

TRAX siRNA (m): sc-76727

BACKGROUND

TRAX (translin-associated factor X), also known as TSNAX, is a nuclear protein that interacts with translin, a DNA-binding protein involved in breakpoint junctions of chromosomal translocations. Expressed highly in the brain and testis, TRAX contains an N-terminal bipartite nuclear localization signal (NLS) and a leucine zipper domain. The NLS may be involved in the nuclear transport of translin, while the leucine zipper domain is essential for interactions between TRAX and other proteins. When TRAX is complexed with translin, the two proteins can interact with the protein kinase activator C1D, allowing the complex to participate in DNA double-stranded break repair and dendritic RNA processing. TRAX also functions as a transcriptional regulator of GAP-43, a growth-associated protein found in growth cones, suggesting a possible role in axonal regeneration and cell proliferation.

REFERENCES

1. Finkstadt, P.M., et al. 2002. TRAX is a component of the translin-containing RNA binding complex. *J. Neurochem.* 83: 202-210.
2. Wu, R.F., et al. 2003. Identification of translin/TRAX complex as a glucose response element binding protein in liver. *Biochim. Biophys. Acta* 1624: 29-35.
3. Cho, Y.S., et al. 2004. The relative levels of translin-associated factor X (TRAX) and testis brain RNA-binding protein determine their nucleocytoplasmic distribution in male germ cells. *J. Biol. Chem.* 279: 31514-31523.
4. Bray, J.D., et al. 2004. KIF2A β : a kinesin family member enriched in mouse male germ cells, interacts with translin associated factor-X (TRAX). *Mol. Reprod. Dev.* 69: 387-396.
5. Gupta, G.D., et al. 2005. Co-expressed recombinant human translin-TRAX complex binds DNA. *FEBS Lett.* 579: 3141-3146.
6. Laufman, O., et al. 2005. Cloning and characterization of the *Schizosaccharomyces pombe* homologs of the human protein translin and the translin-associated protein TRAX. *Nucleic Acids Res.* 33: 4128-4139.
7. Sun, C.N., et al. 2006. Rescue of p53 blockage by the A_{2A} adenosine receptor via a novel interacting protein, translin-associated protein X. *Mol. Pharmacol.* 70: 454-466.

CHROMOSOMAL LOCATION

Genetic locus: Tsnax (mouse) mapping to 8 E2.

PRODUCT

TRAX 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 TRAX shRNA Plasmid (m): sc-76727-SH and TRAX shRNA (m) Lentiviral Particles: sc-76727-V as alternate gene silencing products.

For independent verification of TRAX (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-76727A, sc-76727B and sc-76727C.

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

TRAX siRNA (m) is recommended for the inhibition of TRAX 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

TRAX (B-10): sc-271402 is recommended as a control antibody for monitoring of TRAX 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 TRAX gene expression knockdown using RT-PCR Primer: TRAX (m)-PR: sc-76727-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.