BGN Antibody / Biglycan (FY13198)

Catalog No.	Formulation	Size
FY13198	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P21810
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml
Limitations	This BGN antibody is available for research use only.

Description

BGN antibody detects Biglycan, a small leucine-rich proteoglycan (SLRP) that regulates extracellular matrix assembly, collagen fibrillogenesis, and innate immune signaling. The UniProt recommended name is Biglycan (BGN). This extracellular matrix component binds collagens, growth factors, and cell surface receptors to coordinate tissue structure and repair responses.

Functionally, BGN antibody identifies a 368-amino-acid core protein decorated with chondroitin/dermatan sulfate glycosaminoglycan chains. Biglycan interacts with collagen types I, II, and VI to stabilize fibril formation and maintain matrix integrity. It also binds toll-like receptors TLR2 and TLR4, activating NF-kappaB-mediated inflammatory signaling in macrophages and fibroblasts. Through its dual structural and signaling roles, Biglycan serves as a molecular bridge between tissue mechanics and innate immune pathways.

The BGN gene is located on chromosome Xq28 and is expressed in connective tissues such as bone, tendon, skin, and vascular walls. It is particularly abundant in mineralized tissues, where it regulates osteoblast differentiation, bone mineralization, and matrix maturation. BGN expression is dynamically regulated during wound healing, inflammation, and fibrosis, contributing to tissue remodeling and repair.

Pathologically, altered BGN levels have been associated with muscular dystrophy, atherosclerosis, osteogenesis imperfecta, and cancer. Elevated Biglycan expression promotes fibrosis and chronic inflammation by sustaining macrophage activation, while deficiency leads to impaired matrix organization and skeletal fragility. Research using BGN antibody supports studies in extracellular matrix biology, inflammation, and connective tissue disease mechanisms.

BGN antibody is validated for western blotting, immunohistochemistry, and ELISA to detect extracellular matrix proteoglycans. NSJ Bioreagents provides BGN antibody reagents optimized for studies in collagen assembly, matrix remodeling, and tissue regeneration.

Structurally, Biglycan contains tandem leucine-rich repeat (LRR) motifs that mediate protein-protein interactions and a signal peptide directing secretion to the extracellular matrix. The glycosaminoglycan attachment sites near its N-terminus allow Biglycan to form proteoglycan complexes essential for biomechanical strength and cell signaling. This antibody aids in the analysis of BGN's structural role in connective tissue maintenance and its signaling function in inflammation and repair.

Application Notes

Optimal dilution of the BGN antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human Biglycan/BGN was used as the immunogen for the BGN antibody.

Storage

After reconstitution, the BGN antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.