SANTA CRUZ BIOTECHNOLOGY, INC.

DCST1 (K-21): sc-133501

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.

REFERENCES

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3. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. Cytogenet. Genome Res. 108: 217-222.
4. Lans, H., et al. 2006. Cell biology: aging nucleus gets out of shape. Nature 440: 32-34.
5. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. Nature 441: 315-321.
6. Hennah, W., et al. 2006. Genes and schizophrenia: beyond schizophrenia: the role of DISC1 in major mental illness. Schizophr. Bull. 32: 409-416.
7. Marzin, Y., et al. 2006. Chromosome 1 abnormalities in multiple myeloma. Anticancer Res. 26: 953-959.
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: DCST1 (human) mapping to 1q22; Dcst1 (mouse) mapping to 3 F1.

SOURCE

DCST1 (K-21) is an affinity purified rabbit polyclonal antibody raised against a synthetic DCST1 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

DCST1 (K-21) is recommended for detection of DCST1 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DCST1 siRNA (h): sc-88260, DCST1 siRNA (m): sc-105274, DCST1 shRNA Plasmid (h): sc-88260-SH, DCST1 shRNA Plasmid (m): sc-105274-SH, DCST1 shRNA (h) Lentiviral Particles: sc-88260-V and DCST1 shRNA (m) Lentiviral Particles: sc-105274-V.

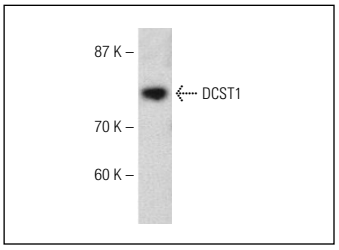
Molecular Weight of DCST1 isoforms: 81/76 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or mouse testis extract: sc-2405.

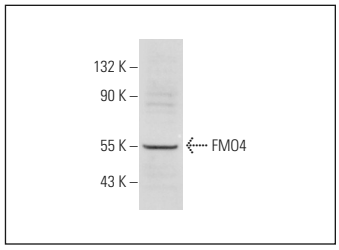
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



DCST1 (K-21): sc-133501. Western blot analysis of DCST1 expression in Jurkat whole cell lysate.



FMO4 (Q-14): sc-104256. Western blot analysis of FMO4 expression in NIH/3T3 whole cell lysate.

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.