SANTA CRUZ BIOTECHNOLOGY, INC.

TSC-22 D4 (JJ-2): sc-101193

The Power to Question

BACKGROUND

Transforming growth factor β-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., et al. 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., et al. 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., et al. 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. Shostak, K.O., et al. 2003. Downregulation of putative tumor suppressor gene TSC-22 in human brain tumors. J. Surg. Oncol. 82: 57-64.
5. Uchida, D., et al. 2003. Posttranscriptional regulation of TSC-22 (TGFβ-stimulated clone 22) gene by TGFβ. Biochem. Biophys. Res. Commun. 305: 846-854.
6. Kawamata, H., et al. 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., et al. 2005. Development of comprehensive functional genomic screens to identify novel mediators of osteoarthritis. Osteoarthritis Cartilage 13: 508-518.
8. Shostak, K.O., et al. 2005. Patterns of expression of TSC-22 protein in astrocytic gliomas. Exp. Oncol. 27: 314-318.
9. Yoon, H.G., et al. 2006. The corepressors silencing mediator of retinoid and thyroid hormone receptor and nuclear receptor corepressor are involved in agonist- and antagonist-regulated transcription by androgen receptor. Mol. Endocrinol. 20: 1048-1060.

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 for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: TSC22D4 (human) mapping to 7q22.1.

SOURCE

TSC-22 D4 (JJ-2) is a mouse monoclonal antibody raised against recombinant TSC-22 D4 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TSC-22 D4 (JJ-2) is recommended for detection of TSC-22 D4 of 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 TSC-22 D4 siRNA (h): sc-63173, TSC-22 D4 shRNA Plasmid (h): sc-63173-SH and TSC-22 D4 shRNA (h) Lentiviral Particles: sc-63173-V.

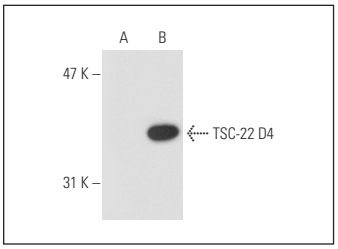
Molecular Weight of TSC-22 D4: 41 kDa.

Positive Controls: TSC-22 D4 (h): 293T Lysate: sc-114517 or K-562 whole cell lysate: sc-2203.

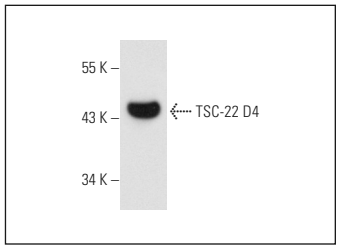
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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



TSC-22 D4 (JJ-2): sc-101193. Western blot analysis of TSC-22 D4 expression in non-transfected: sc-117752 (**A**) and human TSC-22 D4 transfected: sc-114517 (**B**) 293T whole cell lysates.



TSC-22 D4 (JJ-2): sc-101193. Western blot analysis of TSC-22 D4 expression in K-562 whole cell lysate.

RESEARCH USE

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