



GDF-11 siRNA (h): sc-44724

BACKGROUND

GDF-11, a member of the transforming growth factor β (TGF β) superfamily, controls anterior/posterior patterning of the axial skeleton, regulates organogenesis by controlling expression of GDNF, contributes to the control of Hox gene expression and induces phosphorylation of Smad2. In addition, GDF-11 mediates signaling of Nodal during left-right patterning and development of head structures and inhibits generation of new neurons by neuronal progenitors in the olfactory epithelium.

REFERENCES

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- Liu, J.P., et al. 2001. Assigning the positional identity of spinal motor neurons: rostrocaudal patterning of Hox-c expression by FGFs, GDF-11 and retinoids. *Neuron* 32: 997-1012.
- Gamer, L.W., et al. 2001. GDF-11 is a negative regulator of chondrogenesis and myogenesis in the developing chick limb. *Dev. Biol.* 229: 407-420.
- Oh, S.P., et al. 2002. Activin type IIA and IIB receptors mediate GDF-11 signaling in axial vertebral patterning. *Genes Dev.* 16: 2749-2754.
- Esquela, A.F., et al. 2003. Regulation of metanephric kidney development by growth/differentiation factor 11. *Dev. Biol.* 257: 356-370.
- Wu, H.H., et al. 2003. Autoregulation of neurogenesis by GDF-11. *Neuron* 37: 197-207.

CHROMOSOMAL LOCATION

Genetic locus: GDF11 (human) mapping to 12q13.2; Gdf11 (mouse) mapping to 10.

PRODUCT

GDF-11 siRNA (h) is a pool of 3 target-specific 20-25 nt siRNAs designed to knock down gene expression. Each vial contains 3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections.

For independent verification of GDF-11 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3 nmol of lyophilized siRNA. These include: sc-44724A, sc-44724B and sc-44724C.

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

GDF-11 siRNA (h) is recommended for the inhibition of GDF-11 expression in human cells.

GDF-11 (K-18): sc-32332 is recommended as a control antibody for Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) protein detection using the recommended secondary reagents listed below.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 60 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. Semi-quantitative RT-PCR may be performed using RT-PCR Primer: GDF-11 (h)-PR: sc-44724-PR (20 μ l).

RESEARCH USE

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

PROTOCOLS

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