SANTA CRUZ BIOTECHNOLOGY, INC.

CENP-T (K-13): sc-160228

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-T (centromere protein T), also known as ICEN22 (interphase centromere complex protein 22), is a 561 amino acid protein that exists as a component of the CENPA-NAC complex. Localizing to kinetochore domains of centromeres, CENP-T exists as three alternatively spliced isoforms and undergoes phosphorylation following DNA damage, most likely by ATM or ATR.

REFERENCES

1. 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.
2. Foltz, D.R., et al. 2006. The human CENP-A centromeric nucleosome-associated complex. Nat. Cell Biol. 8: 458-469.
3. Nousiainen, M., et al. 2006. Phosphoproteome analysis of the human mitotic spindle. Proc. Natl. Acad. Sci. USA 103: 5391-5396.
4. Matsuoka, S., et al. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. Science 316: 1160-1166.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611510. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Hori, T., et al. 2008. CCAN makes multiple contacts with centromeric DNA to provide distinct pathways to the outer kinetochore. Cell 135: 1039-1052.
7. Hellwig, D., et al. 2008. Live-cell imaging reveals sustained centromere binding of CENP-T via CENP-A and CENP-B. J. Biophotonics 1: 245-254.

CHROMOSOMAL LOCATION

Genetic locus: CENPT (human) mapping to 16q22.1; Cenpt (mouse) mapping to 8 D3.

SOURCE

CENP-T (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CENP-T 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-160228 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.

APPLICATIONS

CENP-T (K-13) is recommended for detection of CENP-T of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other CENP family members.

Suitable for use as control antibody for CENP-T siRNA (h): sc-93326, CENP-T siRNA (m): sc-142270, CENP-T shRNA Plasmid (h): sc-93326-SH, CENP-T shRNA Plasmid (m): sc-142270-SH, CENP-T shRNA (h) Lentiviral Particles: sc-93326-V and CENP-T shRNA (m) Lentiviral Particles: sc-142270-V.

Molecular Weight of CENP-T isoforms: 60/32/16 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) 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.

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.