SANTA CRUZ BIOTECHNOLOGY, INC.

IFIT2 siRNA (h): sc-75324

BACKGROUND

The tetratricopeptide repeat (TPR) motif is a degenerate, 34 amino acid sequence found in many proteins and acts to mediate protein-protein interactions in various pathways. At the sequence level, there can be up to 16 tandem TPR repeats, each of which has a helix-turn-helix shape that stacks on other TPR repeats to achieve ligand binding specificity. IFIT2 (interferon-induced protein with tetratricopeptide repeats 2), also known as G10P2 or IFI54, is a 472 amino acid protein that contains six TPR repeats and may be involved in the negative regulation of cell growth and proliferation. The gene encoding IFIT2 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie-Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

1. Ulker, N., et al. 1987. Mechanism of interferon action. I. Characterization of a 54 kDa protein induced by γ interferon with properties similar to a cytoskeletal component. J. Biol. Chem. 262: 16798-16803.
2. Wathelet, M.G., et al. 1988. Cloning and chromosomal location of human genes inducible by type I interferon. Somat. Cell Mol. Genet. 14: 415-426.
3. Lafage, M., et al. 1992. The interferon- and virus-inducible IFI-56K and IFI-54K genes are located on human chromosome 10 at bands q23-q24. Genomics 13: 458-460.
4. Zhu, H., et al. 1997. Use of differential display analysis to assess the effect of human cytomegalovirus infection on the accumulation of cellular RNAs: induction of interferon-responsive RNAs. Proc. Natl. Acad. Sci. USA 94: 13985-13990.
5. Young, J.C., et al. 1998. Specific binding of tetra-tricopeptide repeat proteins to the C-terminal 12 kDa domain of HSP 90. J. Biol. Chem. 273: 18007-18010.

CHROMOSOMAL LOCATION

Genetic locus: IFIT2 (human) mapping to 10q23.31.

PRODUCT

IFIT2 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 IFIT2 shRNA Plasmid (h): sc-75324-SH and IFIT2 shRNA (h) Lentiviral Particles: sc-75324-V as alternate gene silencing products.

For independent verification of IFIT2 (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-75324A, sc-75324B and sc-75324C.

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

IFIT2 siRNA (h) is recommended for the inhibition of IFIT2 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

IFIT2 (F-12): sc-390724 is recommended as a control antibody for monitoring of IFIT2 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 IFIT2 gene expression knockdown using RT-PCR Primer: IFIT2 (h)-PR: sc-75324-PR (20 µl, 536 bp). 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.