SANTA CRUZ BIOTECHNOLOGY, INC.

CENP-A (C-17): sc-11278

BACKGROUND

A replicated chromosome includes two kinetochores that control chromosome segregation during mitosis. Centromere protein-A (CENP-A) is a Histone H3-like protein that contains a C-terminal H3-like domain, required for centromere localization of CENP-A, and an antigenic N-terminal domain. CENP-A, originally isolated from HeLa cells, is essential for kinetochore targeting of CENP-C. In the presence of DNA, CENP-A forms an octameric complex with histones H4, H2A and H2B. CENP-A specifically localizes to active centromeres and is a component of specialized centromeric nucleosomes, on which kinetochores are assembled. CENP-A is essential for nucleosomal packaging of centromeric DNA at interphase and functions as a centromere formation marker on the chromosome.

REFERENCES

1. Rieder, C.L., et al. 1998. The vertebrate cell kinetochore and its roles during mitosis. Trends Cell Biol. 8: 310-318.
2. Choo, K.H. 2000. Centromerization. Trends Cell Biol. 10: 182-188.
3. Muro, Y., et al. 2000. Autoepitopes on autoantigen centromere protein-A (CENP-A) are restricted to the N-terminal region, which has no homology with histone H3. Clin. Exp. Immunol. 120: 218-223.
4. Howman, E.V., et al. 2000. Early disruption of centromeric chromatin organization in centromere protein A (Cenpa) null mice. Proc. Natl. Acad. Sci. USA 97: 1148-1153.
5. Yoda, K., et al. 2000. Human centromere protein A (CENP-A) can replace histone H3 in nucleosome reconstitution *in vitro*. Proc. Natl. Acad. Sci. USA 97: 7266-7271.

CHROMOSOMAL LOCATIONS

Genetic locus: CENPA (human) mapping to 2p23.3; Cenpa (mouse) mapping to 5 B1.

SOURCE

CENP-A (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CENP-A of human origin.

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-11278 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 or our catalog for detailed protocols and support products.

APPLICATIONS

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

Suitable for use as control antibody for CENP-A siRNA (h): sc-37555, CENP-A siRNA (m): sc-37556, CENP-A shRNA Plasmid (h): sc-37555-SH, CENP-A shRNA Plasmid (m): sc-37556-SH, CENP-A shRNA (h) Lentiviral Particles: sc-37555-V and CENP-A shRNA (m) Lentiviral Particles: sc-37556-V.

Molecular Weight of CENP-A: 17 kDa.

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.

SELECT PRODUCT CITATIONS

1. Amato, A., et al. 2009. CENPA overexpression promotes genome instability in pRb-depleted human cells. Mol. Cancer 8: 119.
2. Alkan, C., et al. 2011. Genome-wide characterization of centromeric satellites from multiple mammalian genomes. Genome Res. 21: 137-145.

RESEARCH USE

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