SANTA CRUZ BIOTECHNOLOGY, INC.

Centrin-1 (M-15): sc-49622

BACKGROUND

EF-hand type Ca^{2+}-binding proteins consists of several family members, including Centrin-1, Centrin-2 and Centrin-3. The Centrin proteins are ubiquitously expressed cytoskeletal components that show increased expression during cell differentiation. Tissues where cilia are present, such as the retina and testis, express both Centrin-1 and -2, but Centrin-2 is also expressed in non-differentiated, nonciliated retinal cells (retinoblastoma cells), liver, skeletal muscle and cardiac muscle. In these tissues, Centrin associates with the centrosomes, mitotic spindle poles and basal bodies. Knockdown studies reveal a requirement for Centrin in centriole duplication and organization of spindle pole morphology and the completion of cytokinesis. Centrin-3 plays a role in centrosome reproduction.

REFERENCES

1. LeDizet, M., et al. 1998. Differential regulation of Centrin genes during ciliogenesis in human tracheal epithelial cells. Am. J. Physiol. 275: 1145-1156.
2. Wolfrum, U., et al. 1998. Expression of Centrin isoforms in the mammalian retina. Exp. Cell Res. 242: 10-17.
3. Durussel, I., et al. 2000. Cation- and peptide-binding properties of human Centrin-2. FEBS Lett. 472: 208-212.
4. Laoukili, J., et al. 2000. Differential expression and cellular distribution of Centrin isoforms during human ciliated cell differentiation *in vitro*. J. Cell Sci. 113: 1355-1364.
5. Middendorp, S., et al. 2000. A role for Centrin-3 in centrosome reproduction. J. Cell Biol. 148: 405-416.
6. Araki, M., et al. 2001. Centrosome protein Centrin-2/Caltractin 1 is part of the xeroderma pigmentosum group C complex that initiates global genome nucleotide excision repair. J. Biol. Chem. 276: 18665-18672.
7. Rice, L.M., et al. 2002. Centriole duplication: Centrin in on answers? Curr. Biol. 12: 618-619.
8. Salisbury, J.L., et al. 2002. Centrin-2 is required for centriole duplication in mammalian cells. Curr. Biol. 12: 1287-1292.
9. Matei. E., et al. 2003. C-terminal half of human Centrin-2 behaves like a regulatory EF-hand domain. Biochemistry 42: 1439-1450.
10. Cox, JA., et al. 2005. Calcium and magnesium binding to human Centrin-3 and interaction with target peptides. Biochemistry 44: 840-850.

CHROMOSOMAL LOCATION

Genetic locus: Cetn1 (mouse) mapping to 18 A2.

SOURCE

Centrin-1 (M-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Centrin-1 of mouse 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 IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49622 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Centrin-1 (M-15) is recommended for detection of Centrin-1 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 Centrin-1 siRNA (m): sc-60360, Centrin-1 shRNA Plasmid (m): sc-60360-SH and Centrin-1 shRNA (m) Lentiviral Particles: sc-60360-V.

Molecular Weight of Centrin-1: 20 kDa.

RECOMMENDED SECONDAARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Zallocchi, M., et al. 2009. Localization and expression of clarin-1, the Clrn1 gene product, in auditory hair cells and photoreceptors. Hear. Res. 255: 109-120.

RESEARCH USE

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

PROTOCOLS

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