

CIRP siRNA (m): sc-142348

BACKGROUND

CIRP, also known as CIRBP (cold inducible RNA binding protein) or A18HNRNP, is a 172 amino acid protein that localizes to the nucleus and contains one RRM (RNA recognition motif) domain. Expressed ubiquitously, CIRP is thought to play an essential role in the suppression of cellular proliferation in response to UV irradiation or extreme cold. Human CIRP, which may be involved in the pathogenesis of endometrial carcinoma, shares 95% sequence identity with its mouse counterpart, suggesting a conserved role between species. The gene encoding CIRP maps to human chromosome 19, which is the genetic home for a number of immunoglobulin superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family and Fc receptors (FcRs).

REFERENCES

1. Nishiyama, H., et al. 1997. Cloning and characterization of human CIRP (cold-inducible RNA-binding protein) cDNA and chromosomal assignment of the gene. *Gene* 204: 115-120.
2. Sheikh, M.S., et al. 1997. Identification of several human homologs of hamster DNA damage-inducible transcripts. Cloning and characterization of a novel UV-inducible cDNA that codes for a putative RNA-binding protein. *J. Biol. Chem.* 272: 26720-26726.
3. Nishiyama, H., et al. 1997. A glycine-rich RNA-binding protein mediating cold-inducible suppression of mammalian cell growth. *J. Cell Biol.* 137: 899-908.
4. Nishiyama, H., et al. 1998. Decreased expression of cold-inducible RNA-binding protein (CIRP) in male germ cells at elevated temperature. *Am. J. Pathol.* 152: 289-296.
5. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602649. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Fujita, J. 1999. Cold shock response in mammalian cells. *J. Mol. Microbiol. Biotechnol.* 1: 243-255.
7. Hamid, A.A., et al. 2003. Expression of cold-inducible RNA-binding protein in the normal endometrium, endometrial hyperplasia, and endometrial carcinoma. *Int. J. Gynecol. Pathol.* 22: 240-247.

CHROMOSOMAL LOCATION

Genetic locus: Cirbp (mouse) mapping to 10 C1.

PRODUCT

CIRP siRNA (m) is a pool of 2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CIRP shRNA Plasmid (m): sc-142348-SH and CIRP shRNA (m) Lentiviral Particles: sc-142348-V as alternate gene silencing products.

For independent verification of CIRP (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-142348A and sc-142348B.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CIRP siRNA (m) is recommended for the inhibition of CIRP 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 μ M in 66 μ l. 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

CIRP (1C9): sc-293325 is recommended as a control antibody for monitoring of CIRP 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 CIRP gene expression knockdown using RT-PCR Primer: CIRP (m)-PR: sc-142348-PR (20 μ l). 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.