SANTA CRUZ BIOTECHNOLOGY, INC.

PIG11 siRNA (h): sc-76139

BACKGROUND

PIG11 (p53-induced gene 11 protein), also known as TP53I11, is a 177 amino acid tumor suppressor belonging to the p53-induced protein gene (PIG) family. The PIG gene family encodes redox-controlling proteins that are involved in p53 tumor suppressor activity. It is suggested that PIG11 is involved in arsenic trioxide As(2)O(3)-induced apoptosis in certain cell lines and may play a significant role in tumor suppression through promotion of cell apoptosis. The gene encoding PIG11 maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that map to chromosome 11.

REFERENCES

1. Arimoto, T., et al. 2003. Genome-wide cDNA microarray analysis of gene-expression profiles involved in ovarian endometriosis. Int. J. Oncol. 22: 551-560.
2. Ricketts, S.L., et al. 2003. Identification of three 11p11.2 candidate liver tumor suppressors through analysis of known human genes. Mol. Carcinog. 36: 90-99.
3. Liang, X.Q., et al. 2003. p53-induced gene 11 (PIG11) involved in arsenic trioxide-induced apoptosis in human gastric cancer MGC-803 cells. Oncol. Rep. 10: 1265-1269.
4. Liang, X.Q., et al. 2004. A p53 target gene, PIG11, contributes to chemosensitivity of cells to arsenic trioxide. FEBS Lett. 569: 94-98.
5. Chiba, T., et al. 2004. Cell growth inhibition and gene expression induced by the histone deacetylase inhibitor, Trichostatin A, on human hepatoma cells. Oncology 66: 481-491.
6. Xiong, X.F., et al. 2007. PIG11 protein binds to DNA in sequence-independent manner *in vitro*. Biochem. Biophys. Res. Commun. 358: 29-34.

CHROMOSOMAL LOCATION

Genetic locus: TP53I11 (human) mapping to 11p11.2.

PRODUCT

PIG11 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 PIG11 shRNA Plasmid (h): sc-76139-SH and PIG11 shRNA (h) Lentiviral Particles: sc-76139-V as alternate gene silencing products.

For independent verification of PIG11 (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-76139A, sc-76139B and sc-76139C.

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

PIG11 siRNA (h) is recommended for the inhibition of PIG11 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 PIG11 gene expression knockdown using RT-PCR Primer: PIG11 (h)-PR: sc-76139-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.