SANTA CRUZ BIOTECHNOLOGY, INC.

Glutamine-rich 2 siRNA (h): sc-93582

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glutamine-rich 2 is a 1,663 amino acid protein that contains almost a 400 amino acid glutamine-rich region, which is possibly involved in protein-protein interactions. There are three isoforms of Glutamine-rich 2 that are produced as a result of alternative splicing events. The gene encoding Glutamine-rich 2 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome.

REFERENCES

1. Gilbert, F. 1998. Disease genes and chromosomes: disease maps of the human genome. Chromosome 17. Genet. Test. 2: 357-381.
2. Knight, J., et al. 2003. Human chromosome 17 in essential hypertension. Ann. Hum. Genet. 67: 193-206.
3. Shashi, V., et al. 2003. Ring chromosome 17: phenotype variation by deletion size. Clin. Genet. 64: 361-365.
4. Barbouti, A., et al. 2004. The breakpoint region of the most common isochromosome, i(17q), in human neoplasia is characterized by a complex genomic architecture with large, palindromic, low-copy repeats. Am. J. Hum. Genet. 74: 1-10.
5. Yamamoto, K., et al. 2008. Imatinib resistance in a novel translocation der(17)t(1;17)(q25;p13) with loss of TP53 but without Bcr/Abl kinase domain mutation in chronic myelogenous leukemia. Cancer Genet. Cytogenet. 183: 77-81.
6. McCabe, M.G., et al. 2009. Novel mechanisms of gene disruption at the medulloblastoma isodicentric 17p11 breakpoint. Genes Chromosomes Cancer 48: 121-131.
7. Seifert, H., et al. 2009. The prognostic impact of 17p (p53) deletion in 2272 adults with acute myeloid leukemia. Leukemia 23: 656-663.

CHROMOSOMAL LOCATION

Genetic locus: QRICH2 (human) mapping to 17q25.1.

PRODUCT

Glutamine-rich 2 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 Glutamine-rich 2 shRNA Plasmid (h): sc-93582-SH and Glutamine-rich 2 shRNA (h) Lentiviral Particles: sc-93582-V as alternate gene silencing products.

For independent verification of Glutamine-rich 2 (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-93582A, sc-93582B and sc-93582C.

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

Glutamine-rich 2 siRNA (h) is recommended for the inhibition of Glutamine-rich 2 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.

GENE EXPRESSION MONITORING

Glutamine-rich 2 (F-4): sc-514279 is recommended as a control antibody for monitoring of Glutamine-rich 2 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 Glutamine-rich 2 gene expression knockdown using RT-PCR Primer: Glutamine-rich 2 (h)-PR: sc-93582-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.