SANTA CRUZ BIOTECHNOLOGY, INC.

CEP290 (G-4): sc-390637

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. The CEP290 (centrosomal protein of 290 kDa) gene encodes a protein of 2,479 amino acids that activates CREB-2-mediated transcription. Specifically, CEP290 ensures the correct localization of ciliary and phototransduction proteins in retinal photoreceptor cells. Mutations in the CEP290 gene have been identified in several diseases, including Joubert syndrome type 5 (JBTS5), Senior-Loken syndrome type 6 (SLSN6), Leber congenital amaurosis type 10 (LCA10) and Meckel syndrome type 4 (MKS4).

CHROMOSOMAL LOCATION

Genetic locus: CEP290 (human) mapping to 12q21.32; Cep290 (mouse) mapping to 10 D1.

SOURCE

CEP290 (G-4) is a mouse monoclonal antibody raised against amino acids 1441-1740 mapping within an internal region of CEP290 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.

STORAGE

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

APPLICATIONS

CEP290 (G-4) is recommended for detection of CEP290 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), immunohistochemistry (including paraffin-embedded sections) (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 CEP290 siRNA (h): sc-72865, CEP290 siRNA (m): sc-72866, CEP290 shRNA Plasmid (h): sc-72865-SH, CEP290 shRNA Plasmid (m): sc-72866-SH, CEP290 shRNA (h) Lentiviral Particles: sc-72865-V and CEP290 shRNA (m) Lentiviral Particles: sc-72866-V.

Molecular Weight (predicted) of CEP290 isoforms: 290/180 kDa.

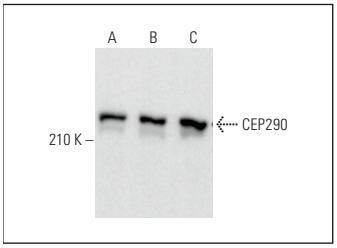
Molecular Weight (observed) of CEP290: 177-225 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

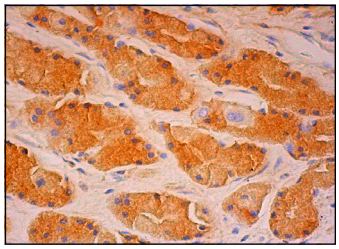
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CEP290 (G-4): sc-390637. Western blot analysis of CEP290 expression in CCRF-CEM (**A**), HeLa (**B**) and K-562 (**C**) whole cell lysates.



CEP290 (G-4): sc-390637. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Speight, P., et al. 2021. Myocardin-related transcription factor and serum response factor regulate cilium turnover by both transcriptional and local mechanisms. iScience 24: 102739.

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.