

# CENPJ (E-19): sc-66742

## 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  $\gamma$  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 (E-19) 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  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66742 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CENPJ (E-19) 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  $\mu$ g per 100-500  $\mu$ 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.

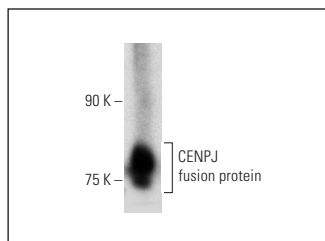
Molecular Weight of CENPJ: 150 kDa.

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 (E-19): sc-66742. 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](http://www.scbt.com) or our catalog for detailed protocols and support products.