SANTA CRUZ BIOTECHNOLOGY, INC.

Basonuclin 2 siRNA (m): sc-141470

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The Power to Question

BACKGROUND

Basonuclin 2, also known as BNC2 or zinc finger protein Basonuclin 2, is a 1,099 amino acid protein that contains a pair of zinc fingers in its N-terminal half, followed by a central nuclear localization signal and two pairs of zinc fingers in its C-terminal half. Existing as two alternatively spiced isoforms, Basonuclin 2 localizes to nucleus and is highly expressed in testis, uterus and small intestine, and weakly expressed in colon and prostate. The Basonuclin 2 gene possesses 6 promoters, 4 polyadenylation sites and 23 exons. Each promoter, splice site and poly(A) addition site is used independently, therefore the Basonuclin 2 gene has the potential to generate up to 90,000 variants encoding more than 2,000 different proteins ranging in size from 43 to 1,211 amino acids. The extreme conservation of the Basonuclin 2 amino acid sequence across vertebrates suggests that Basonuclin 2 serves as a regulatory protein of DNA transcription.

REFERENCES

1. Tseng, H. 1998. Basonuclin, a zinc finger protein associated with epithelial expansion and proliferation. Front. Biosci. 3: D985-D988.
2. Romano, R.A., et al. 2004. Identification of Basonuclin 2, a DNA-binding zinc-finger protein expressed in germ tissues and skin keratinocytes. Genomics 83: 821-833.
3. Vanhoutteghem, A., et al. 2004. Basonuclin 2: an extremely conserved homolog of the zinc finger protein Basonuclin. Proc. Natl. Acad. Sci. USA 101: 3468-3473.
4. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608669. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Vanhoutteghem, A., et al. 2006. Basonuclins 1 and 2, whose genes share a common origin, are proteins with widely different properties and functions. Proc. Natl. Acad. Sci. USA 103: 12423-12428.
6. Ma, J., et al. 2006. Basonuclin: a novel mammalian maternal-effect gene. Development 133: 2053-2062.
7. Vanhoutteghem, A. and Djian, P. 2007. The human Basonuclin 2 gene has the potential to generate nearly 90,000 mRNA isoforms encoding over 2000 different proteins. Genomics 89: 44-58.

CHROMOSOMAL LOCATION

Genetic locus: Bnc2 (mouse) mapping to 4 C4.

PRODUCT

Basonuclin 2 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 Basonuclin 2 shRNA Plasmid (m): sc-141470-SH and Basonuclin 2 shRNA (m) Lentiviral Particles: sc-141470-V as alternate gene silencing products.

For independent verification of Basonuclin 2 (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-141470A, sc-141470B and sc-141470C.

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

Basonuclin 2 siRNA (m) is recommended for the inhibition of Basonuclin 2 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 Basonuclin 2 gene expression knockdown using RT-PCR Primer: Basonuclin 2 (m)-PR: sc-141470-PR (20 µl). 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.