

Fox-1 siRNA (m): sc-145218

BACKGROUND

Fox-1, also known as A2BP, A2BP1 or HRNBP1, is a 397 amino acid protein that localizes to both the nucleus and the cytoplasm and contains one RRM domain. Expressed predominately in muscle and brain tissue, Fox-1 interacts with Ataxin-2 and functions as an RNA-binding protein that regulates alternative splicing events during erythropoiesis, specifically by binding to 5'-UGCAU-GU-3' DNA elements. Multiple isoforms of Fox-1 exist due to alternative splicing events. The gene encoding Fox-1 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

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2. Auweter, S.D., et al. 2006. Molecular basis of RNA recognition by the human alternative splicing factor Fox-1. *EMBO J.* 25: 163-173.
3. Martin, C.L., et al. 2007. Cytogenetic and molecular characterization of A2BP1/FOX1 as a candidate gene for autism. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 144B: 869-876.
4. Zhou, H.L., et al. 2007. Role for Fox-1/Fox-2 in mediating the neuronal pathway of calcitonin/calcitonin gene-related peptide alternative RNA processing. *Mol. Cell. Biol.* 27: 830-841.
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6. Zhou, H.L. and Lou, H. 2008. Repression of prespliceosome complex formation at two distinct steps by Fox-1/Fox-2 proteins. *Mol. Cell. Biol.* 28: 5507-5516.

CHROMOSOMAL LOCATION

Genetic locus: A2bp1 (mouse) mapping to 16 A1.

PRODUCT

Fox-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 Fox-1 shRNA Plasmid (m): sc-145218-SH and Fox-1 shRNA (m) Lentiviral Particles: sc-145218-V as alternate gene silencing products.

For independent verification of Fox-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-145218A, sc-145218B and sc-145218C.

PROTOCOLS

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

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

Fox-1 siRNA (m) is recommended for the inhibition of Fox-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

Fox-1 (A-12): sc-515244 is recommended as a control antibody for monitoring of Fox-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 Fox-1 gene expression knockdown using RT-PCR Primer: Fox-1 (m)-PR: sc-145218-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.