

CENPJ (P-20): sc-66746

BACKGROUND

CENPJ (CPAP) is a centromeric protein that plays a role in brain size. The protein contains five coiled-coil domains, the most C-terminal of which includes a leucine zipper motif. CENPJ also has several potential protein phosphorylation sites and a C-terminal domain containing 21 nonamer G-box repeats. The CENPJ gene is expressed in neuroepithelium during prenatal neurogenesis, and it localizes to the spindle poles of cells undergoing mitosis. This localization suggests that a centrosomal mechanism controls neuron number in the developing mammalian brain. Mutations in the CENPJ gene have been linked to the condition autosomal recessive primary microcephaly. A novel 4 bp deletion in the gene has been characterized as a cause of protein truncation leading to the condition.

REFERENCES

- Hung, L.Y., et al. 2000. Protein 4.1 R-135 interacts with a novel centrosomal protein (CPAP) which is associated with the γ Tubulin complex. *Mol. Cell. Biol.* 20: 7813-7825.
- Peng, B., et al. 2002. CPAP is a novel Stat5-interacting cofactor that augments Stat5-mediated transcriptional activity. *Mol. Endocrinol.* 16: 2019-2033.
- Triebel, F., et al. 2003. LAG-3: a regulator of T cell and DC responses and its use in therapeutic vaccination. *Trends Immunol.* 24: 619-622.
- Hung, L.Y., et al. 2004. Identification of a novel microtubule-destabilizing motif in CPAP that binds to tubulin heterodimers and inhibits microtubule assembly. *Mol. Biol. Cell* 15: 2697-2706.
- Bond, J., et al. 2005. A centrosomal mechanism involving CDK5RAP2 and CENPJ controls brain size. *Nat. Genet.* 37: 353-355.
- Cho, J.H., et al. 2006. Depletion of CPAP by RNAi disrupts centrosome integrity and induces multipolar spindles. *Biochem. Biophys. Res. Commun.* 339: 742-747.
- Gul, A., et al. 2006. A novel deletion mutation in CENPJ gene in a Pakistani family with autosomal recessive primary microcephaly. *J. Hum. Genet.* 51: 760-764.
- Cox, J., et al. 2006. What primary microcephaly can tell us about brain growth. *Trends Mol. Med.* 12: 358-366.
- Evans, P.D., et al. 2006. Molecular evolution of the brain size regulator genes CDK5RAP2 and CENPJ. *Gene* 375: 75-79.

CHROMOSOMAL LOCATION

Genetic locus: Cenpj (mouse) mapping to 14 C3.

SOURCE

CENPJ (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CENPJ of mouse 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 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66746 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CENPJ (P-20) is recommended for detection of CENPJ of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 CENPJ siRNA (m): sc-62091, CENPJ shRNA Plasmid (m): sc-62091-SH and CENPJ shRNA (m) Lentiviral Particles: sc-62091-V.

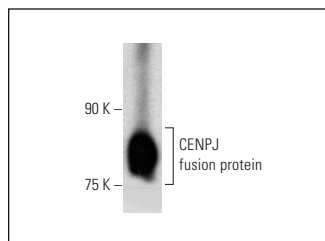
Molecular Weight of CENPJ: 150 kDa.

Positive Controls: F9 cell lysate: sc-2245 or mouse testis extract: sc-2405.

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



CENPJ (F-20): sc-66743. Western blot analysis of human recombinant CENPJ fusion protein.

RESEARCH USE

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

PROTOCOLS

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