SANTA CRUZ BIOTECHNOLOGY, INC.

HDHD2 siRNA (m): sc-145914

BACKGROUND

HDHD2 (haloacid dehalogenase-like hydrolase domain containing 2) is also known as DKFZp564D1378 and is a 259 amino acid protein that is expressed as two isoforms produced by alternative splicing. HDHD2 belongs to the HAD-like hydrolase superfamily, which contains a group of hydrolase enzymes that differ from the α/β hydrolase family based on structure. This family of hydrolase enzymes includes L-2-haloacid dehalogenase, epoxide hydrolases and phosphatases. HDHD2 has two active sites, an L-2-haloacid dehalogenase and a carboxylate group. The L-2-haloacid dehalogenase active site catalyzes the hydrolytic dehalogenation of D- and L-2-haloalkanoic acids, producing L- and D-2-hydroxyalkanoic acids. The gene encoding HDHD2 maps to human chromosome 18q21.1. Deletions within chromosome 18q can lead to deafness, blindness or mild facial dysmorphism. In addition, there are a variety of diseases associated with defects in chromosome 18-localized genes, some of which include Trisomy 18 (also known as Edwards syndrome), Niemann-Pick disease, hereditary hemorrhagic telangiectasia, erythropoietic protoporphyria and follicular lymphomas.

REFERENCES

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3. Carstea, E.D., et al. 1993. Linkage of Niemann-Pick disease type C to human chromosome 18. Proc. Natl. Acad. Sci. USA 90: 2002-2004.
4. Grosso, S., et al. 2005. Chromosome 18 aberrations and epilepsy: a review. Am. J. Med. Genet. A 134A: 88-94.
5. Semrud-Clikeman, M., et al. 2005. Cognitive ability predicts degree of genetic abnormality in participants with 18q deletions. J. Int. Neuropsychol. Soc. 11: 584-590.
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7. Beiraghi, S., et al. 2007. Autosomal dominant nonsyndromic cleft lip and palate: significant evidence of linkage at 18q21.1. Am. J. Hum. Genet. 81: 180-188.
8. Buysse, K., et al. 2008. Delineation of a critical region on chromosome 18 for the del(18)(q12.2q21.1) syndrome. Am. J. Med. Genet. A 146A: 1330-1334.

CHROMOSOMAL LOCATION

Genetic locus: Hdhd2 (mouse) mapping to 18 E3.

PRODUCT

HDHD2 siRNA (m) is a target-specific 19-25 nt siRNA 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 HDHD2 shRNA Plasmid (m): sc-145914-SH and HDHD2 shRNA (m) Lentiviral Particles: sc-145914-V as alternate gene silencing 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

HDHD2 siRNA (m) is recommended for the inhibition of HDHD2 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.

GENE EXPRESSION MONITORING

HDHD2 (C-1): sc-514621 is recommended as a control antibody for monitoring of HDHD2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 HDHD2 gene expression knockdown using RT-PCR Primer: HDHD2 (m)-PR: sc-145914-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.

PROTOCOLS

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