SANTA CRUZ BIOTECHNOLOGY, INC.

GDF-1 siRNA (m): sc-39765

BACKGROUND

Growth/differentiation factors (GDFs) are members of the TGFβ superfamily. Members of the TGFβ superfamily are involved in embryonic development and adult tissue homeostasis. GDF-1 expression is almost exclusively restricted to the central nervous system, most strongly expressed in the hippcampus and cortex of the brain. The function of GDF-1 is not completely known, however, it may mediate cell differentiation events during embryonic development.

REFERENCES

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2. Lee, S.J. 1990. Identification of a novel member (GDF-1) of the transforming growth factor-β superfamily. Mol. Endocrinol 4: 1034-1040.
3. Lee, S.J. 1991. Expression of growth/differentiation factor 1 in the nervous system: conservation of a bicistronic structure. Proc. Natl. Acad. Sci. USA 88: 4250-4254.
4. McPherron, A.C., et al. 1997. Regulation of skeletal muscle mass in mice by a new TGFβ superfamily member. Nature 387: 83-90.
5. Ebendal, T., et al. 1998. Bone morphogenetic proteins and their receptors: potential functions in the brain. J. Neurosci. Res. 51: 139-146.
6. Soderstrom, S., et al. 1999. Localized expression of BMP and GDF mRNA in the rodent brain. J. Neurosci. Res. 56: 482-492.
7. Rankin, C.T., et al. 2000. Regulation of left-right patterning in mice by growth/differentiation factor-1. Nat. Genet. 24: 262-265.
8. Karkera, J.D., et al. 2007. Loss-of-function mutations in growth differentiation factor-1 (GDF-1) are associated with congenital heart defects in humans. Am. J. Hum. Genet. 81: 987-994.
9. Andersson, O., et al. 2007. Distinct and cooperative roles of mammalian Vg1 homologs GDF-1 and GDF-3 during early embryonic development. Dev. Biol. 311: 500-511.

CHROMOSOMAL LOCATION

Genetic locus: Gdf1 (mouse) mapping to 8 B3.3.

PRODUCT

GDF-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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GDF-1 shRNA Plasmid (m): sc-39765-SH and GDF-1 shRNA (m) Lentiviral Particles: sc-39765-V as alternate gene silencing products.

For independent verification of GDF-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-39765A, sc-39765B and sc-39765C.

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 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

GDF-1 siRNA (m) is recommended for the inhibition of GDF-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 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 GDF-1 gene expression knockdown using RT-PCR Primer: GDF-1 (m)-PR: sc-39765-PR (20 µl). 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.