SANTA CRUZ BIOTECHNOLOGY, INC.

Midline-2 siRNA (h): sc-75784

BACKGROUND

Midline-2 (midline defect 2, tripartite motif-containing protein 1) is a 715 amino acid protein encoded by the human gene MID2. Midline-2 belongs to the TRIM/RBCC family and contains two B box-type zinc fingers, one B30.2/SPRY domain, one COS domain, one Fibronectin type-III domain and one RING-type zinc finger. Midline-2 is a cytoplasmic protein found as a homodimer or heterodimer with Midline-1. It also interacts with IGBP1 (lymphocyte signaling protein A4). Dimerization is mediated by the tripartite motif, RBCC (RING- and B box-type zinc fingers and coiled-coil domains), and microtubule association is dependent on the C-terminal B30.2 domain. Midline-2 is expressed at low levels in fetal kidney and lung, and in adult prostate, ovary and small intestine.

REFERENCES

1. Dal Zotto, L., et al. 1998. The mouse Mid1 gene: implications for the pathogenesis of Opitz syndrome and the evolution of the mammalian pseudoautosomal region. Hum. Mol. Genet. 7: 489-499.
2. Schweiger, S., et al. 1999. The Opitz syndrome gene product, MID1, associates with microtubules. Proc. Natl. Acad. Sci. USA 96: 2794-2799.
3. Buchner, G., et al. 1999. MID2, a homologue of the Opitz syndrome gene MID1: similarities in subcellular localization and differences in expression during development. Hum. Mol. Genet. 8: 1397-1407.
4. Perry, J., et al. 2000. FXY2/MID2, a gene related to the X-linked Opitz syndrome gene FXY/MID1, maps to Xq22 and encodes a FNIII domain-containing protein that associates with microtubules. Genomics 62: 385-394.
5. Landry, J.R. and Mager, D.L. 2002. Widely spaced alternative promoters, conserved between human and rodent, control expression of the Opitz syndrome gene MID1. Genomics 80: 499-508.
6. Short, K.M., et al. 2002. MID1 and MID2 homo- and heterodimerise to tether the Rapamycin-sensitive PP2A regulatory subunit, α4, to microtubules: implications for the clinical variability of X-linked Opitz GBBB syndrome and other developmental disorders. BMC Cell Biol. 3: 1.

CHROMOSOMAL LOCATION

Genetic locus: MID2 (human) mapping to Xq22.3.

PRODUCT

Midline-2 siRNA (h) 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 Midline-2 shRNA Plasmid (h): sc-75784-SH and Midline-2 shRNA (h) Lentiviral Particles: sc-75784-V as alternate gene silencing products.

For independent verification of Midline-2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-75784A, sc-75784B and sc-75784C.

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

Midline-2 siRNA (h) is recommended for the inhibition of Midline-2 expression in human 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 Midline-2 gene expression knockdown using RT-PCR Primer: Midline-2 (h)-PR: sc-75784-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.