SANTA CRUZ BIOTECHNOLOGY, INC.

CEP97 (B-4): sc-515526

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Leucine-rich repeats (LRRs) are 20-30 amino acid motifs that mediate protein-protein interactions. The primary function of these motifs is to provide a versatile structural framework for the formation of these protein-protein interactions. LRRs are present in a variety of proteins with diverse structure and function, including innate immunity and nervous system development. Several human diseases are associated with mutations in the genes encoding LRR-containing proteins. CEP97 (centrosomal protein of 97 kDa), also known as LRRIQ2 (leucine-rich repeat and IQ domain-containing protein 2), is an 865 amino acid protein that contains six LRR repeats and one IQ domain, through which it binds calmodulin (CaM I). Localized to the centromere, CEP97 plays a role in cytokinesis and is required for correct spindle formation. CEP97 is also responsible for the recruitment of CEP110, a protein that is necessary for centrosomal duplication, to the centrosome. There are two isoforms of CEP110 which are produced as a result of alternative splicing events.

REFERENCES

1. Kobe, B., et al. 1994. The leucine-rich repeat: a versatile binding motif. Trends Biochem. Sci. 19: 415-421.
2. Kobe, B., et al. 2001. The leucine-rich repeat as a protein recognition motif. Curr. Opin. Struct. Biol. 11: 725-732.
3. Doxsey, S., et al. 2005. Centrosomes in cellular regulation. Annu. Rev. Cell Dev. Biol. 21: 411-434.
4. Matsushima, N., et al. 2005. Structural analysis of leucine-rich-repeat variants in proteins associated with human diseases. Cell. Mol. Life Sci. 62: 2771-2791.
5. Dolan, J., et al. 2007. The extracellular leucine-rich repeat superfamily; a comparative survey and analysis of evolutionary relationships and expression patterns. BMC Genomics 8: 320.
6. Spektor, A., et al. 2007. CEP97 and CP110 suppress a cilia assembly program. Cell 130: 678-690.
7. Matsuoka, S., et al. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. Science 316: 1160-1166.
8. Bettencourt-Dias, M., et al. 2008. Double life of centrioles: CP110 in the spotlight. Trends Cell Biol. 18: 8-11.

CHROMOSOMAL LOCATION

Genetic locus: CEP97 (human) mapping to 3q12.3.

SOURCE

CEP97 (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 823-842 near the C-terminus of CEP97 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgM 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-515526 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CEP97 (B-4) is recommended for detection of CEP97 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 CEP97 siRNA (h): sc-78324, CEP97 shRNA Plasmid (h): sc-78324-SH and CEP97 shRNA (h) Lentiviral Particles: sc-78324-V.

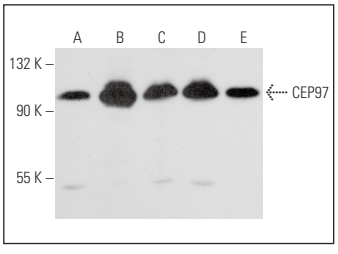
Molecular Weight of CEP97: 97 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, HEK293 whole cell lysate: sc-45136 or HeLa whole cell lysate: sc-2200.

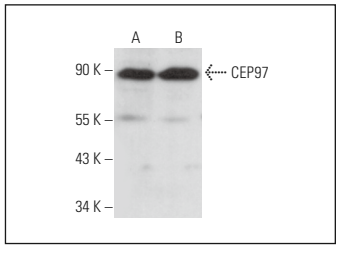
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



CEP97 (B-4): sc-515526. Western blot analysis of CEP97 expression in Jurkat (**A**), PC-3 (**B**), HeLa (**C**), HEK293 (**D**) and HL-60 (**E**) whole cell lysates.



CEP97 (B-4): sc-515526. Western blot analysis of CEP97 expression in HeLa (**A**) and CCRF-CEM (**B**) whole cell lysates.

RESEARCH USE

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