SANTA CRUZ BIOTECHNOLOGY, INC.

PHRF1 siRNA (m): sc-140720

BACKGROUND

PHRF1 (PHD and RING finger domain-containing protein 1), also known as RNF221, KIAA1542 or CTD binding SR like protein rA9, which shares significant similarity with the rA9 protein, contains a ser/arg-rich domain and binds the C-terminal domain of the RNA polymerase II large subunit. PHRF1 is a 1,649 amino acid protein existing as three alternatively spliced isoforms and is ubiquitously expressed. High levels of PHRF1 are suggested to be present in adult and fetal liver, ovary, brain, spleen, lung, skeletal muscle, heart and pancreas with modest expression in kidney. PHRF1 interacts with Pol II (via the C-terminal domain) and is phosphorylated upon DNA damage, likely by Atm or ATR. Known for immune function, PHRF1 allelic variations are established risk factors for human SLE (systemic lupus erythematosus).

REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611780. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Fung, E.Y., et al. 2009. Analysis of 17 autoimmune disease-associated variants in type 1 diabetes identifies 6q23/TNFAIP3 as a susceptibility locus. Genes Immun. 10: 188-191.
4. Graham, R.R., et al. 2009. Review of recent genome-wide association scans in lupus. J. Intern. Med. 265: 680-688.
5. Gateva, V., et al. 2009. A large-scale replication study identifies TNIP1, PRDM1, JAZF1, UHRF1BP1 and IL10 as risk loci for systemic lupus erythematosus. Nat. Genet. 41: 1228-1233.
6. Delgado-Vega, A.M., et al. 2010. Genetic associations in type I interferon related pathways with autoimmunity. Arthritis Res. Ther. 12: S2.
7. Salloum, R., et al. 2010. Genetic variation at the IRF7/PHRF1 locus is associated with autoantibody profile and serum interferon-α activity in lupus patients. Arthritis Rheum. 62: 553-561.

CHROMOSOMAL LOCATION

Genetic locus: Phrf1 (mouse) mapping to 7 F5.

PRODUCT

PHRF1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PHRF1 shRNA Plasmid (m): sc-140720-SH and PHRF1 shRNA (m) Lentiviral Particles: sc-140720-V as alternate gene silencing products.

For independent verification of PHRF1 (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-140720A, sc-140720B and sc-140720C.

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

PHRF1 siRNA (m) is recommended for the inhibition of PHRF1 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 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 PHRF1 gene expression knockdown using RT-PCR Primer: PHRF1 (m)-PR: sc-140720-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.