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# ZRANB3 siRNA (m): sc-155829

## BACKGROUND

Zinc finger Ran-binding domain-containing protein 3 (ZRANB3) is a 1,079 amino acid gene product that belongs to the Snf2/Rad54 helicase family. Other family members are known to be involved in DNA repair and mitotic recombination. This family of proteins often plays an active role in recombination processes in cooperation with other members of the Rad52 epistasis group. The ZRANB3 product contains one helicase ATP-binding domain, one helicase C-terminal domain and one RanBP2-type zinc finger. RanBP2-type zinc fingers mediate the helicase binding to RNA. Similar to other Ran-binding zinc finger proteins, ZRANB3 likely acts as a splice factor for alternative splicing events of pre-mRNA transcripts. ZRANB proteins may also interfere with constitutive 5'-splice site selection.

## REFERENCES

1. Tanaka, K., et al. 2000. A novel human Rad54 homologue, Rad54B, associates with Rad51. *J. Biol. Chem.* 275: 26316-26321.
2. Heese, K., et al. 2004. Characterizing the new transcription regulator protein p60TRP. *J. Cell. Biochem.* 91: 1030-1042.
3. Chang, P.A., et al. 2007. Molecular cloning and expression analysis of a RanBP2 zinc finger protein gene in upland cotton (*Gossypium hirsutum L.*). *Colloids Surf. B Biointerfaces* 55: 153-158.
4. Mangs, A.H. and Morris, B.J. 2008. ZRANB2: structural and functional insights into a novel splicing protein. *Int. J. Biochem. Cell Biol.* 40: 2353-2357.
5. Partridge, J.R. and Schwartz, T.U. 2009. Crystallographic and biochemical analysis of the Ran-binding zinc finger domain. *J. Mol. Biol.* 391: 375-389.
6. Loughlin, F.E., et al. 2009. The zinc fingers of the SR-like protein ZRANB2 are single-stranded RNA-binding domains that recognize 5' splice site-like sequences. *Proc. Natl. Acad. Sci. USA* 106: 5581-5586.
7. Horio, Y., et al. 2010. Relationship of mRNA expressions of RanBP2 and topoisomerase II isoforms to cytotoxicity of amrubicin in human lung cancer cell lines. *Cancer Chemother. Pharmacol.* 66: 237-243.

## CHROMOSOMAL LOCATION

Genetic locus: Zranb3 (mouse) mapping to 1 E4.

## PRODUCT

ZRANB3 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZRANB3 shRNA Plasmid (m): sc-155829-SH and ZRANB3 shRNA (m) Lentiviral Particles: sc-155829-V as alternate gene silencing products.

For independent verification of ZRANB3 (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-155829A, sc-155829B and sc-155829C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

ZRANB3 siRNA (m) is recommended for the inhibition of ZRANB3 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  $\mu$ M in 66  $\mu$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZRANB3 gene expression knockdown using RT-PCR Primer: ZRANB3 (m)-PR: sc-155829-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.