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CRP1 siRNA (h): sc-45367

BACKGROUND

Cysteine-rich proteins (CRPs) participate in the organization of multiprotein complexes, both in the cytoplasm, where they participate in cytoskeletal remodeling, and in the nucleus, where they facilitate smooth muscle differentiation. CRP1 (cysteine and glycine-rich protein 1), also known as CRP, CSR1 or CYRP, is abundant in the prostate and smooth muscle lineages. It contains two LIM zinc-binding domains and is localized in the nucleus. The LIM domains of CRP1 are critical for binding to the adhesion-plaque protein Zyxin. CRP1 also interacts with α -actinin to mediate muscle differentiation. These associations indicate that the main function of CRP1 may be structural.

REFERENCES

1. Weiskirchen, R., et al. 1995. The cysteine-rich protein family of highly related LIM domain proteins. *J. Biol. Chem.* 270: 28946-28954.
2. Pomies, P., et al. 1997. CRP1, a LIM domain protein implicated in muscle differentiation, interacts with α -actinin. *J. Cell Biol.* 139: 157-168.
3. Dube, J.Y., et al. 1998. Abundant cysteine-rich protein-1 is localized in the stromal compartment of the human prostate. *Arch. Androl.* 40: 109-115.
4. Schmeichel, K.L., et al. 1998. LIM domains of cysteine-rich protein 1 (CRP1) are essential for its Zyxin-binding function. *Biochem. J.* 331: 885-892.
5. Erdel, M., et al. 1998. Assignment1 of CSR1 encoding the LIM domain protein CRP1, to human chromosome 1q32 by fluorescence *in situ* hybridization. *Cytogenet. Cell Genet.* 83: 10-11.
6. Henderson, J.R., et al. 1999. The LIM protein, CRP1, is a smooth muscle marker. *Dev. Dyn.* 214: 229-238.
7. Chang, D.F., et al. 2003. Cysteine-rich LIM-only proteins CRP1 and CRP2 are potent smooth muscle differentiation cofactors. *Dev. Cell* 4: 107-118.
8. SWISS-PROT/TrEMBL (P21291). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>.

CHROMOSOMAL LOCATION

Genetic locus: CSR1 (human) mapping to 1q32.1.

PRODUCT

CRP1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CRP1 shRNA Plasmid (h): sc-45367-SH and CRP1 shRNA (h) Lentiviral Particles: sc-45367-V as alternate gene silencing products.

For independent verification of CRP1 (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-45367A, sc-45367B and sc-45367C.

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 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

CRP1 siRNA (h) is recommended for the inhibition of CRP1 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 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

CRP1 (F-12): sc-390418 is recommended as a control antibody for monitoring of CRP1 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 CRP1 gene expression knockdown using RT-PCR Primer: CRP1 (h)-PR: sc-45367-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.