

Rootletin (C-20): sc-67824

BACKGROUND

Rootletin, also known as CROCC (ciliary rootlet coiled-coil protein), is a 2,017 amino acid protein that forms centriole-associated fibrous structures and is an essential component of the ciliary rootlet. Localized to basal bodies and centrosomes in ciliated and nonciliated cells, respectively, Rootletin associates with the proximal ends of basal bodies and, in photoreceptors, functions to form elongated polymers between them. Rootletin is required for centrosome cohesion and, through interaction with C-Nap1 (a centrosomal protein present at the ends of the centrioles), can regulate the linkage of centrioles to basal bodies. Rootletin exists as a homopolymer whose association with centrosomes can be regulated via phosphorylation by Nek2 (NIMA-related kinase 2). Two isoforms exist due to alternative splicing events.

REFERENCES

1. Yang, J., et al. 2002. Rootletin, a novel coiled-coil protein, is a structural component of the ciliary rootlet. *J. Cell Biol.* 159: 431-440.
2. Yang, J., et al. 2005. The ciliary rootlet maintains long-term stability of sensory cilia. *Mol. Cell. Biol.* 25: 4129-4137.
3. Bahe, S., et al. 2005. Rootletin forms centriole-associated filaments and functions in centrosome cohesion. *J. Cell Biol.* 171: 27-33.
4. Yang, J. and Li, T. 2006. Focus on molecules: Rootletin. *Exp. Eye Res.* 83: 1-2.

CHROMOSOMAL LOCATION

Genetic locus: CROCC (human) mapping to 1p36.13; Crocc (mouse) mapping to 4 D3.

SOURCE

Rootletin (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Rootletin of human origin.

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-67824 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

PROTOCOLS

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

APPLICATIONS

Rootletin (C-20) is recommended for detection of Rootletin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

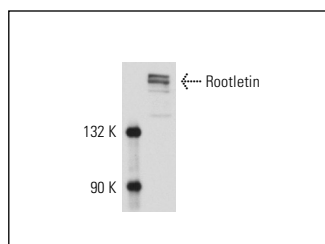
Rootletin (C-20) is also recommended for detection of Rootletin in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Rootletin siRNA (h): sc-62960, Rootletin siRNA (m): sc-62961, Rootletin shRNA Plasmid (h): sc-62960-SH, Rootletin shRNA Plasmid (m): sc-62961-SH, Rootletin shRNA (h) Lentiviral Particles: sc-62960-V and Rootletin shRNA (m) Lentiviral Particles: sc-62961-V.

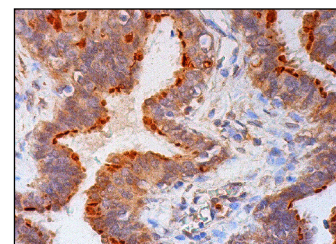
Molecular Weight of Rootletin: 228 kDa.

Positive Controls: Y79 nuclear extract: sc-2126.

DATA



Rootletin (C-20): sc-67824. Western blot analysis of Rootletin expression in Y79 nuclear extract.



Rootletin (C-20): sc-67824. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of ciliated cells.

SELECT PRODUCT CITATIONS

1. DeRouen, M.C., et al. 2010. Laminin-511 and integrin β -1 in hair follicle development and basal cell carcinoma formation. *BMC Dev. Biol.* 10: 112.
2. Bauer, M.C., et al. 2011. Identification of a high-affinity network of secretagogin-binding proteins involved in vesicle secretion. *Mol. Biosyst.* 7: 2196-2204.
3. Aguilar, A., et al. 2012. Analysis of human samples reveals impaired SHH-dependent cerebellar development in Joubert syndrome/Meckel syndrome. *Proc. Natl. Acad. Sci. USA* 109: 16951-16956.

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Try **Rootletin (C-2): sc-374056** or **Rootletin (E-5): sc-390720**, our highly recommended monoclonal alternatives to Rootletin (C-20).