

TEF-1 siRNA (m): sc-154178

BACKGROUND

A member of the TEA/ATTS domain family, transcriptional enhancer factor 1 (TEF-1) is a nuclear protein that is expressed in numerous cell types and plays a role in controlling the expression of numerous genes. TEF family members have a highly conserved DNA-binding domain; TEF-1 binds to GT-IIC, SphI/II and M-CAT. TEF-1 also binds to the proximal regulatory element (PRE) of transforming growth factor- α , a member of the EGF family that is overexpressed in many types of cancer. Furthermore, TEF-1 represses transcription in placental cells. *In vitro*, TEF-1 is phosphorylated by several PKC isozymes. TEF-1 is phosphorylated *in vivo* at serine and threonine residues. Phosphorylation of TEF-1, both *in vivo* and *in vitro*, results in a reduction in its DNA-binding capability, which suggests a potential role for TEF-1 in PKC inhibition. TEF-1 also complexes with larger tumor antigen (TAG), and may thus have a role in tumorigenesis. Dimerization of TEF-1 may be important for TEF-1 to function as a regulator of gene transcription.

REFERENCES

1. Takahashi, H., et al. 1995. Repression of involucrin gene expression by transcriptional enhancer factor 1 (TEF-1). *Arch. Dermatol. Res.* 287: 740-746.
2. Wang, D., et al. 1999. Purification and characterization of TEF-1, a transcription factor that controls the human transforming growth factor- α promoter. *Biochim. Biophys. Acta* 1449: 50-62.
3. Jiang, S.W., et al. 2000. Cooperative binding of TEF-1 to repeated GGAATG-related consensus elements with restricted spatial separation and orientation. *DNA Cell Biol.* 19: 507-514.
4. Jiang, S.W., et al. 2000. Novel human TEF-1 isoforms exhibit altered DNA binding and functional properties. *Biochemistry* 39: 3505-3513.

CHROMOSOMAL LOCATION

Genetic locus: Tead1 (mouse) mapping to 7 F1.

PRODUCT

TEF-1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TEF-1 shRNA Plasmid (m): sc-154178-SH and TEF-1 shRNA (m) Lentiviral Particles: sc-154178-V as alternate gene silencing products.

For independent verification of TEF-1 (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-154178A, sc-154178B and sc-154178C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TEF-1 siRNA (m) is recommended for the inhibition of TEF-1 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

TEF-1 (E-5): sc-393976 is recommended as a control antibody for monitoring of TEF-1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TEF-1 gene expression knockdown using RT-PCR Primer: TEF-1 (m)-PR: sc-154178-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Li, Y., et al. 2021. TAZ is required for chondrogenesis and skeletal development. *Cell Discov.* 7: 26.
2. Li, Y., et al. 2022. Deletion of Trp53 and Rb1 in Ctsk-expressing cells drives osteosarcoma progression by activating glucose metabolism and YAP signaling. *MedComm* 3: e131.

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.