

CENP-E (1H12): sc-56286

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 colocalizes 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

1. Rieder, C.L., et al. 1998. The vertebrate cell kinetochore and its roles during mitosis. *Trends Cell. Biol.* 8: 310-318.
2. Chan, G.K., et al. 1998. Characterization of the kinetochore binding domain of CENP-E reveals interactions with the kinetochore proteins CENP-F and hBUBR1. *J. Cell. Biol.* 143: 49-63.
3. Ashar, H.R., et al. 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.
4. Lee, J., et al. 2000. Specific regulation of CENP-E and kinetochores during meiosis I/meiosis II transition in pig oocytes. *Mol. Reprod. Dev.* 56: 51-62.
5. Choo, K.H. 2000. Centromerization. *Trends Cell. Biol.* 10: 182-188.

CHROMOSOMAL LOCATION

Genetic locus: CENPE (human) mapping to 4q25; Cenpe (mouse) mapping to 3 H2.

SOURCE

CENP-E (1H12) is a mouse monoclonal antibody raised against full length CENP-E of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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.

This product has been manufactured by MBL International Corporation.

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.

APPLICATIONS

CENP-E (1H12) 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 µg per 100–500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for CENP-E siRNA (h): sc-37561.

Molecular Weight of CENP-E: 312 kDa.

Positive Controls: A-431 + Calyculin A cell lysate: sc-2260.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Mackay, D.R., et al. 2009. The nucleoporin Nup153 has separable roles in both early mitotic progression and the resolution of mitosis. *Mol. Biol. Cell* 20: 1652-1660.