SANTA CRUZ BIOTECHNOLOGY, INC.

C1orf51 (D-17): sc-139577

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Chromosome 1 is the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome. There are about 3,000 genes on chromosome 1, and considering the great number of genes there are also a large number of diseases associated with chromosome 1. Notably, the rare aging disease Hutchinson-Gilford progeria is associated with the LMNA gene which encodes lamin A. When defective, the LMNA gene product can build up in the nucleus and cause characteristic nuclear blebs. The mechanism of rapidly enhanced aging is unclear and is a topic of continuing exploration. The MUTYH gene is located on chromosome 1 and is partially responsible for familial adenomatous polyposis. Stickler syndrome, Parkinsons, Gaucher disease and Usher syndrome are also associated with chromosome 1. A breakpoint has been identified in 1q which disrupts the DISC1 gene and is linked to schizophrenia. Aberrations in chromosome 1 are found in a variety of cancers including head and neck cancer, malignant melanoma and multiple myeloma. The C1orf51 gene product has been provisionally designated C1orf51 pending further characterization. There are two isoforms of C1orf51 that are produced as a result of alternative splicing events.

REFERENCES

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2. Blackwood, D.H., et al. 2001. Schizophrenia and affective disorders—cosegregation with a translocation at chromosome 1q42 that directly disrupts brain-expressed genes: clinical and P300 findings in a family. Am. J. Hum. Genet. 69: 428-433
3. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. Cytogenet. Genome Res. 108: 217-222.
4. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. Nature 441: 315-321.
5. Hennah, W., et al. 2006. Genes and schizophrenia: beyond schizophrenia: the role of DISC1 in major mental illness. Schizophr. Bull. 32: 409-416.
6. Lans, H., et al. 2006. Cell biology: aging nucleus gets out of shape. Nature 440: 32-34.
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8. McClintock, D., et al. 2006. Hutchinson-Gilford progeria mutant lamin A primarily targets human vascular cells as detected by an anti-Lamin A G608G antibody. Proc. Natl. Acad. Sci. USA 103: 2154-2159.
9. Scaffidi, P., et al. 2006. Lamin A-dependent nuclear defects in human aging. Science 312: 1059-1063.

CHROMOSOMAL LOCATION

Genetic locus: C1orf51 (human) mapping to 1q21.2; Gm129 (mouse) mapping to 3 F2.1.

RESEARCH USE

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

SOURCE

C1orf51 (D-17) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of C1orf51 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-139577 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

C1orf51 (D-17) is recommended for detection of C1orf51 of human origin, Gm129 of mouse origin and the corresponding rat homolog by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for C1orf51 siRNA (h): sc-88431, Gm129 siRNA (m): sc-145480, C1orf51 shRNA Plasmid (h): sc-88431-SH, Gm129 shRNA Plasmid (m): sc-145480-SH, C1orf51 shRNA (h) Lentiviral Particles: sc-88431-V and Gm129 shRNA (m) Lentiviral Particles: sc-145480-V.

Molecular Weight of C1orf51 isoform 1: 41 kDa.

Molecular Weight of C1orf51 isoform 2: 13 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or COLO 320DM nuclear extract.

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.

STORAGE

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

PROTOCOLS

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