SANTA CRUZ BIOTECHNOLOGY, INC.

CEP164 (E-9): sc-515403

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Centrosomes are the major microtubule-organizing centers of mammalian cells. They are composed of a centriole pair and surrounding microtubule-nucleating material termed pericentriolar material (PCM). Bipolar mitotic spindle assembly relies on two intertwined processes: centriole duplication and centrosome maturation. Failure to properly orchestrate centrosome duplication and maturation is subsequently linked to spindle defects, which can result in aneuploidy and promote cancer progression. CEP164 (centrosomal protein of 164 kDa) is a 1,460 amino acid protein that plays a critical role in G_2/M checkpoint and nuclear divisions by maintaining the formation of primary cilia. CEP164 is required for proper phosphorylation of Chk1, Chk2, Histone H2A and RPA and is therefore an essential player in the DNA-damage-activated ATR/ATM signaling cascade. Localized to the centrioles throughout mitosis, CEP164 also is required for the maintenance of genomic stability and chromosomal segregation. There are two isoforms of CEP164 that are produced as a result of alternative splicing events.

CHROMOSOMAL LOCATION

Genetic locus: CEP164 (human) mapping to 11q23.3.

SOURCE

CEP164 (E-9) is a mouse monoclonal antibody raised against amino acids 9-100 mapping at the N-terminus of CEP164 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CEP164 (E-9) is available conjugated to agarose (sc-515403 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515403 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515403 PE), fluorescein (sc-515403 FITC), Alexa Fluor® 488 (sc-515403 AF488), Alexa Fluor® 546 (sc-515403 AF546), Alexa Fluor® 594 (sc-515403 AF594) or Alexa Fluor® 647 (sc-515403 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515403 AF680) or Alexa Fluor® 790 (sc-515403 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CEP164 (E-9) is recommended for detection of CEP164 of 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 CEP164 siRNA (h): sc-96897, CEP164 shRNA Plasmid (h): sc-96897-SH and CEP164 shRNA (h) Lentiviral Particles: sc-96897-V.

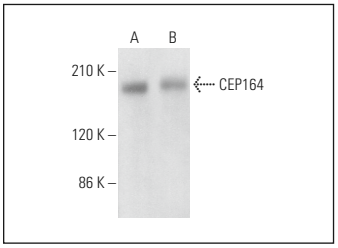
Molecular Weight of CEP164: 164 kDa.

Positive Controls: PANC-1 whole cell lysate: sc-364380, Caco-2 cell lysate: sc-2262 or A549 cell lysate: sc-2413.

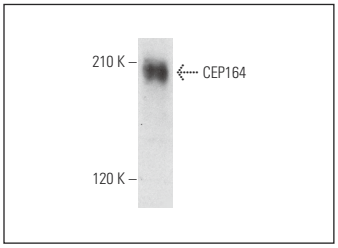
STORAGE

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

DATA



CEP164 (E-9): sc-515403. Western blot analysis of CEP164 expression in Caco-2 (**A**) and A549 (**B**) whole cell lysates.



CEP164 (E-9): sc-515403. Western blot analysis of CEP164 expression in PANC-1 whole cell lysate.

SELECT PRODUCT CITATIONS

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3. Fan, J.R., et al. 2020. Lamin A-mediated nuclear lamina integrity is required for proper ciliogenesis. EMBO Rep. 21: e49680.
4. Sobu, Y., et al. 2021. Pathogenic LRRK2 regulates ciliation probability upstream of Tau Tubulin kinase 2 via Rab10 and RILPL1 proteins. Proc. Natl. Acad. Sci. USA 118: e2005894118.
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6. Rizaldy, D., et al. 2021. Increase in primary cilia in the epidermis of patients with atopic dermatitis and psoriasis. Exp. Dermatol. 30: 792-803.
7. Liu, M., et al. 2021. NudCL2 is an autophagy receptor that mediates selective autophagic degradation of CP110 at mother centrioles to promote ciliogenesis. Cell Res. 31: 1199-1211.
8. Turn, R.E., et al. 2022. The ARF GAPs ELMOD1 and ELMOD3 act at the Golgi and cilia to regulate ciliogenesis and ciliary protein traffic. Mol. Biol. Cell 33: ar13.
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10. Dewees, S.I., et al. 2022. Phylogenetic profiling and cellular analyses of ARL16 reveal roles in traffic of IFT140 and INPP5E. Mol. Biol. Cell 33: ar33.
11. Shen, X.L., et al. 2022. LUBAC regulates ciliogenesis by promoting CP110 removal from the mother centriole. J. Cell Biol. 221: e202105092.

RESEARCH USE

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