SANTA CRUZ BIOTECHNOLOGY, INC.

CEP104 (C-10): sc-515455

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The Power to Question

BACKGROUND

CEP104 (centrosomal protein 104 kDa), also known as KIAA0562 or GlyBP, is a 925 amino acid protein that localizes to the cytoplasm. CEP104 contains two heat domains, two coiled coils and is post-translationally phosphorylated at serine residue 323. CEP104 exists as three alternatively spliced isoforms and maps to human chromosome 1. Chromosome 1 is the largest chromosome spanning about 260 million base pairs and making up 8% of the human genome. There are about 3,000 genes on chromosome 1, and considering the great number of genes, there are also a large number of diseases associated with chromosome 1. Notably, the rare aging disease Hutchinson-Gilford progeria is associated with the LMNA gene which encodes lamin A. When defective, the LMNA gene product can build up in the nucleus and cause characteristic nuclear blebs. The mechanism of rapidly enhanced aging is unclear and is a topic of continuing exploration. The MUTYH gene is located on chromosome 1 and is partially responsible for familial adenomatous polyposis. Stickler syndrome, Parkinsons, Gaucher disease and Usher syndrome are also associated with chromosome 1.

REFERENCES

1. Watson, M.L., et al. 1990. Genomic organization of the selectin family of leukocyte adhesion molecules on human and mouse chromosome 1. J. Exp. Med. 172: 263-272.
2. Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. IX. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 5: 31-39.
3. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. Cytogenet. Genome Res. 108: 217-222.
4. Lans, H., et al. 2006. Cell biology: aging nucleus gets out of shape. Nature 440: 32-34.
5. McClintock, D., et al. 2006. Hutchinson-Gilford progeria mutant lamin A primarily targets human vascular cells as detected by an anti-Lamin A G608G antibody. Proc. Natl. Acad. Sci. USA 103: 2154-2159.

CHROMOSOMAL LOCATION

Genetic locus: CEP104 (human) mapping to 1p36.32; Cep104 (mouse) mapping to 4 E2.

SOURCE

CEP104 (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 76-96 near the N-terminus of CEP104 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-515455 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CEP104 (C-10) is recommended for detection of CEP104 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 CEP104 siRNA (h): sc-78760, Cep104 siRNA (m): sc-141589, CEP104 shRNA Plasmid (h): sc-78760-SH, Cep104 shRNA Plasmid (m): sc-141589-SH, CEP104 shRNA (h) Lentiviral Particles: sc-78760-V and Cep104 shRNA (m) Lentiviral Particles: sc-141589-V.

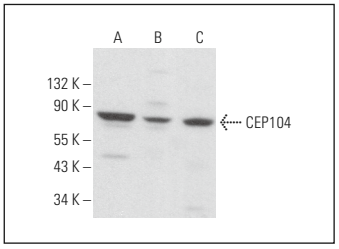
Molecular Weight of CEP104 isoforms: 104/63/27 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, Neuro-2A whole cell lysate: sc-364185 or SK-BR-3 cell lysate: sc-2218.

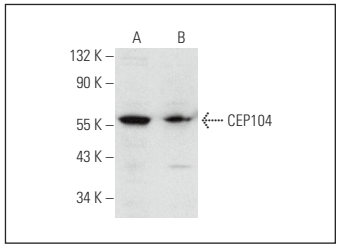
RECOMMENDED SUPPORT REAGENTS

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



CEP104 (C-10): sc-515455. Western blot analysis of CEP104 expression in K-562 (**A**), Neuro-2A (**B**) and C6 (**C**) whole cell lysates.



CEP104 (C-10): sc-515455. Western blot analysis of CEP104 expression in MOLT-4 (**A**) and SK-BR-3 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Khoshbakht, S., et al. 2021. CEP104 and CEP290; genes with ciliary functions cause intellectual disability in multiple families. Arch. Iran. Med. 24: 364-373.

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.