SANTA CRUZ BIOTECHNOLOGY, INC.

C12orf48 siRNA (h): sc-95807

BACKGROUND

C12orf48, also known as PARPBP (PARP-1 binding protein) or PARI (PCNA-interacting partner), is a 579 amino acid protein in the PARI family that is expressed as seven isoforms due to alternative splicing. C12orf48 expression is restricted to the testis, with multiple cancer cell lines exhibiting over-expression including lung and pancreatic cancer. C12orf48 over-expression has been associated with DNA repair deficiency and genomic instability, while knockdown compromised cancer cell proliferation, leading to cell-cycle changes associated with S-phase delay and activation of the DNA damage response response pathway in the absence of damage. C12orf48 interacts with RAD51, PCNA, and positively regulates the poly(ADP-ribosyl)ation activity of PARP-1. C12orf48 is a potential therapeutic target for treatment of pancreatic cancer.

REFERENCES

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3. Rose, J.E., et al. 2010. Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. Mol. Med. 16: 247-253.
4. Piao, L., et al. 2011. C12orf48, termed PARP-1 binding protein, enhances poly(ADP-ribose) polymerase-1 (PARP-1) activity and protects pancreatic cancer cells from DNA damage. Genes Chromosomes Cancer 50: 13-24.
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6. Moldovan, G.L., et al. 2012. Inhibition of homologous recombination by the PCNA-interacting protein PARI. Mol. Cell 45: 75-86.
7. Varisli, L. 2013. Meta-analysis of the cell cycle related C12orf48. Biocell 37: 11-16.
8. O'Connor, K.W., et al. 2013. PARI overexpression promotes genomic instability and pancreatic tumorigenesis. Cancer Res. 73: 2529-2539.

CHROMOSOMAL LOCATION

Genetic locus: PARPBP (human) mapping to 12q23.2.

PRODUCT

C12orf48 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 C12orf48 shRNA Plasmid (h): sc-95807-SH and C12orf48 shRNA (h) Lentiviral Particles: sc-95807-V as alternate gene silencing products.

For independent verification of C12orf48 (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-95807A, sc-95807B and sc-95807C.

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

C12orf48 siRNA (h) is recommended for the inhibition of C12orf48 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 C12orf48 gene expression knockdown using RT-PCR Primer: C12orf48 (h)-PR: sc-95807-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.