SANTA CRUZ BIOTECHNOLOGY, INC.

TSC-22 D4 (m): 293T Lysate: sc-124325

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Transforming growth factorβ-stimulated clone-22 (TSC-22) acts as a transcriptional regulator to modulate cell growth and differentiation as well as cell death. TSC-22 contains a leucine zipper domain as well as a nuclear export signal, resulting in cytoplasmic localization in living cells. However, concomitant with the induction of apoptosis, TSC-22 translocates from the cytoplasm to the nucleus and shows transcriptional regulatory activity. TSC-22 acts as a major downstream component in both the TGFβ pathway and the PPARγ signaling pathway. The association of these two pathways with tumor suppression and the significant downregulation of TSC-22 mRNA in various cancer types implies an antiproliferative role for TSC-22. TSC-22 D4 (TSC22 domain family protein 4) also known as TILZ2 or THG-1 is a 395 amino acid protein that is related to TSC-22 and functions as a transcriptional repressor.

REFERENCES

1. Hino, S., Kawamata, H., Uchida, D., Omotehara, F., Miwa, Y., Begum, N.M., Yoshida, H., Fujimori, T. and Sato, M. 2000. Nuclear translocation of TSC-22 (TGFβ-stimulated clone-22) concomitant with apoptosis: TSC-22 as a putative transcriptional regulator. Biochem. Biophys. Res. Commun. 278: 659-664.
2. Hino, S., Kawamata, H., Omotehara, F., Uchida, D., Begum, N.M., Yoshida, H., Sato, M. and Fujimori, T. 2002. Leucine zipper structure of TSC-22 (TGFβ stimulated clone-22) markedly inhibits the anchorage-independent growth of salivary gland cancer cells. Oncol. Rep. 9: 371-374.
3. Gupta, R.A., Sarraf, P., Brockman, J.A., Shappell, S.B., Raftery, L.A., Willson, T.M. and DuBois, R.N. 2003. Peroxisome proliferator-activated receptor γ and transforming growth factor β pathways inhibit intestinal epithelial cell growth by regulating levels of TSC-22. J. Biol. Chem. 278: 7431-7438.
4. Uchida, D., Omotehara, F., Nakashiro, K., Tateishi, Y., Hino, S., Begum, N.M., Fujimori, T. and Kawamata, H. 2003. Posttranscriptional regulation of TSC-22 (TGFβ-stimulated clone-22) gene by TGFβ1. Biochem. Biophys. Res. Commun. 305: 846-854.
5. Shostak, K.O., Dmitrenko, V.V., Garifulin, O.M., Rozumenko, V.D., Khomenko, O.V., Zozulya, Y.A., Zehetner, G. and Kavsan, V.M. 2003. Downregulation of putative tumor suppressor gene TSC-22 in human brain tumors. J. Surg. Oncol. 82: 57-64.
6. Kawamata, H., Fujimori, T. and Imai, Y. 2004. TSC-22 (TGFβ stimulated clone-22): a novel molecular target for differentiation-inducing therapy in salivary gland cancer. Curr. Cancer Drug Targets 4: 521-529.
7. Daouti, S., Latario, B., Nagulapalli, S., Buxton, F., Uziel-Fusi, S., Chirn, G.W., Bodian, D., Song, C., Labow, M., Lotz, M., Quintavalla, J. and Kumar, C. 2005. Development of comprehensive functional genomic screens to identify novel mediators of osteoarthritis. Osteoarthr. Cartil. 13: 508-518.
8. Shostak, K.O., Dmitrenko, V.V., Vudmaska, M.I., Naidenov, V.G., Beletskii, A.V., Malisheva, T.A., Semenova, V.M., Zozulya, Y.P., Demotes-Mainard, J., Kavsan, V.M. 2005. Patterns of expression of TSC-22 protein in astrocytic gliomas. Exp. Oncol. 27: 314-318.

CHROMOSOMAL LOCATION

Genetic locus: Tsc22d4 (mouse) mapping to 5 G2.

PRODUCT

TSC-22 D4 (m): 293T Lysate represents a lysate of mouse TSC-22 D4 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

TSC-22 D4 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive TSC-22 D4 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.