SANTA CRUZ BIOTECHNOLOGY, INC.

DSCR 1 (G-2): sc-377507

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 four 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).

CHROMOSOMAL LOCATION

Genetic locus: RCAN1 (human) mapping to 21q22.12; Rcan1 (mouse) mapping to 16 C4.

SOURCE

DSCR 1 (G-2) is a mouse monoclonal antibody raised against amino acids 1-197 representing full length DSCR 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DSCR 1 (G-2) is available conjugated to agarose (sc-377507 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377507 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377507 PE), fluorescein (sc-377507 FITC), Alexa Fluor® 488 (sc-377507 AF488), Alexa Fluor® 546 (sc-377507 AF546), Alexa Fluor® 594 (sc-377507 AF594) or Alexa Fluor® 647 (sc-377507 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377507 AF680) or Alexa Fluor® 790 (sc-377507 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

DSCR 1 (G-2) is recommended for detection of DSCR 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

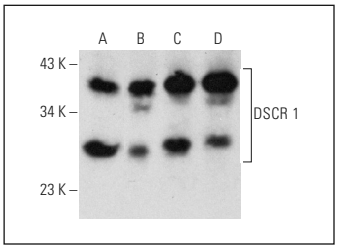
Molecular Weight of DSCR 1: 28 kDa.

Positive Controls: H4 cell lysate: sc-2408, Sol8 cell lysate: sc-2249 or DSCR 1 (m): 293T Lysate: sc-119849.

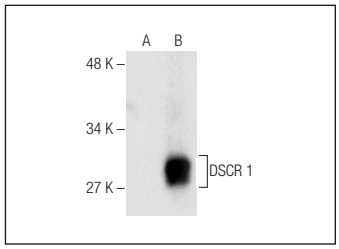
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



DSCR 1 (G-2): sc-377507. Western blot analysis of DSCR 1 expression in H4 (**A**), Sol8 (**B**), PC-12 (**C**) and KNRK (**D**) whole cell lysates.



DSCR 1 (G-2): sc-377507. Western blot analysis of DSCR 1 expression in non-transfected: sc-117752 (**A**) and mouse DSCR 1 transfected: sc-119849 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Jin, H., et al. 2017. Regulator of calcineurin 1 gene isoform 4, down-regulated in hepatocellular carcinoma, prevents proliferation, migration, and invasive activity of cancer cells and metastasis of orthotopic tumors by inhibiting nuclear translocation of NFAT1. Gastroenterology 153: 799-811.e33.
2. He, X.D., et al. 2018. Sensing and transmitting intracellular amino acid signals through reversible lysine aminoacylations. Cell Metab. 27: 151-166.e6.
3. Xu, M., et al. 2018. MicroRNA-499-5p regulates skeletal myofiber specification via NFATc1/MEF2C pathway and Thrap1/MEF2C axis. Life Sci. 215: 236-245.
4. Xu, M., et al. 2018. MicroRNA-139-5p suppresses myosin heavy chain I and IIa expression via inhibition of the calcineurin/NFAT signaling pathway. Biochem. Biophys. Res. Commun. 500: 930-936.
5. Shi, Y., et al. 2020. Down syndrome critical region 1 reduces oxidative stress-induced retinal ganglion cells apoptosis via CREB-Bcl-2 pathway. Invest. Ophthalmol. Vis. Sci. 61: 23.
6. Sang, X.Y., et al. 2020. Regulators of calcineurin 1 deficiency attenuates tubulointerstitial fibrosis through improving mitochondrial fitness. FASEB J. E-published.
7. Papathanasiou, M., et al. 2021. Identification of a dynamic gene regulatory network required for pluripotency factor-induced reprogramming of mouse fibroblasts and hepatocytes. EMBO J. 40: e102236.
8. Xiao, J.J., et al. 2022. Regulator of calcineurin 1 deletion attenuates mitochondrial dysfunction and apoptosis in acute kidney injury through JNK/Mff signaling pathway. Cell Death Dis. 13: 774.

RESEARCH USE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA