SANTA CRUZ BIOTECHNOLOGY, INC.

p35 (4G11): sc-293184

BACKGROUND

Cyclin dependent kinase-5 (Cdk5), a key regulator of cell cycle progression, was originally isolated on the basis of its structural homology to Cdc2, a well-characterized regulator of cell cycle progression. Although Cdk5 is expressed at the highest level in the brain of adult mice, intermediate levels in testis and low or undetectable levels in all other tissues, brain is the only tissue from which Cdk5 can be isolated as an active kinase. These findings may be explained by the cloning and characterization of a Cdk5 regulatory subunit, designated p35. p35 displays a neuronal cell-specific pattern of expression, physically associates with Cdk5 and activates Cdk5 enzymatic activity. p35 is also expressed in many tissues in a truncated form, designated p25.

REFERENCES

1. Murray, A.W. and Kirschner, M.W. 1989. Dominoes and clocks: the union of two views of the cell cycle. Science 246: 614-621.
2. Nurse, P. 1990. Universal control mechanism regulating onset of M-phase. Nature 344: 503-508.
3. Pines, J. and Hunter, T. 1990. Cdc2 p34: the S and M kinase? New Biol. 2: 389-401.

CHROMOSOMAL LOCATION

Genetic locus: CDK5R1 (human) mapping to 17q11.2; Cdk5r1 (mouse) mapping to 11 B5.

SOURCE

p35 (4G11) is a mouse monoclonal antibody raised against amino acids 208-307 representating a partial fragment of p35 human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

p35 (4G11) is recommended for detection of p35 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).

Suitable for use as control antibody for p35 siRNA (h): sc-36153, p35 siRNA (m): sc-36154, p35 shRNA Plasmid (h): sc-36153-SH, p35 shRNA Plasmid (m): sc-36154-SH, p35 shRNA (h) Lentiviral Particles: sc-36153-V and p35 shRNA (m) Lentiviral Particles: sc-36154-V.

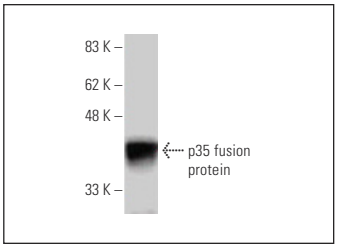
Molecular Weight of p35 truncated form: 25 kDa.

Molecular Weight of full length p35 precursor: 35 kDa.

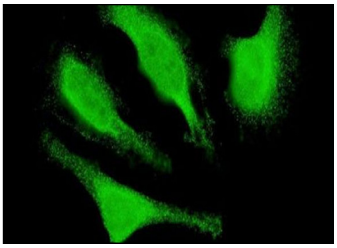
RECOMMENDED SUPPORT REAGENTS

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



p35 (4G11): sc-293184. Western blot analysis of human recombinant p35 fusion protein.



p35 (4G11): sc-293184. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic, membrane and nuclear localization.

SELECT PRODUCT CITATIONS

1. Chao, L., et al. 2019. miR-96 promotes collagen deposition in keloids by targeting Smad7. Exp. Ther. Med. 17: 773-781.
2. Deng, H., et al. 2020. Cdk5 knocking out mediated by CRISPR-Cas9 genome editing for PD-L1 attenuation and enhanced antitumor immunity. Acta Pharm. Sin. B 10: 358-373.
3. Yang, S.H., et al. 2020. CDK4 and CDK5 inhibition have comparable mild hypothermia effects in preventing Drp1-dependent mitochondrial fission and neuron death induced by MPP. Mol. Neurobiol. 57: 4090-4105.
4. Metwally, E., et al. 2020. Ttm50 facilitates calpain activation by anchoring it to calcium stores and increasing its sensitivity to calcium. Cell Res. 31: 433-449.
5. Gao, L., et al. 2020. Vps35 deficiency impairs Cdk5/p35 degradation and promotes the hyperphosphorylation of tau protein in retinal ganglion cells. Invest. Ophthalmol. Vis. Sci. 61: 1.
6. Tanaka, T., et al. 2022. Dendritic distribution of CDK5 mRNA and p35 mRNA, and a glutamate-responsive increase of CDK5/p25 complex contribute to tau hyperphosphorylation. Biochim. Biophys. Acta Gen. Subj. 1866: 130135.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.