

CENP-E (C-5): sc-376685

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.

CHROMOSOMAL LOCATION

Genetic locus: CENPE (human) mapping to 4q24; Cenpe (mouse) mapping to 3 G3.

SOURCE

CENP-E (C-5) is a mouse monoclonal antibody raised against amino acids 2364-2663 mapping at the C-terminus of CENP-E of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CENP-E (C-5) is available conjugated to agarose (sc-376685 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376685 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376685 PE), fluorescein (sc-376685 FITC), Alexa Fluor® 488 (sc-376685 AF488), Alexa Fluor® 546 (sc-376685 AF546), Alexa Fluor® 594 (sc-376685 AF594) or Alexa Fluor® 647 (sc-376685 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376685 AF680) or Alexa Fluor® 790 (sc-376685 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

CENP-E (C-5) is recommended for detection of CENP-E of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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, CENP-E siRNA (m): sc-37562, CENP-E shRNA Plasmid (h): sc-37561-SH, CENP-E shRNA Plasmid (m): sc-37562-SH, CENP-E shRNA (h) Lentiviral Particles: sc-37561-V and CENP-E shRNA (m) Lentiviral Particles: sc-37562-V.

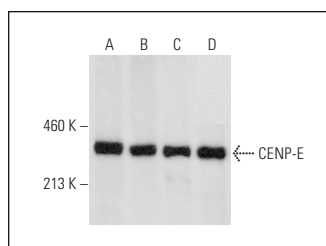
Molecular Weight of CENP-E: 312 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, K-562 nuclear extract: sc-2130 or HeLa whole cell lysate: sc-2200.

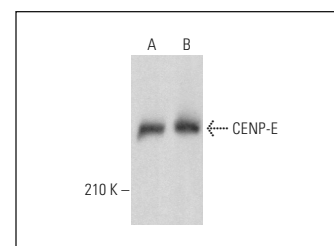
RECOMMENDED SUPPORT REAGENTS

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-E (C-5): sc-376685. Western blot analysis of CENP-E expression in HEK293 (A) and HeLa (B) whole cell lysates and K-562 (C) and A-431 (D) nuclear extracts.



CENP-E (C-5): sc-376685. Western blot analysis of CENP-E expression in HL-60 whole cell lysate (A) and K-562 nuclear extract (B).

SELECT PRODUCT CITATIONS

- Liu, C., et al. 2015. A dynein independent role of Tctex-1 at the kinetochore. *Cell Cycle* 14: 1379-1388.
- Veneziano, L., et al. 2019. Proliferation of aneuploid cells induced by CENP-E depletion is counteracted by the p14^{ARF} tumor suppressor. *Mol. Genet. Genomics* 294: 149-158.
- She, Z.Y., et al. 2020. Kinesin-7 CENP-E regulates chromosome alignment and genome stability of spermatogenic cells. *Cell Death Discov.* 6: 25.
- She, Z.Y., et al. 2021. Kinesin-7 CENP-E regulates the formation and structural maintenance of the acrosome. *Cell Tissue Res.* 383: 1167-1182.

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.

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