SANTA CRUZ BIOTECHNOLOGY, INC.

CENP-E (mAb177): sc-47745



BACKGROUND

A replicated chromosome includes two kinetochores that control chromosome segregation during mitosis. Centromere protein E, CENP-E, is a kinetochore motor protein that specifies kinetochore binding in mitosis. Both CENP-E and CENP-F are expressed during mitosis, where they mediate the G₂ to M phase checkpoint. CENP-E is also expressed in high levels during meiosis I and meiosis II, where it localizes to the fibrous corona and outer plate of kinetochores on the meiotic chromosomes. CENP-E co-localizes with hBUBR1, a BUB-related kinase until mid-anaphase. After the first polar body emission, CENP-E localizes to the spindle-midzone, separating from hBUBR1 after mid-anaphase.

REFERENCES

- Rieder, C.L. and Salmon, E.D. 1998. The vertebrate cell kinetochore and its roles during mitosis. Trends Cell. Biol. 8: 310-318.
- Chan, G.K., Schaar, B.T. and Yen, T.J. 1998. Characterization of the kinetochore binding domain of CENP-E reveals interactions with the kinetochore protreins CENP-F and hBUBR1. J. Cell. Biol. 143: 49-63.
- Ashar, H.R., James, L., Gray, K., Carr, D., Black, S., Armstrong, L., Bishop, W.R. and Kirschmeier, P. 2000. Farnesyl transferase inhibitors block the farnesylation of CENP-E and CENP-F and alter the association of CENP-E with the microtubules. J. Biol. Chem. 275: 30451-30457.
- Lee, J., Miyano, T., Dai, Y., Wooding, P., Yen, T.J. and Moor, R.M. 2000. Specific regulation of CENP-E and kinetochores during meiosis I/meiosis II transition in pig oocytes. Mol. Reprod. Dev. 56: 51-62.

CHROMOSOMAL LOCATION

Genetic locus: CENPE (human) mapping to 4q25.

SOURCE

CENP-E (mAb177) is a mouse monoclonal antibody raised against recombinant CENP-E of human origin.

PRODUCT

Each vial contains 200 μ g lgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CENP-E (mAb177) is recommended for detection of CENP-E of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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-E siRNA (h): sc-37561, CENP-E shRNA Plasmid (h): sc-37561-SH and CENP-E shRNA (h) Lentiviral Particles: sc-37561-V.

Molecular Weight of CENP-E: 312 kDa.

Positive Controls: A-431 + calyculin A cell lysate: sc-2260, A-431 nuclear extract: sc-2122 or K-562 nuclear extract: sc-2130.

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, 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 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-E (mAb177): sc-47745. Western blot analysis of CENP-E expression in K-562 nuclear extract under reducing conditions.

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 for detailed protocols and support products.