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# ZCCHC12 siRNA (m): sc-155472

## BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. ZCCHC12 (zinc finger CCHC domain-containing protein 12), also known as SIZN1 (smad-interacting zinc finger protein 1) or SIZN, is a 402 amino acid protein that contains one CCHC-type zinc finger. Expressed predominately in forebrain tissue, ZCCHC12 functions as a transcriptional co-activator that is essential for proper activity of the bone morphogenetic protein (BMP)-signaling pathway. Specifically, ZCCHC12 interacts with Smad1 and CBP and, via these interactions, forms a protein-DNA complex that enhances BMP-induced cholinergic-neuron-specific gene expression. Human ZCCHC12 shares 78% amino acid identity with its mouse counterpart, suggesting a conserved role between species.

## REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300701. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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4. Mazerbourg, S., Sangkuhl, K., Luo, C.W., Sudo, S., Klein, C. and Hsueh, A.J. 2005. Identification of receptors and signaling pathways for orphan bone morphogenetic protein/growth differentiation factor ligands based on genomic analyses. *J. Biol. Chem.* 280: 32122-32132.
5. Cho, G., Bhat, S.S., Gao, J., Collins, J.S., Rogers, R.C., Simensen, R.J., Schwartz, C.E., Golden, J.A. and Srivastava, A.K. 2008. Evidence that SIZN1 is a candidate X-linked mental retardation gene. *Am. J. Med. Genet. A* 146A: 2644-2650.
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## CHROMOSOMAL LOCATION

Genetic locus: Zcchc12 (mouse) mapping to X A3.3.

## PRODUCT

ZCCHC12 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 ZCCHC12 shRNA Plasmid (m): sc-155472-SH and ZCCHC12 shRNA (m) Lentiviral Particles: sc-155472-V as alternate gene silencing products.

For independent verification of ZCCHC12 (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-155472A, sc-155472B and sc-155472C.

## 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

ZCCHC12 siRNA (m) is recommended for the inhibition of ZCCHC12 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 ZCCHC12 gene expression knockdown using RT-PCR Primer: ZCCHC12 (m)-PR: sc-155472-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.