Human Brevican Biotinylated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: BAF4009

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Brevican in Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Brevican isoform 1 Asp23-Pro911 Accession # AAH27971
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

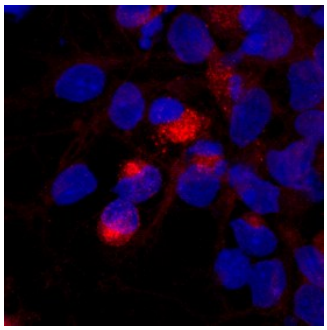
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human Brevican (Catalog # 4009-BC)
Immunocytochemistry	5-15 µg/mL	See Below

DATA

Immunocytochemistry



Brevican in Rat Cortical Stem Cells. Brevican was detected in immersion fixed rat cortical stem cells differentiated for 7 days by growth factor withdrawal using Sheep Anti-Human Brevican Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF4009) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Streptavidin (red; Catalog # NL999) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Stem Cells on Coverslips.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Brevican, also called BEHAB, is a secreted member of the the lectican family of proteoglycans that share a common domain structure (1). Brevican contains an Ig-like V-set domain, two link domains, a Glu-rich region, a central region with glycosaminoglycan (GAG) modifications, an EGF-like domain, a C-type lectin domain, and a C-terminal Sushi/CRP-like domain (2). Brevican is restricted to the CNS and is expressed by astrocytes, oligodendrocytes, and neurons (3-7). A GPI-anchored alternate splice form exists that is truncated following the central (GAG) region (2, 8). An additional isoform results from an alternate start site at Met228. Brevican is cleaved by multiple proteases and exists in a number of distinct fragments (5, 9, 10). Full-length brevican consists of a 97 kDa core protein with up to approximately 100 kDa of attached chondroitin sulfate but not heparan sulfate chains (4, 7, 11, 12). Brevican associates with the extracellular matrix, perineuronal nets, and astrocyte cell surfaces by means of its chondroitin sulfate, GPI anchor, hyaluronic acid-binding link domains, and the core protein (4, 7, 8, 13). The secreted isoform is dominant during brain development and is upregulated in astrocytes following brain injury (2, 14). In human and rat, an under-glycosylated form of brevican is upregulated in highly aggressive glioma but not in low-grade glioma or other brain pathologies (15, 16). In mouse and rat, levels of an ADAMTS4-generated 55 kDa N-terminal fragment increase during remodeling after excitotoxic injury (11, 12). Human brevican shares 90%, 80%, and 80% aa sequence identity with bovine, mouse, and rat brevican, respectively. Within the Ig-like and two link domains, brevican shares 45%-51% aa sequence identity with aggrecan, neurocan, and versican.

References:

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