

CEP97 (B-4): sc-515526

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 LRR1Q2 (leucine-rich repeat and IQ domain-containing protein 2), is an 865 amino acid protein that contains 6 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.

RESEARCH USE

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

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.

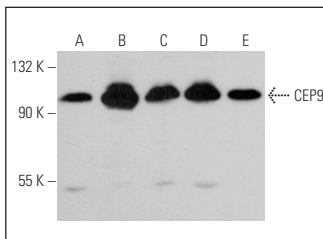
Molecular Weight of CEP97: 97 kDa.

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

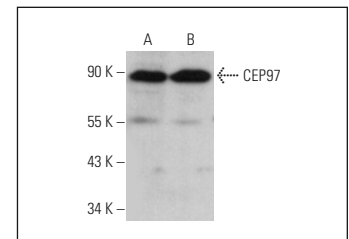
RECOMMENDED SUPPORT REAGENTS

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.