SANTA CRUZ BIOTECHNOLOGY, INC.

CENP-B (2D-7): sc-32285

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A replicated chromosome includes two kinetochores that control chromosome segregation during mitosis. Both centromere proteins CENP-B and CENP-H are contained in the centromeric heterochromatin between kinetochores, and are involved in maintaining sister chromatid cohesion. The highly dispersed CENP-B promotes and maintains the joining of DNA satellites in the centromere. CENP-B targets centromeric α-DNA and protects it from digestion by nucleases as well as preventing DNAse or restriction enzyme digestion from affecting the morphology of centromeres. CENP-H contains a coiled-coil structure and a nuclear localization signal. CENP-H is specifically and constitutively localized to kinetochores and plays a role in the organization and function of kinetochores throughout the cell cycle.

REFERENCES

1. Cooke, C.A., et al. 1990. CENP-B: a major human centromere protein located beneath the kinetochore. J. Cell Biol. 110: 1475-1488.
2. Rieder, C.L., et al. 1998. The vertebrate cell kinetochore and its roles during mitosis. Trends Cell Biol. 8: 310-318.
3. Barbosa-Cisneros, O., et al. 1998. Localization of the centromere protein CENP-B using scleroderma sera and evidence for a role in centromere survival. Rev. Rhum. Engl. Ed 65: 15-20.
4. Sugata, N., et al. 1999. Characterization of a novel kinetochore protein, CENP-H. J. Biol. Chem. 274: 27343-27346.
5. Choo, K.H. 2000. Centromerization. Trends Cell Biol. 10: 182-188.
6. Ohzeki, J., et al. 2002. CENP-B box is required for *de novo* centromere chromatin assembly on human alphoid DNA. J. Cell Biol. 159: 765-775.
7. Suzuki, N., et al. 2004. CENP-B interacts with CENP-C domains containing Mif2 regions responsible for centromere localization. J. Biol. Chem. 279: 5934-5946.
8. Lomonte, P., et al. 2007. Centromeric protein CENP-B proteasomal degradation induced by the viral protein ICP0. FEBS Lett. 581: 658-662.

CHROMOSOMAL LOCATION

Genetic locus: CENPB (human) mapping to 20p13; Cenpb (mouse) mapping to 2 F1.

SOURCE

CENP-B (2D-7) is a mouse monoclonal antibody raised against human CENP-B peptide.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

CENP-B (2D-7) is recommended for detection of CENP-B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CENP-B siRNA (h): sc-37557, CENP-B siRNA (m): sc-37558, CENP-B shRNA Plasmid (h): sc-37557-SH, CENP-B shRNA Plasmid (m): sc-37558-SH, CENP-B shRNA (h) Lentiviral Particles: sc-37557-V and CENP-B shRNA (m) Lentiviral Particles: sc-37558-V.

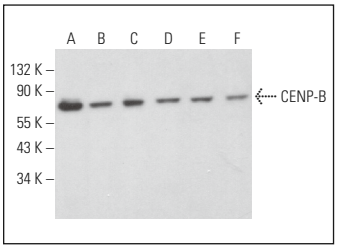
Molecular Weight of CENP-B: 80 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CENP-B (2D-7): sc-32285. Western blot analysis of CENP-B expression in A-431 (**A**), Jurkat (**B**), HeLa (**C**), RAW 264.7 (**D**), 3T3-L1 (**E**) and J774.A1 (**F**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Leman, A.R., et al. 2010. Human Timeless and Tipin stabilize replication forks and facilitate sister-chromatid cohesion. J. Cell Sci. 123: 660-670.
2. Yeh, C.W., et al. 2014. Phosphorylation at threonine 288 by cell cycle checkpoint kinase 2 (CHK2) controls human monopolar spindle 1 (Mps1) kinetochore localization. J. Biol. Chem. 289: 15319-15327.
3. Kumon, T., et al. 2021. Parallel pathways for recruiting effector proteins determine centromere drive and suppression. Cell 184: 4904-4918.e11.

RESEARCH USE

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