SANTA CRUZ BIOTECHNOLOGY, INC.

HCR siRNA (m): sc-62448

BACKGROUND

HCR (coiled-coil α-helical rod protein 1, putative gene 8 protein) is a 782 amino acid protein that is encoded by human gene CCHCR1. It is believed to be a regulator of keratinocyte proliferation or differentiation. HCR is a nuclear protein abundantly expressed in heart, liver, skeletal muscle, kidney and pancreas, and to a lesser extent in lung and placenta. HCR is overexpressed in keratinocytes of psoriatic lesions. HCR is associated with susceptibility to psoriasis, a chronic inflammatory dermatosis that affects approximately 2% of the population. Psoriasis is a multifactorial disease characterized by red, scaly skin lesions that are usually found on the scalp, elbows and knees, and may be associated with severe arthritis. The lesions are caused by hyperproliferative keratinocytes and infiltration of inflammatory cells into the dermis and epidermis. The usual age of onset of psoriasis is between 15 and 30, although it can present at any age. Association of HCR with psoriasis seem to be due to linkage disequilibrium with CW*0602, however, HCR is unlikely to be directly involved in psoriasis development.

REFERENCES

1. Asumalahti, K., et al. 2000. A candidate gene for psoriasis near HLA-C, HCR (Pg8), is highly polymorphic with a disease-associated susceptibility allele. Hum. Mol. Genet. 9: 1533-1542.
2. O'Brien, K.P., et al. 2001. The HCR gene on 6p21 is unlikely to be a psoriasis susceptibility gene. J. Invest. Dermatol. 116: 750-754.
3. Asumalahti, K., et al. 2002. Coding haplotype analysis supports HCR as the putative susceptibility gene for psoriasis at the MHC PSORS1 locus. Hum. Mol. Genet. 11: 589-597.
4. Suomela, S., et al. 2003. HCR, a candidate gene for psoriasis, is expressed differently in psoriasis and other hyperproliferative skin disorders and is downregulated by interferon-γ in keratinocytes. J. Invest. Dermatol. 121: 1360-1364.
5. Chang, Y.T., et al. 2004. Genetic polymorphisms of the HCR gene and a genomic segment in close proximity to HLA-C are associated with patients with psoriasis in Taiwan. Br. J. Dermatol. 150: 1104-1111.
6. Kere, J. 2005. Mapping and identifying genes for asthma and psoriasis. Philos. Trans. R. Soc. Lond., B, Biol. Sci. 360: 1551-1561.

CHROMOSOMAL LOCATION

Genetic locus: Cchcr1 (mouse) mapping to 17 B1.

PRODUCT

HCR 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 HCR shRNA Plasmid (m): sc-62448-SH and HCR shRNA (m) Lentiviral Particles: sc-62448-V as alternate gene silencing products.

For independent verification of HCR (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-62448A, sc-62448B and sc-62448C.

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

HCR siRNA (m) is recommended for the inhibition of HCR 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.

GENE EXPRESSION MONITORING

HCR (E-4): sc-365889 is recommended as a control antibody for monitoring of HCR 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 HCR gene expression knockdown using RT-PCR Primer: HCR (m)-PR: sc-62448-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.