

Osteocalcin Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP2002a**Specification**

Osteocalcin Antibody (N-term) Blocking Peptide - Product Information

Primary Accession [P02818](#)
Other Accession [NP_954642](#)

Osteocalcin Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 632

Other Names

Osteocalcin, Bone Gla protein, BGP, Gamma-carboxyglutamic acid-containing protein, BGLAP

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP2002a](/product/products/AP2002a) was selected from the N-term region of human osteocalcin. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Osteocalcin Antibody (N-term) Blocking Peptide - Protein Information

Name BGLAP

Function

Bone protein that constitutes 1-2% of the total bone protein, and which acts as a negative regulator of bone formation (PubMed: [3019668](http://www.uniprot.org/citations/3019668), PubMed: [6967872](http://www.uniprot.org/citations/6967872)). Functions to limit bone formation without impairing bone resorption or mineralization (By similarity). It binds strongly to apatite and calcium (PubMed: [6967872](http://www.uniprot.org/citations/6967872)).

Cellular Location

Secreted.

Osteocalcin Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

Osteocalcin Antibody (N-term) Blocking Peptide - Images

Osteocalcin Antibody (N-term) Blocking Peptide - Background

Prior to the formation of calcified bone, noncollagenous proteins form in the extracellular bone matrix. Gamma-carboxyglutamic acid residues are formed by vitamin K, vitamin-D regulated calcium binding proteins containing residues of Gla. These residues are essential for the binding of calcium and constitute 1-2% of total bone protein. Osteocalcin itself binds strongly to apatite and calcium. Production of osteocalcin is expressed late in normal bone development and is characteristic of mature osteoblasts. Regular osteocalcin production has been shown to be linked to the p53 tumor suppressor gene. The p53 gene undergoes rearrangement in a high percentage of osteosarcomas, resulting in loss of its expression. The loss of p53 regulation inhibits further osteocalcin production. The absence of end-point differentiation in bone due to p53 rearrangements and lack of osteocalcin production may contribute to the maintenance of the tumorigenic phenotype in osteosarcomas.

Osteocalcin Antibody (N-term) Blocking Peptide - References

Yamada, Y., et al., J. Clin. Endocrinol. Metab. 88(7):3372-3378 (2003). Gronthos, S., et al., J. Bone Miner. Res. 18(4):716-722 (2003). Yousfi, M., et al., Biochem. Biophys. Res. Commun. 297(3):641-644 (2002). Willis, D.M., et al., J. Biol. Chem. 277(40):37280-37291 (2002). Viereck, V., et al., J. Cell. Biochem. 86(2):348-356 (2002).