SANTA CRUZ BIOTECHNOLOGY, INC.

RBP1 siRNA (m): sc-62931

BACKGROUND

RB (retinoblastoma protein) is a potent transcriptional regulator that is directly involved with events such as entry into cell division and formation of heterochromatin. RBP1 (retinoblastoma-binding protein 1), also known as RBP-1, RBBP1 or ARID4A (AT-rich interactive domain-containing protein 4A), is a ubiquitously expressed nuclear protein that binds directly to the viral-binding domain of RB. RB recruits chromatin-modifying proteins, such as RBP1, that can bind to it and allow it to act as a transcriptional repressor of E2F target genes. Once bound to RB, RBP1 can also act as a bridging molecule to recruit histone deacetylases (HDACs), proteins that function as potent regulators of gene expression. Three isoforms of RBP1 exist due to alternative splicing events.

REFERENCES

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4. Binda, O., Roy, J.S. and Branton, P.E. 2006. RBP1 family proteins exhibit SUMOylation-dependent transcriptional repression and induce cell growth inhibition reminiscent of senescence. Mol. Cell. Biol. 26: 1917-1931.
5. Monroe, D.G., Secreto, F.J., Hawse, J.R., Subramaniam, M., Khosla, S. and Spelsberg, T.C. 2006. Estrogen receptor isoform-specific regulation of the retinoblastoma-binding protein 1 (RBBP1) gene: roles of AF1 and enhancer elements. J. Biol. Chem. 281: 28596-28604.
6. Wu, M.Y., Tsai, T.F. and Beaudet, A.L. 2006. Deficiency of Rbbp1/Arid4a and Rbbp1l1/Arid4b alters epigenetic modifications and suppresses an imprinting defect in the PWS/AS domain. Genes Dev. 20: 2859-2870.

CHROMOSOMAL LOCATION

Genetic locus: Arid4a (mouse) mapping to 12 C3.

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.

PRODUCT

RBP1 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 RBP1 shRNA Plasmid (m): sc-62931-SH and RBP1 shRNA (m) Lentiviral Particles: sc-62931-V as alternate gene silencing products.

For independent verification of RBP1 (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-62931A, sc-62931B and sc-62931C.

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

RBP1 siRNA (m) is recommended for the inhibition of RBP1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RBP1 gene expression knockdown using RT-PCR Primer: RBP1 (m)-PR: sc-62931-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.