SANTA CRUZ BIOTECHNOLOGY, INC.

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.
6. LocusLink Report (LocusID: 600347). http://www.ncbi.nlm.nih.gov/LocusLink/

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_1 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 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.

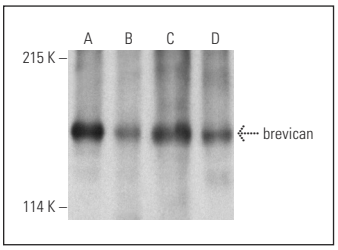
Molecular Weight of brevican C-terminal cleavage product: 80 kDa.

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

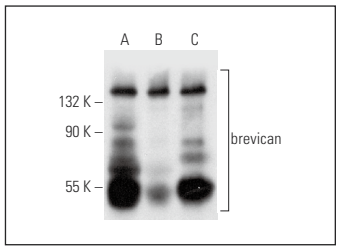
RECOMMENDED SUPPORT REAGENTS

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.