SANTA CRUZ BIOTECHNOLOGY, INC.

TSC-22 D2 siRNA (m): sc-63172

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 D2 (TSC22 domain family protein 2), also known as TILZ4, is a 780 amino acid protein that is related to TSC-22 and is involved in adaptation of renal cells to hypertonicity, suggesting a possible role in signal transduction. Three isoforms exist due to alternative splicing events.

REFERENCES

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6. Kawamata, H., et al. 2004. TSC-22 (TGF-β 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.
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CHROMOSOMAL LOCATION

Genetic locus: Tsc22d2 (mouse) mapping to 3 D.

RESEARCH USE

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

PRODUCT

TSC-22 D2 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TSC-22 D2 shRNA Plasmid (m): sc-63172-SH and TSC-22 D2 shRNA (m) Lentiviral Particles: sc-63172-V as alternate gene silencing products.

For independent verification of TSC-22 D2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-63172A, sc-63172B and sc-63172C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TSC-22 D2 siRNA (m) is recommended for the inhibition of TSC-22 D2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TSC-22 D2 gene expression knockdown using RT-PCR Primer: TSC-22 D2 (m)-PR: sc-63172-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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