

brevican siRNA (h): sc-41899

BACKGROUND

Brain tissue expresses a number of different proteoglycans, including both heparan sulfate- and chondroitin sulfate-containing species. While heparan sulfate proteoglycans are present mainly on the cell surface, chondroitin sulfate proteoglycans (CSPGs) are distributed mainly in extracellular spaces of the brain. Brevican is a brain proteoglycan of the aggrecan/versican/neurocan family. In the adult brain, the brevican core protein undergoes proteolytic cleavage and exists as a full-length form, a carboxy-terminal fragment and an amino-terminal fragment. This protein is named brevican since it is the shortest core protein in this family, from the Latin word "brevis," meaning "short". A significant amount of brevican devoid of any glycosaminoglycan chains is present in brain, indicating that brevican is a "part-time" proteoglycan. The gene which encodes brevican maps to mouse chromosome 3 between microsatellite markers D3Mit22 and D3Mit11.

REFERENCES

1. Yamada, H., et al. 1994. Molecular cloning of brevican, a novel brain proteoglycan of the aggrecan/versican family. *J. Biol. Chem.* 269: 10119-10126.
2. Yamada, H., et al. 1995. cDNA cloning and the identification of an aggrecanase-like cleavage site in rat brevican. *Biochem. Biophys. Res. Commun.* 216: 957-963.
3. Rauch, U., et al. 1997. Sequence and chromosomal localization of the mouse brevican gene. *Genomics* 44: 15-21.
4. Zhang H, et al. 1998. Expression of a cleaved brain-specific extracellular matrix protein mediates glioma cell invasion *in vivo*. *J. Neurosci.* 7: 2370-2376.
5. Aspberg, A., et al. 1999. Fibulin-1 is a ligand for the C-type lectin domains of aggrecan and versican. *J. Biol. Chem.* 274: 20444-20449.
6. LocusLink Report (LocusID: 600347). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: BCAN (human) mapping to 1q23.1.

PRODUCT

brevican 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see brevican shRNA Plasmid (h): sc-41899-SH and brevican shRNA (h) Lentiviral Particles: sc-41899-V as alternate gene silencing products.

For independent verification of brevican (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-41899A, sc-41899B and sc-41899C.

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

APPLICATIONS

brevican siRNA (h) is recommended for the inhibition of brevican 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

aggrecan/brevican (D-4): sc-166951 is recommended as a control antibody for monitoring of brevican 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 brevican gene expression knockdown using RT-PCR Primer: brevican (h)-PR: sc-41899-PR (20 μ 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.