

RBM45 siRNA (h): sc-94690

BACKGROUND

The RBM (RNA-binding motif) gene family encodes proteins with an RNA binding motif. RBM45, also known as developmentally-regulated RNA-binding protein 1 (DRB1), is a 476 amino acid protein that may play an important role in neural development. Structurally, RBM45 has four RNA recognition motifs (RRMs), however, due to a sequence divergence, it has been suggested that only three of the RRM's functionally bind RNA. These structural motifs are similar to those found in other neural RNA-binding proteins, such as Msi1, HuB and HuC, but RBM45 differs from these functionally similar proteins because it has a poly(C) RNA-binding preference. RBM45 is predominantly localized to the cytoplasm, but has also been shown to shuttle to the nucleus. Supporting its suggested role in neuronal development, RBM45 expression is highest in neuronal progenitor cells, but is reduced in differentiated neural cells. There are three isoforms of RBM45 as a result of alternative splicing.

REFERENCES

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3. Tamada, H., Sakashita, E., Shimazaki, K., Ueno, E., Hamamoto, T., Kagawa, Y. and Endo, H. 2002. cDNA cloning and characterization of Drb1, a new member of RRM-type neural RNA-binding protein. *Biochem. Biophys. Res. Commun.* 297: 96-104.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608888. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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CHROMOSOMAL LOCATION

Genetic locus: RBM45 (human) mapping to 2q31.2.

PRODUCT

RBM45 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 RBM45 shRNA Plasmid (h): sc-94690-SH and RBM45 shRNA (h) Lentiviral Particles: sc-94690-V as alternate gene silencing products.

For independent verification of RBM45 (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-94690A, sc-94690B and sc-94690C.

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

RBM45 siRNA (h) is recommended for the inhibition of RBM45 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

RBM45 (A-2): sc-515495 is recommended as a control antibody for monitoring of RBM45 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 RBM45 gene expression knockdown using RT-PCR Primer: RBM45 (h)-PR: sc-94690-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.