

CENP-N (P-17): sc-69152

BACKGROUND

During mitosis, the transient assembly of the kinetochore occurs on a platform known as the centromere, a specialized chromatin structure that is comprised of various centromere proteins (CENPs). There are two multi-protein centromere complexes, known as CENPA-NAC (nucleosome-associated) and CENPA-CAD (nucleosome distal), which interact with one another to facilitate both the assembly and the activity of the centromere. CENP-N (centromere protein N), also known as BM039 or CENPN, is a 339 amino acid nuclear protein that localizes exclusively in the kinetochore domain of centromeres. One of several components of the CENPA-NAC complex, CENP-N plays a crucial role in the assembly of the kinetochore and the subsequent chromosome segregation and progression through mitosis. CENP-N interprets the information encoded within CENP-A nucleosomes, therefore, CENP-N is considered a reader of the centromere-specifying epigenetic mark that is generated by incorporation of the histone H3 variant CENP-A into centromeric nucleosomes. CENP-N exists as two isoforms due to alternative splicing events.

REFERENCES

1. Van Hooser, A.A., et al. 1999. The mammalian centromere: structural domains and the attenuation of chromatin modeling. *FASEB J.* 13: S216-S220.
2. Smith, M.M. 2002. Centromeres and variant histones: what, where, when and why? *Curr. Opin. Cell Biol.* 14: 279-285.
3. Izuta, H., et al. 2006. Comprehensive analysis of the ICEN (interphase centromere complex) components enriched in the CENP-A chromatin of human cells. *Genes Cells* 11: 673-684.
4. Okada, M., et al. 2006. The CENP-H-I complex is required for the efficient incorporation of newly synthesized CENP-A into centromeres. *Nat. Cell Biol.* 8: 446-457.
5. Foltz, D.R., et al. 2006. The human CENP-A centromeric nucleosome-associated complex. *Nat. Cell Biol.* 8: 458-469.
6. McClelland, S.E., et al. 2007. The CENP-A NAC/CAD kinetochore complex controls chromosome congression and spindle bipolarity. *EMBO J.* 26: 5033-5047.
7. Black, B.E., et al. 2008. The histone variant CENP-A and centromere specification. *Curr. Opin. Cell Biol.* 20: 91-100.

CHROMOSOMAL LOCATION

Genetic locus: CENPN (human) mapping to 16q23.2; Cenpn (mouse) mapping to 8 E1.

SOURCE

CENP-N (P-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CENP-N 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-69152 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CENP-N (P-17) is recommended for detection of CENP-N 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).

CENP-N (P-17) is also recommended for detection of CENP-N in additional species, including equine, canine and bovine.

Suitable for use as control antibody for CENP-N siRNA (h): sc-72860, CENP-N siRNA (m): sc-72861, CENP-N shRNA Plasmid (h): sc-72860-SH, CENP-N shRNA Plasmid (m): sc-72861-SH, CENP-N shRNA (h) Lentiviral Particles: sc-72860-V and CENP-N shRNA (m) Lentiviral Particles: sc-72861-V.

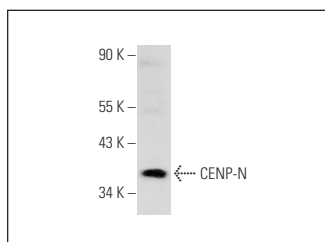
Molecular Weight of CENP-N: 40 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

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



CENP-N (P-17): sc-69152. Western blot analysis of CENP-N expression in HeLa nuclear extract.

RESEARCH USE

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