

DSCR 1 (N-20): sc-30589

BACKGROUND

DSCR1 (down syndrome critical region 1), also known as Calcipressin-1, Adapt78, MCIP1 (myocyte-enriched calcineurin-interacting protein 1) or regulator of calcineurin 1, is a 252 amino acid protein that belongs to the RCAN family and exists as 4 alternatively spliced isoforms. Abundantly expressed in skeletal muscle, brain and heart, DSCR 1 is thought to influence cardiac and nervous system development. Overexpression of DSCR1 may play a role in the pathogenesis of Down syndrome. DSCR1 interacts with Raf-1 and has been observed to inhibit calcineurin-dependent transcriptional responses by binding to the catalytic domain of calcineurin A. The gene encoding DSCR 1 maps to human chromosome 21, which houses approximately 300 genes and comprises nearly 1.5% of the human genome. Chromosome 21-associated disorders include Alzheimer's disease, amyotrophic lateral sclerosis and, most notably, Down syndrome (also known as trisomy 21).

REFERENCES

1. Fuentes, J.J., et al. 1995. A new human gene from the Down syndrome critical region encodes a proline-rich protein highly expressed in fetal brain and heart. *Hum. Mol. Genet.* 4: 1935-1944.
2. Fuentes, J.J., et al. 1997. Genomic organization, alternative splicing, and expression patterns of the DSCR1 (Down syndrome candidate region 1) gene. *Genomics* 44: 358-361.
3. Fuentes, J.J., et al. 2000. DSCR1, overexpressed in Down syndrome, is an inhibitor of calcineurin-mediated signaling pathways. *Hum. Mol. Genet.* 9: 1681-1690.
4. Casas, C., et al. 2001. Dscr1, a novel endogenous inhibitor of calcineurin signaling, is expressed in the primitive ventricle of the heart and during neurogenesis. *Mech. Dev.* 101: 289-292.
5. Pfister, S.C., et al. 2002. Mutational analyses of the signals involved in the subcellular location of DSCR1. *BMC Cell Biol.* 3: 24.
6. Cho, Y.J., et al. 2005. Raf-1 is a binding partner of DSCR1. *Arch. Biochem. Biophys.* 439: 121-128.
7. Mao, R., et al. 2005. Primary and secondary transcriptional effects in the developing human Down syndrome brain and heart. *Genome Biol.* 6: R107.
8. Robakis, N.K. 2006. The discovery and mapping to chromosome 21 of the Alzheimer's amyloid gene: history revised. *J. Alzheimers Dis.* 10: 453-455.
9. Sreedharan, J., et al. 2008. TDP-43 mutations in familial and sporadic amyotrophic lateral sclerosis. *Science* 319: 1668-1672.

CHROMOSOMAL LOCATION

Genetic locus: DSCR1 (human) mapping to 21q22.12; Dscr1 (mouse) mapping to 16 C4.

SOURCE

DSCR 1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of DSCR 1 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-30589 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DSCR 1 (N-20) is recommended for detection of DSCR 1 isoform 1 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); non cross-reactive with isoforms 2, 3, and 4.

DSCR 1 (N-20) is also recommended for detection of DSCR 1 isoform 1 in additional species, including canine.

Suitable for use as control antibody for DSCR 1 siRNA (h): sc-45480, DSCR 1 siRNA (m): sc-45481, DSCR 1 shRNA Plasmid (h): sc-45480-SH, DSCR 1 shRNA Plasmid (m): sc-45481-SH, DSCR 1 shRNA (h) Lentiviral Particles: sc-45480-V and DSCR 1 shRNA (m) Lentiviral Particles: sc-45481-V.

Molecular Weight of DSCR 1: 28 kDa.

RECOMMENDED SECONDARY 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.

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.



Try **DSCR 1 (G-2): sc-377507** or **DSCR 1 (3A-A): sc-130370**, our highly recommended monoclonal alternatives to DSCR 1 (N-20).