

# CENPJ (95.381.1): sc-81432

## 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

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- 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.
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- 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 (human) mapping to 13q12.12.

## SOURCE

CENPJ (95.381.1) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 386-870 of CENPJ of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

CENPJ (95.381.1) is recommended for detection of CENPJ of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CENPJ siRNA (h): sc-62090, CENPJ shRNA Plasmid (h): sc-62090-SH and CENPJ shRNA (h) Lentiviral Particles: sc-62090-V.

Molecular Weight of CENPJ: 150 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## SELECT PRODUCT CITATIONS

- Lancaster, M.A., et al. 2013. Cerebral organoids model human brain development and microcephaly. *Nature* 501: 373-379.
- Mahen, R. 2018. Stable centrosomal roots disentangle to allow interphase centriole independence. *PLoS Biol.* 16: e2003998.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.