonal alternatives to p39 (C-20).