

# CENP-T (G-14): sc-160227

## 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

- Izuta, H., Ikeno, M., Suzuki, N., Tomonaga, T., Nozaki, N., Obuse, C., Kisu, Y., Goshima, N., Nomura, F., Nomura, N. and Yoda, K. 2006. Comprehensive analysis of the ICEN (interphase centromere complex) components enriched in the CENP-A chromatin of human cells. *Genes Cells* 11: 673-684.
- Foltz, D.R., Jansen, L.E., Black, B.E., Bailey, A.O., Yates, J.R. and Cleveland, D.W. 2006. The human CENP-A centromeric nucleosome-associated complex. *Nat. Cell Biol.* 8: 458-469.
- Nousiainen, M., Sillje, H.H., Sauer, G., Nigg, E.A. and Körner, R. 2006. Phosphoproteome analysis of the human mitotic spindle. *Proc. Natl. Acad. Sci. USA* 103: 5391-5396.
- Matsuoka, S., Ballif, B.A., Smogorzewska, A., McDonald, E.R., Hurov, K.E., Luo, J., Bakalarski, C.E., Zhao, Z., Solimini, N., Lerenthal, Y., Shiloh, Y., Gygi, S.P. and Elledge, S.J. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. *Science* 316: 1160-1166.
- 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/>
- Hori, T., Amano, M., Suzuki, A., Backer, C.B., Welburn, J.P., Dong, Y., McEwen, B.F., Shang, W.H., Suzuki, E., Okawa, K., Cheeseman, I.M. and Fukagawa, T. 2008. CCAN makes multiple contacts with centromeric DNA to provide distinct pathways to the outer kinetochore. *Cell* 135: 1039-1052.
- Hellwig, D., Münch, S., Orthaus, S., Hoischen, C., Hemmerich, P. and Diekmann, S. 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 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-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-160227 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CENP-T (G-14) 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.

CENP-T (G-14) is also recommended for detection of CENP-T in additional species, including equine, canine, bovine and porcine.

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.

## STORAGE

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

## 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.