BGLAP Antibody / Bone Gla Protein Antibody [clone 32B73] (FY12770)

Catalog No.	Formulation	Size
FY12770	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32B73
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P02818
Applications	Western Blot : 1:500-1:2000
Limitations	This BGLAP Antibody / Bone Gla Protein Antibody is available for research use only.

Description

BGLAP Antibody / Bone Gla Protein Antibody detects BGLAP, a small non-collagenous protein produced predominantly by mature osteoblasts and deposited within the mineralized extracellular matrix of bone. BGLAP is commonly known as osteocalcin and is strongly associated with osteoblast differentiation and bone formation. Its expression during osteogenic maturation makes BGLAP an established research target for studying skeletal development, bone remodeling and mechanisms controlling mineralization.

BGLAP is synthesized as a precursor protein that undergoes processing and vitamin K-dependent post-translational modification. Gamma-carboxylation of specific glutamic acid residues generates the Gla residues responsible for the name Bone Gla Protein. These modified residues contribute to calcium and hydroxyapatite binding and influence the association of BGLAP with mineralized bone matrix. The relationship between carboxylation state and protein function has also generated interest in different molecular forms of BGLAP in bone and metabolic research.

Expression of BGLAP generally increases as osteoblasts progress toward a mature, matrix-producing phenotype. It is therefore frequently examined as a late-stage marker of osteoblast differentiation and osteogenesis. BGLAP expression can be studied alongside other bone-associated proteins to evaluate osteogenic differentiation, matrix production and mineralization in tissue samples and experimental models. A BGLAP Antibody can support investigation of the distribution and abundance of the protein during these processes.

Bone remodeling depends on coordinated activity between osteoblasts, which produce new bone matrix, and osteoclasts, which resorb existing bone. BGLAP is closely associated with the bone-forming component of this process, and circulating osteocalcin has been extensively investigated as a biochemical indicator of bone formation and turnover. Alterations in BGLAP expression or abundance are studied in osteoporosis, fracture healing, aging, metabolic bone disorders and experimental conditions that influence skeletal homeostasis.

Research has also examined possible roles for BGLAP beyond the mineralized skeleton, particularly in metabolic regulation. Different molecular forms of osteocalcin have been investigated in relation to glucose metabolism, insulin activity and energy homeostasis. These areas remain under active investigation, while the strongest established association of BGLAP continues to be with osteoblast biology, bone formation and mineralized extracellular matrix.

NSJ Bioreagents offers BGLAP Antibody reagents for studying bone Gla protein expression and localization. A Bone Gla Protein Antibody can support research into osteoblast differentiation, osteogenesis, bone formation, mineralization and skeletal remodeling.

Researchers studying BGLAP expression and bone formation can explore our Osteocalcin Antibody page for additional reagents targeting bone gamma-carboxyglutamic acid protein in osteoblast and skeletal biology research.

Application Notes

Optimal dilution of the BGLAP Antibody / Bone Gla Protein Antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Osteocalcin was used as the immunogen for the BGLAP antibody.

Storage

Store the BGLAP antibody at -20oC.

Alternate Names

BGLAP antibody, Bone Gla Protein antibody, Osteocalcin antibody, Bone Gamma-Carboxyglutamic Acid Protein antibody, BGP antibody, OCN antibody

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