SANTA CRUZ BIOTECHNOLOGY, INC.

RP58 siRNA (h): sc-88400

BACKGROUND

The BTB (Broad-Complex, Tramtrack and Bric a brac) domain, also known as the POZ (POxvirus and Zinc finger) domain, is an N-terminal homodimerization domain that contains multiple copies of kelch repeats and/or C_2H_2-type zinc fingers. Proteins that contain BTB domains are thought to be involved in transcriptional regulation via control of chromatin structure and function. RP58, also known as ZNF238 (zinc finger protein 238), TAZ1 or ZBTB18, is a 522 amino acid protein that localizes to the nucleus and contains one BTB (POZ) domain and four C_2H_2-type zinc fingers. Expressed in brain, testis, heart, pancreas, skeletal muscle and lymphoid tissue, RP58 interacts with Dnmt3a and functions as a sequence-specific DNA-binding protein that exhibits transcriptional repression activity and is thought to play a role in chromosomal organization within the nucleus. RP58 exists as two alternatively spliced isoforms and is subject to DNA damage-dependent phosphorylation, probably by ATM or ATR.

REFERENCES

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2. Zollman, S., Godt, D., Prive, G.G., Couderc, J.L. and Laski, F.A. 1994. The BTB domain, found primarily in zinc finger proteins, defines an evolutionarily conserved family that includes several developmentally regulated genes in *Drosophila*. Proc. Natl. Acad. Sci. USA 91: 10717-10721.
3. Becker, K.G., Lee, I.J., Nagle, J.W., Canning, R.D., Gado, A.M., Torres, R., Polymeropoulos, M.H., Massa, P.T., Biddison, W.E. and Drew, P.D. 1997. C_2H_2-171: a novel human cDNA representing a developmentally regulated POZ domain/zinc finger protein preferentially expressed in brain. Int. J. Dev. Neurosci. 15: 891-899.
4. Aoki, K., Meng, G., Suzuki, K., Takashi, T., Kameoka, Y., Nakahara, K., Ishida, R. and Kasai, M. 1998. RP58 associates with condensed chromatin and mediates a sequence-specific transcriptional repression. J. Biol. Chem. 273: 26698-26704.
5. Ahmad, K.F., Engel, C.K. and Prive, G.G. 1998. Crystal structure of the BTB domain from PLZF. Proc. Natl. Acad. Sci. USA 95: 12123-12128.

CHROMOSOMAL LOCATION

Genetic locus: ZBTB18 (human) mapping to 1q44.

PRODUCT

RP58 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 RP58 shRNA Plasmid (h): sc-88400-SH and RP58 shRNA (h) Lentiviral Particles: sc-88400-V as alternate gene silencing products.

For independent verification of RP58 (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-88400A, sc-88400B and sc-88400C.

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

RP58 siRNA (h) is recommended for the inhibition of RP58 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 RP58 gene expression knockdown using RT-PCR Primer: RP58 (h)-PR: sc-88400-PR (20 µl, 507 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.

PROTOCOLS

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