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PDGFRL siRNA (m): sc-152134

BACKGROUND

PDGFRL (platelet-derived growth factor receptor-like protein), also known as PDGF receptor β -like tumor suppressor, is a 375 amino acid secreted protein that bears significant sequence similarity to the extracellular domain of PDGFR- β . PDGFRL contains two Ig-like C2-type domains, through which it potentially binds ligands. The gene encoding PDGFRL is localized to a region of chromosome 18 that is frequently mutated in colorectal cancers (CRC), hepatocellular carcinomas (HCC) and non-small cell lung cancers (NSCLC). The PDGFRL gene has a somatic mutation at codon 23 in CRCs, a two base pair deletion at codon 175 in HCCs and a somatic rearrangement in DNA in NSCLCs. Significantly, PDGFRL is preferentially expressed in normal liver, lung and colon. It has been suggested that PDGFRL binds to and alters the activity of the potent mitogen PDGFR. It is possibly through this mechanism that PDGFRL functions as a potential tumor suppressor.

REFERENCES

1. Fujiwara, Y., et al. 1994. A 3-Mb physical map of the chromosome region 8p21.3-p22, including a 600-kb region commonly deleted in human hepatocellular carcinoma, colorectal cancer, and non-small cell lung cancer. *Genes Chromosomes Cancer* 10: 7-14.
2. Fujiwara, Y., et al. 1995. Isolation of a candidate tumor suppressor gene on chromosome 8p21.3-p22 that is homologous to an extracellular domain of the PDGF receptor beta gene. *Oncogene* 10: 891-895.
3. Online Mendelian Inheritance in Man, OMIM[™]. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604584. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Bo, H., et al. 2004. Effect of ionizing irradiation on human esophageal cancer cell lines by cDNA microarray gene expression analysis. *J. Nippon Med. Sch.* 71: 172-180.
5. Pils, D., et al. 2005. Five genes from chromosomal band 8p22 are significantly down-regulated in ovarian carcinoma: N33 and EFA6R have a potential impact on overall survival. *Cancer* 104: 2417-2429.

CHROMOSOMAL LOCATION

Genetic locus: *Pdgfrl* (mouse) mapping to 8 A4.

PRODUCT

PDGFRL siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PDGFRL shRNA Plasmid (m): sc-152134-SH and PDGFRL shRNA (m) Lentiviral Particles: sc-152134-V as alternate gene silencing products.

For independent verification of PDGFRL (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-152134A, sc-152134B and sc-152134C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

APPLICATIONS

PDGFRL siRNA (m) is recommended for the inhibition of PDGFRL 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 μ M in 66 μ 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

PDGFRL (F-2): sc-393355 is recommended as a control antibody for monitoring of PDGFRL 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker[™] compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PDGFRL gene expression knockdown using RT-PCR Primer: PDGFRL (m)-PR: sc-152134-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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