

rotatin (I-20): sc-85129

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.* 45: 493-503.
2. Mercola, M., et al. 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.
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CHROMOSOMAL LOCATION

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

SOURCE

rotatin (I-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-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-85129 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 (I-20) 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), 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 (I-20) is also recommended for detection of rotatin in additional species, including equine, canine 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.

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) 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.

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.