SANTA CRUZ BIOTECHNOLOGY, INC.

rotatin (N-14): sc-85130

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The vertebrate body appears externally symmetric, yet the central nervous system and visceral organs are arranged asymmetrically. Recent research suggests that a novel 2,226 amino acid protein called rotatin, which is also known as RTTN, FLJ26356, DKFZp434G145 or FLJ39085, is involved in the early developmental genetic cascade governing left-right specification and axial rotation. Rotatin regulates expression of essential left-right specification genes including Nodal, Lefty and Pitx2 and likely plays a role in notochord development. Studies suggest that rotatin deficiency elicits a recessive lethal mutation called nt (no turning) which causes defects in left-right and axial patterning. Five rotatin isoforms are known to exist as a result of alternative splicing, and the gene encoding rotatin maps to human chromosome 18q22.2.

REFERENCES

1. Tsang, T.E., et al. 1999. Experimental analysis of the emergence of left-right asymmetry of the body axis in early postimplantation mouse embryos. Cell. Mol. Biol. (Noisy-le-grand). 45: 493-503.
2. Mercola, M. and Levin, M. 2001. Left-right asymmetry determination in vertebrates. Annu. Rev. Cell Dev. Biol. 17: 779-805.
3. Yost, H.J. 2001. Establishment of left-right asymmetry. Int. Rev. Cytol. 203: 357-381.
4. Faisst, A.M., et al. 2002. Rotatin is a novel gene required for axial rotation and left-right specification in mouse embryos. Mech. Dev. 113: 15-28.
5. Chatterjee, B., et al. 2007. Nt mutation causing laterality defects associated with deletion of rotatin. Mamm. Genome. 18: 310-315.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610436. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: RTTN (human) mapping to 18q22.2; Rttn (mouse) mapping to 18 E4.

SOURCE

rotatin (N-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of rotatin of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-85130 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.

APPLICATIONS

rotatin (N-14) is recommended for detection of rotatin 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

rotatin (N-14) is also recommended for detection of rotatin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for rotatin siRNA (h): sc-76426, rotatin siRNA (m): sc-153066, rotatin shRNA Plasmid (h): sc-76426-SH, rotatin shRNA Plasmid (m): sc-153066-SH, rotatin shRNA (h) Lentiviral Particles: sc-76426-V and rotatin shRNA (m) Lentiviral Particles: sc-153066-V.

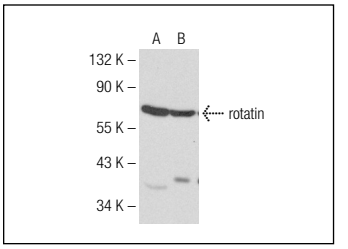
Molecular Weight of rotatin: 249 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or Jurkat nuclear extract: sc-2132.

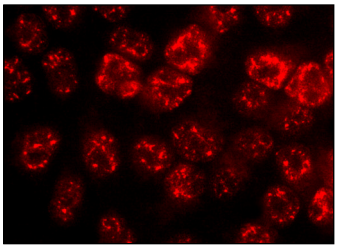
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



rotatin (N-14): sc-85130. Western blot analysis of rotatin expression in HeLa (**A**) and Jurkat (**B**) nuclear extracts.



rotatin (N-14): sc-85130. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

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.