SANTA CRUZ BIOTECHNOLOGY, INC.

GLOD4 siRNA (h): sc-93886

BACKGROUND

GLOD4 (glyoxalase domain-containing protein 4), also known as C17orf25, is a 313 amino acid protein belonging to the glyoxalase I family. GLOD4 interacts with NUDT9, a highly specific adenosine diphosphate ribose pyrophosphatase. Localized to mitochondrion, GLOD4 is expressed in heart, brain, liver, kidney, pancreas and placenta, but is not found in skeletal muscle or lung. Expression of GLOD4 is decreased in hepatocellular carcinoma samples in comparison to adjacent non-cancerous liver tissues from the same patients. Transfection of GLOD4 in hepatocellular carcinoma cells and overexpression has also been shown to inhibit cell growth. GLOD4 exists as three alternatively spliced isoforms and is encoded by a gene that maps to human chromosome 17p13.3.

REFERENCES

1. Qin, W.X., et al. 2001. Cloning and characterization of a novel gene (C17orf25) from the deletion region on chromosome 17p13.3 in hepatocelular carcinoma. Cell Res. 11: 209-216.
2. Guo, J.Y., et al. 2002. The promoter analysis of the human C17orf25 gene, a novel chromosome 17p13.3 gene. Cell Res. 12: 339-352.
3. Creighton, D.J., et al. 2003. Glyoxalase I inhibitors in cancer chemotherapy. Biochem. Soc. Trans. 31: 1378-1382.
4. Zhao, X., et al. 2003. The minimum LOH region defined on chromosome 17p13.3 in human hepatocellular carcinoma with gene content analysis. Cancer Lett. 190: 221-232.
5. Perraud, A.L., et al. 2003. NUDT9, a member of the Nudix hydrolase family, is an evolutionarily conserved mitochondrial ADP-ribose pyrophosphatase. J. Biol. Chem. 278: 1794-1801.
6. Shen, B.W., et al. 2003. The crystal structure and mutational analysis of human NUDT9. J. Mol. Biol. 332: 385-398.
7. Zhang, H.T., et al. 2003. Interaction of C17orf25 with ADP-ribose pyrophosphatase NUDT9 detected via yeast two-hybrid method. Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao 35: 747-751.

CHROMOSOMAL LOCATION

Genetic locus: GLOD4 (human) mapping to 17p13.3.

PRODUCT

GLOD4 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 GLOD4 shRNA Plasmid (h): sc-93886-SH and GLOD4 shRNA (h) Lentiviral Particles: sc-93886-V as alternate gene silencing products.

For independent verification of GLOD4 (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-93886A, sc-93886B and sc-93886C.

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

GLOD4 siRNA (h) is recommended for the inhibition of GLOD4 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 GLOD4 gene expression knockdown using RT-PCR Primer: GLOD4 (h)-PR: sc-93886-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.