

# brevican (2): sc-135849

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: Bcan (mouse) mapping to 3 F1.

## SOURCE

brevican (2) is a mouse monoclonal antibody raised against amino acids 232-394 of brevican of rat origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

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

## APPLICATIONS

brevican (2) is recommended for detection of brevican of mouse, rat and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for brevican siRNA (m): sc-41900, brevican shRNA Plasmid (m): sc-41900-SH and brevican shRNA (m) Lentiviral Particles: sc-41900-V.

Molecular Weight of full length brevican: 145 kDa.

Molecular Weight of brevican N-terminal cleavage product: 50 kDa.

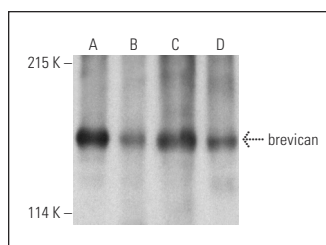
Molecular Weight of brevican C-terminal cleavage product: 80 kDa.

Positive Controls: rat brain extract: sc-2392, mouse brain extract: sc-2253 or mouse cerebellum extract: sc-2403.

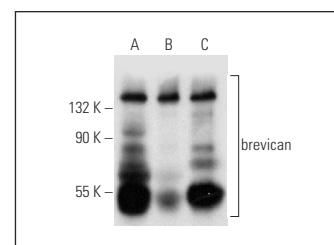
## RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



brevican (2): sc-135849. Western blot analysis of brevican expression in mouse brain (A), mouse cerebellum (B), rat brain (C) and rat cerebellum (D) tissue extracts. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



brevican (2): sc-135849. Western blot analysis of brevican expression in mouse brain (A), rat brain (B) and mouse cerebellum (C) tissue extracts.

## SELECT PRODUCT CITATIONS

1. Alhajlah, S., et al. 2021. Overexpression of reticulon 3 enhances CNS axon regeneration and functional recovery after traumatic injury. *Cells* 10: 2015.
2. Lee, C.H., et al. 2022. Differential expression of miRNAs and their predicted target pathways in cochlear nucleus following chronic noise exposure in rats. *Cells* 11: 2266.

## RESEARCH USE

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