

RCAN3 (h): 293T Lysate: sc-115421

BACKGROUND

RCAN3 (regulator of calcineurin 3), also known as Calcipressin-3, DSCR1L2 (Down syndrome candidate region 1-like protein 2) and MCIP3 (myocyte-enriched calcineurin-interacting protein 3), is a 241 amino acid protein that potentially is involved in central nervous system development. As its name suggests, RCAN3 binds to calcineurin. Overexpression of RCAN3 results in inhibition of calcineurin activity towards the nuclear factor of activated T-cells (NFAT) transcription factors and also downregulates NFAT-dependent cytokine gene expression in activated Jurkat T-cells. Though expressed ubiquitously at low levels, high expression of RCAN3 is found in kidney, heart, liver, peripheral blood lymphocytes and skeletal muscle. RCAN3 also interacts with cardiac troponin I, suggesting that it may play a role in cardiac contraction events. There are two isoforms of RCAN3 that are produced as a result of alternative splicing events.

REFERENCES

1. Strippoli, P., et al. 2000. The murine DSCR1-like (Down syndrome candidate region 1) gene family: conserved synteny with the human orthologous genes. *Gene* 257: 223-232.
2. Strippoli, P., et al. 2000. A new gene family including DSCR1 (Down syndrome candidate region 1) and ZAKI-4: characterization from yeast to human and identification of DSCR 1-like 2, a novel human member (DSCR1L2). *Genomics* 64: 252-263.
3. Ermak, G., et al. 2006. RCAN1 (DSCR 1 or Adapt78) stimulates expression of GSK-3 β . *FEBS J.* 273: 2100-2109.
4. Canaider, S., et al. 2006. Proteins encoded by human down syndrome critical region gene 1-like 2 (DSCR1L2) mRNA and by a novel DSCR 1L2 mRNA isoform interact with cardiac Troponin I (TNNI3). *Gene* 372: 128-136.
5. Abbasi, S., et al. 2006. Protein kinase-mediated regulation of calcineurin through the phosphorylation of modulatory calcineurin-interacting protein 1. *J. Biol. Chem.* 281: 7717-7726.
6. Zobel, C., et al. 2007. Mechanisms of Ca²⁺-dependent calcineurin activation in mechanical stretch-induced hypertrophy. *Cardiology* 107: 281-290.
7. Mulero, M.C., et al. 2007. RCAN3, a novel calcineurin inhibitor that down-regulates NFAT-dependent cytokine gene expression. *Biochim. Biophys. Acta* 1773: 330-341.
8. Facchin, F., et al. 2008. Identification and analysis of human RCAN3 (DSCR 1L2) mRNA and protein isoforms. *Gene* 407: 159-168.

CHROMOSOMAL LOCATION

Genetic locus: RCAN3 (human) mapping to 1p36.11.

PRODUCT

RCAN3 (h): 293T Lysate represents a lysate of human RCAN3 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

RCAN3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive RCAN3 antibodies. Recommended use: 10-20 μ l per lane.

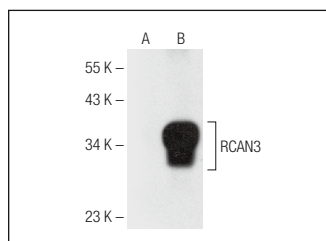
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RCAN2/3 (F-7): sc-374453 is recommended as a positive control antibody for Western Blot analysis of enhanced human RCAN3 expression in RCAN3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

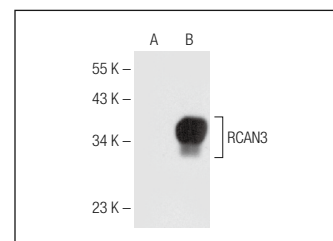
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



RCAN2/3 (F-7): sc-374453. Western blot analysis of RCAN3 expression in non-transfected: sc-117752 (A) and human RCAN3 transfected: sc-115421 (B) 293T whole cell lysates.



RCAN2/3 (B-9): sc-374454. Western blot analysis of RCAN3 expression in non-transfected: sc-117752 (A) and human RCAN3 transfected: sc-115421 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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