SANTA CRUZ BIOTECHNOLOGY, INC.

TUSC5 (L-15): sc-165840

BACKGROUND

TUSC5 (tumor suppressor candidate 5), also known as protein located at seventeen-p-thirteen point three 1, LOST1 or IFITMD3 (interferon-induced transmembrane domain-containing protein D3), is a 177 amino acid multi-pass membrane protein that belongs to the CD225 family. Thought to play a role in fat metabolism, TUSC5 is highly expressed in mammary gland, heart, smooth muscle, skeletal muscle and stomach, with lower levels found in lung and brain. The gene encoding TUSC5 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, and is liked to predisposition of cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Hall, J.M., Friedman, L., Guenther, C., Lee, M.K., Weber, J.L., Black, D.M. and King, M.C. 1992. Closing in on a breast cancer gene on chromosome 17q. Am. J. Hum. Genet. 50: 1235-1242.
2. Evans, S.C. and Lozano, G. 1997. The Li-Fraumeni syndrome: an inherited susceptibility to cancer. Mol. Med. Today 3: 390-395.
3. Soussi, T., Dehouche, K. and Beroud, C. 2000. p53 website and analysis of p53 gene mutations in human cancer: forging a link between epidemiology and carcinogenesis. Hum. Mutat. 15: 105-113.
4. Piura, B., Rabinovich, A. and Yanai-Inbar, I. 2001. Three primary malignancies related to BRCA mutation successively occurring in a BRCA1 185delAG mutation carrier. Eur. J. Obstet. Gynecol. Reprod. Biol. 97: 241-244.
5. Minamoto, T., Buschmann, T., Habelhah, H., Matusevich, E., Tahara, H., Boerresen-Dale, A.L., Harris, C., Sidransky, D. and Ronai, Z. 2001. Distinct pattern of p53 phosphorylation in human tumors. Oncogene 20: 3341-3347.
6. Konishi, H., Sugiyama, M., Mizuno, K., Saito, H., Yatabe, Y., Takahashi, T., Osada, H. and Takahashi, T. 2003. Detailed characterization of a homozygously deleted region corresponding to a candidate tumor suppressor locus at distal 17p13.3 in human lung cancer. Oncogene 22: 1892-1905.
7. Koide, H., Shibata, T., Yamada, N., Asaki, T., Nagao, T., Yoshida, T., Noguchi, Y., Tanaka, T., Saito, Y. and Tatsuno, I. 2007. Tumor suppressor candidate 5 (TUSC5) is expressed in brown adipocytes. Biochem. Biophys. Res. Commun. 360: 139-145.
8. Oort, P.J., Warden, C.H., Baumann, T.K., Knotts, T.A. and Adams, S.H. 2007. Characterization of Tusc5, an adipocyte gene co-expressed in peripheral neurons. Mol. Cell. Endocrinol. 276: 24-35.
9. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612211. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: TUSC5 (human) mapping to 17p13.3; Tusc5 (mouse) mapping to 11 B5.

SOURCE

TUSC5 (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TUSC5 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-165840 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

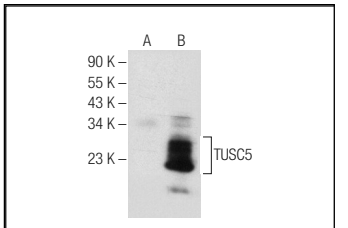
TUSC5 (L-15) is recommended for detection of TUSC5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other TUSC family members.

Suitable for use as control antibody for TUSC5 siRNA (h): sc-93933, TUSC5 siRNA (m): sc-154809, TUSC5 shRNA Plasmid (h): sc-93933-SH, TUSC5 shRNA Plasmid (m): sc-154809-SH, TUSC5 shRNA (h) Lentiviral Particles: sc-93933-V and TUSC5 shRNA (m) Lentiviral Particles: sc-154809-V.

Molecular Weight of TUSC5: 19 kDa.

Positive Controls: TUSC5 (h): 293T Lysate: sc-112682.

DATA



TUSC5 (L-15): sc-165840. Western blot analysis of TUSC5 expression in non-transfected: sc-117752 (**A**) and human TUSC5 transfected: sc-112682 (**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 or our catalog for detailed protocols and support products.