SANTA CRUZ BIOTECHNOLOGY, INC.

RBP-Jκ siRNA (m2): sc-270284

BACKGROUND

Recombination signal binding protein Jκ (RBP-Jκ), also designated KBF2 or CBF1, is the mammalian homolog of the *Drosophila* suppressor of Hairless [Su(H)], a protein involved in the development of the peripheral nervous system. RBP-Jκ is ubiquitously expressed in mammalian tissues and is involved in the regulation of gene expression. RBP-Jκ has been shown to directly interact with the intercellular domain of the cell surface receptor Notch 1. Proteolytically cleaved Notch 1 translocates to the nucleus, where it binds DNA-bound RBP-Jκ and activates transcription of target genes. These genes include NFκB p52 and the Epstein-Barr virus (EBV) protein EBNA-2, both of which contain RBP-Jκ-binding sequences within their promoter regions.

REFERENCES

1. Amakawa, R., et al. 1993. Human Jκ recombination signal binding protein gene (IGKJRB): comparison with its mouse homologue. Genomics 17: 306-315.
2. Waltzer, L., et al. 1994. The human Jκ recombination signal sequence binding protein (RBP-J κ) targets the Epstein-Barr virus EBNA2 protein to its DNA responsive elements. EMBO J. 13: 5633-5638.
3. Oka, C., et al. 1995. Disruption of the mouse RBP-Jκ gene results in early embryonic death. Development 121: 3291-3301.
4. Waltzer, L., et al. 1995. RBP-Jκ repression activity is mediated by a co-repressor and antagonized by the Epstein-Barr virus transcription factor EBNA2. Nucleic Acids Res. 23: 4939-4945.
5. Tamura, K., et al. 1995. Physical interaction between a novel domain of the receptor Notch and the transcription factor RBP-Jκ/Su(H). Curr. Biol. 5: 1416-1423.
6. Hsieh, J.J., et al. 1996. Truncated mammalian Notch1 activates CBF1/RBP-Jκ repressed genes by a mechanism resembling that of Epstein-Barr virus EBNA2. Mol. Cell. Biol. 16: 952-959.
7. Oswald, F., et al. 1998. NFκB2 is a putative target gene of activated Notch-1 via RBP-Jκ. Mol. Cell. Biol. 18: 2077-2088.

CHROMOSOMAL LOCATION

Genetic locus: Rbpj (mouse) mapping to 5 C1.

PRODUCT

RBP-Jκ siRNA (m2) 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 RBP-Jκ shRNA Plasmid (m2): sc-270284-SH and RBP-Jκ shRNA (m2) Lentiviral Particles: sc-270284-V as alternate gene silencing products.

For independent verification of RBP-Jκ (m2) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270284A, sc-270284B and sc-270284C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

RBP-Jκ siRNA (m2) is recommended for the inhibition of RBP-Jκ 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

RBP-Jκ (E-7): sc-271128 is recommended as a control antibody for monitoring of RBP-Jκ 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 RBP-Jκ gene expression knockdown using RT-PCR Primer: RBP-Jκ (m2)-PR: sc-270284-PR (20 µl, 600 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.