

# ASPHD2 siRNA (m): sc-141306

## BACKGROUND

ASPHD2 (aspartate  $\beta$ -hydroxylase domain containing 2) is a 369 amino acid single-pass type II membrane protein belonging to the aspartyl/asparaginyl  $\beta$ -hydroxylase family. ASPHD2 is encoded by a gene mapping to human chromosome 22q12.1 and mouse chromosome 5 F. Human chromosome 22 houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, Neurofibromatosis type 2, autism and schizophrenia. Additionally, translocations between chromosomes 9 and 22 may lead to the formation of the Philadelphia Chromosome and the subsequent production of the novel fusion protein BCR-Abl, a potent cell proliferation activator found in several types of leukemias.

## REFERENCES

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3. Sathyamoorthi, S., et al. 2009. Array analysis and molecular studies of INI1 in an infant with deletion 22q13 (Phelan-McDermid syndrome) and atypical teratoid/rhabdoid tumor. *Am. J. Med. Genet. A* 149A: 1067-1069.
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6. Evans, D.G. 2009. Neurofibromatosis 2 [Bilateral acoustic neurofibromatosis, central neurofibromatosis, NF2, neurofibromatosis type II]. *Genet. Med.* 11: 599-610.
7. Ravandi, F., et al. 2009. Philadelphia chromosome-positive acute lymphoblastic leukemia. *Hematol. Oncol. Clin. North Am.* 23: 1043-1063.

## CHROMOSOMAL LOCATION

Genetic locus: Asphd2 (mouse) mapping to 5 F.

## PRODUCT

ASPHD2 siRNA (m) is a pool of 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ASPHD2 shRNA Plasmid (m): sc-141306-SH and ASPHD2 shRNA (m) Lentiviral Particles: sc-141306-V as alternate gene silencing products.

For independent verification of ASPHD2 (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-141306A and sc-141306B.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

ASPHD2 siRNA (m) is recommended for the inhibition of ASPHD2 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  $\mu$ M in 66  $\mu$ 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

ASPHD2 (E-9): sc-390986 is recommended as a control antibody for monitoring of ASPHD2 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 ASPHD2 gene expression knockdown using RT-PCR Primer: ASPHD2 (m)-PR: sc-141306-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.