

# CENP-B (F-4): sc-376283

## 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  $\alpha$ -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.

## CHROMOSOMAL LOCATION

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

## SOURCE

CENP-B (F-4) is a mouse monoclonal antibody raised against amino acids 535-599 mapping at the C-terminus of CENP-B of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CENP-B (F-4) is available conjugated to agarose (sc-376283 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376283 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376283 PE), fluorescein (sc-376283 FITC), Alexa Fluor® 488 (sc-376283 AF488), Alexa Fluor® 546 (sc-376283 AF546), Alexa Fluor® 594 (sc-376283 AF594) or Alexa Fluor® 647 (sc-376283 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376283 AF680) or Alexa Fluor® 790 (sc-376283 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

CENP-B (F-4) is recommended for detection of CENP-B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

CENP-B (F-4) is also recommended for detection of CENP-B in additional species, including equine, canine and bovine.

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.

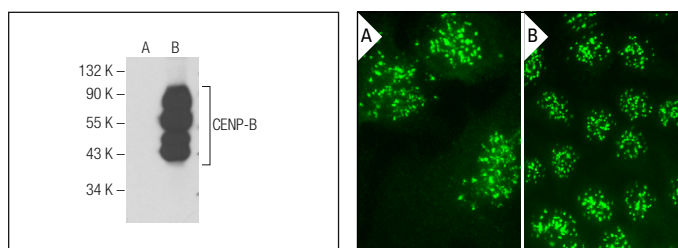
Molecular Weight of CENP-B: 80 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Jurkat whole cell lysate: sc-2204 or CENP-B (h): 293T Lysate: sc-116535.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 (F-4): sc-376283. Western blot analysis of CENP-B expression in non-transfected: sc-117752 (A) and human CENP-B transfected: sc-116535 (B) 293T whole cell lysates.

CENP-B (F-4): sc-376283. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear bodies localization (A). Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear bodies localization (B).

## SELECT PRODUCT CITATIONS

- Juhlen, R., et al. 2018. Triple A patient cells suffering from mitotic defects fail to localize PGRMC1 to mitotic kinetochore fibers. *Cell Div.* 13: 8.
- Kyriacou, E. and Heun, P. 2018. High-resolution mapping of centromeric protein association using APEX-chromatin fibers. *Epigenetics Chromatin* 11: 68.
- Yuan, F., et al. 2019. ULK1 phosphorylates MAD1 to regulate spindle assembly checkpoint. *Nucleic Acids Res.* 47: 8096-8110.
- Oizumi, Y., et al. 2019.  $\alpha$  satellite DNA-repeat OwlAlp1 forms centromeres in Azara's owl monkey. *Genes Cells* 24: 511-517.
- Kumon, T., et al. 2021. Parallel pathways for recruiting effector proteins determine centromere drive and suppression. *Cell*. E-published.

## 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) for detailed protocols and support products.

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