

# CENP-M (S-14): sc-86374

## 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-M (centromere protein M), also known as CENPM, ICEN39 or PANE1, is a 180 amino acid centromeric protein that localizes to the nucleus in non-confluent cells and to the cytoplasm in dividing or confluent cells. One of several components of the CENPA-NAC complex, CENP-M plays a crucial role in the assembly of the kinetochore and the subsequent chromosome segregation and progression through mitosis. Additionally, CENP-M is thought to be involved in the incorporation of newly synthesized CENP-A into centromeres. Three isoforms of CENP-M exist due to alternative splicing events. Isoform 3 is expressed in B-lineage chronic lymphocytic leukemia (B-CLL) cells, suggesting a possible role in carcinogenesis.

## REFERENCES

1. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610152. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Renou, J.P., Bierie, B., Miyoshi, K., Cui, Y., Djiane, J., Reichenstein, M., Shani, M. and Hennighausen, L. 2003. Identification of genes differentially expressed in mouse mammary epithelium transformed by an activated  $\beta$ -catenin. *Oncogene* 22: 4594-4610.
3. Bierie, B., Edwin, M., Melenhorst, J.J. and Hennighausen, L. 2004. The proliferation associated nuclear element (PANE1) is conserved between mammals and fish and preferentially expressed in activated lymphoid cells. *Gene Expr. Patterns* 4: 389-395.
4. Brickner, A.G., Evans, A.M., Mito, J.K., Xuereb, S.M., Feng, X., Nishida, T., Fairfull, L., Ferrell, R.E., Foon, K.A., Hunt, D.F., Shabanowitz, J., Engelhard, V.H., Riddell, S.R. and Warren, E.H. 2006. The PANE1 gene encodes a novel human minor histocompatibility antigen that is selectively expressed in B-lymphoid cells and B-CLL. *Blood* 107: 3779-3786.
5. 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.
6. Okada, M., Cheeseman, I.M., Hori, T., Okawa, K., McLeod, I.X., Yates, J.R., Desai, A. and Fukagawa, T. 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.
7. 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.

## CHROMOSOMAL LOCATION

Genetic locus: CENPM (human) mapping to 22q13.2; Cenpm (mouse) mapping to 15 E1.

## SOURCE

CENP-M (S-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of CENP-M of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, ready P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CENP-M (S-14) is recommended for detection of CENP-M 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).

CENP-M (S-14) is also recommended for detection of CENP-M in additional species, including equine and canine.

Suitable for use as control antibody for CENP-M siRNA (h): sc-72859, CENP-M siRNA (m): sc-142266, CENP-M shRNA Plasmid (h): sc-72859-SH, CENP-M shRNA Plasmid (m): sc-142266-SH, CENP-M shRNA (h) Lentiviral Particles: sc-72859-V and CENP-M shRNA (m) Lentiviral Particles: sc-142266-V.

Molecular Weight of CENP-M: 20 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> 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.