SANTA CRUZ BIOTECHNOLOGY, INC.

IFRD1 siRNA (h): sc-38015

BACKGROUND

Interferon-related developmental regulator-1 (IFRD1) gene is a human homolog of the rat PC4 gene initially isolated as a nerve growth factor-inducible sequence in PC12 cells. PC4 is present at high levels along the neural tube of early rat embryos. Expression of PC4 in the myoblast C2C12 cell line decreases within 6 hours from the onset of differentiation, attains a minimum after 12 hours, and returns to basal level within 36 hours; the transient down-regulation of PC4 expression can be prevented by transforming growth factor β, a molecule which inhibits the differentiation of muscle.

REFERENCES

1. Guardavaccaro, D., Ciotti, M.T., Schafer, B.W., Montagnoli, A. and Tirone, F. 1995. Inhibition of differentiation in myoblasts deprived of the interferon-related protein PC4. Cell Growth Differ. 6: 159-169.
2. Iacopetti, P., Barsacchi, G., Tirone, F. and Cremisi, F. 1996. Expression of the PC4 gene in the developing rat nervous system. Brain Res. 707: 293-297.
3. Buanne, P., Incerti, B., Guardavaccaro, D., Avvantaggiato, V., Simeone, A. and Tirone, F. 1998. Cloning of the human interferon-related developmental regulator (IFRD1) gene coding for the PC4 protein, a member of a novel family of developmentally regulated genes. Genomics 51: 233-242.
4. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 603502. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. LocusLink Report (LocusID: 3475). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: IFRD1 (human) mapping to 7q31.1.

PRODUCT

IFRD1 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 IFRD1 shRNA Plasmid (h): sc-38015-SH and IFRD1 shRNA (h) Lentiviral Particles: sc-38015-V as alternate gene silencing products.

For independent verification of IFRD1 (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-38015A, sc-38015B and sc-38015C.

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

IFRD1 siRNA (h) is recommended for the inhibition of IFRD1 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

IFRD1 (D-7): sc-515012 is recommended as a control antibody for monitoring of IFRD1 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 IFRD1 gene expression knockdown using RT-PCR Primer: IFRD1 (h)-PR: sc-38015-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.