SANTA CRUZ BIOTECHNOLOGY, INC.

SPEN siRNA (h): sc-76556

BACKGROUND

SPEN, also known as MINT, SHARP or RBM15C, is a 3,664 amino acid protein that localizes to the nucleus and contains one RID domain, one SPOC domain and four RRM domains. Expressed at high levels in spleen, testis, brain and thymus, SPEN interacts with several proteins, including Msx-2, SMRTe, HDAC1 and HDAC2, and functions as a corepressor that is thought to negatively regulate the Notch signaling pathway. SPEN, which is functionally induced by 17-β-estradiol and is subject to DNA damage-dependent phosphorylation, may also block the differentiation of precursor B cells into marginal zone B cells. The gene encoding SPEN maps to human chromosome 1p36.21, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome.

REFERENCES

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2. Shi, Y., Downes, M., Xie, W., Kao, H.Y., Ordentlich, P., Tsai, C.C., Hon, M. and Evans, R.M. 2001. SHARP, an inducible cofactor that integrates nuclear receptor repression and activation. Genes Dev. 15: 1140-1151.
3. Oswald, F., Kostezka, U., Astrahantseff, K., Bourteele, S., Dillinger, K., Zechner, U., Ludwig, L., Wilda, M., Hameister, H., Knöchel, W., Liptay, S. and Schmid, R.M. 2002. SHARP is a novel component of the Notch/RBP-Jκ signalling pathway. EMBO J. 21: 5417-5426.
4. Shi, Y., Hon, M. and Evans, R.M. 2002. The peroxisome proliferator-activated receptor δ, an integrator of transcriptional repression and nuclear receptor signaling. Proc. Natl. Acad. Sci. USA 99: 2613-2618.

CHROMOSOMAL LOCATION

Genetic locus: SPEN (human) mapping to 1p36.21.

PRODUCT

SPEN 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SPEN shRNA Plasmid (h): sc-76556-SH and SPEN shRNA (h) Lentiviral Particles: sc-76556-V as alternate gene silencing products.

For independent verification of SPEN (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-76556A, sc-76556B and sc-76556C.

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 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

SPEN siRNA (h) is recommended for the inhibition of SPEN 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 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 SPEN gene expression knockdown using RT-PCR Primer: SPEN (h)-PR: sc-76556-PR (20 µl, 587 bp). 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.