SANTA CRUZ BIOTECHNOLOGY, INC.

CHIC1 siRNA (h): sc-91188

BACKGROUND

In mammals, X-chromosome inactivation is required to ensure equivalent levels of gene expression from the sex chromosomes. X chromosome inactivation in mammals requires the X inactivation center (XIC) and the Xist (X inactive specific transcript) gene product, which is exclusively expressed from the inactive chromosome. CHIC1 (cysteine-rich hydrophobic domain 1), also known as BRX (brain X-linked protein), is a 224 amino acid protein that is encoded by a gene which localizes to the XIC candidate region of the X chromosome. Localizing to the cell membrane and to cytoplasmic vesicles, CHIC1 is palmitoylated and preferentially expressed in brain. In mice, CHIC1 is normally X-inactivated. Due to the chromosomal location of the CHIC1 gene, it is believed that CHIC1 may play a role in certain X-linked mental retardation syndromes.

REFERENCES

1. Simmler, M.C., et al. 1997. Localization and expression analysis of a novel conserved brain expressed transcript, Brx/BRX, lying within the Xic/XIC candidate region. Mamm. Genome 8: 760-766.
2. Allaman-Pillet, N., et al. 2000. The 5' repeat elements of the mouse Xist gene inhibit the transcription of X-linked genes. Gene Expr. 9: 93-101.
3. Prissette, M., et al. 2001. Methylation profiles of DXPas34 during the onset of X-inactivation. Hum. Mol. Genet. 10: 31-38.
4. Avner, P., et al. 2001. X-chromosome inactivation: counting, choice and initiation. Nat. Rev. Genet. 2: 59-67.
5. Shevchenko, A.I., et al. 2007. Genes flanking Xist in mouse and human are separated on the X chromosome in American marsupials. Chromosome Res. 15: 127-136.
6. Davidow, L.S., et al. 2007. The search for a marsupial XIC reveals a break with vertebrate synteny. Chromosome Res. 15: 137-146.

CHROMOSOMAL LOCATION

Genetic locus: CHIC1 (human) mapping to Xq13.2.

PRODUCT

CHIC1 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 CHIC1 shRNA Plasmid (h): sc-91188-SH and CHIC1 shRNA (h) Lentiviral Particles: sc-91188-V as alternate gene silencing products.

For independent verification of CHIC1 (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-91188A, sc-91188B and sc-91188C.

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

CHIC1 siRNA (h) is recommended for the inhibition of CHIC1 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.

GENE EXPRESSION MONITORING

CHIC1/2 (B-11): sc-515175 is recommended as a control antibody for monitoring of CHIC1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CHIC1 gene expression knockdown using RT-PCR Primer: CHIC1 (h)-PR: sc-91188-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.