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Osteocalcin Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2002a

Specification

Osteocalcin Antibody (N-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	P02818
Other Accession	NP_954642
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**2-32**

Osteocalcin Antibody (N-term) - Additional Information

Gene ID 632

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

Target/Specificity
This Osteocalcin antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 2-32 amino acids from the N-terminal region of human Osteocalcin.

Dilution
WB~~1:2000
IHC-P~~1:50~100
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Osteocalcin Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Osteocalcin Antibody (N-term) - 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, PubMed:6967872). Functions to limit bone formation without impairing bone resorption or mineralization (By similarity). It binds strongly to apatite and calcium (PubMed:6967872).

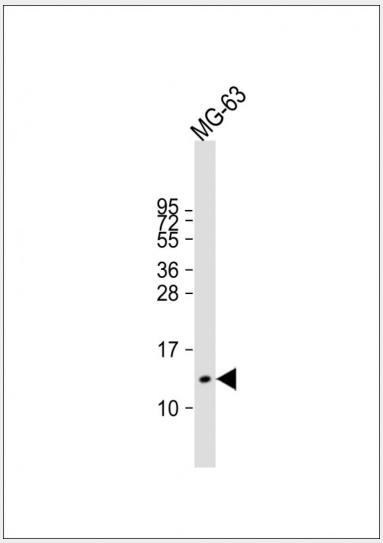
Cellular Location
Secreted.

Osteocalcin Antibody (N-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Osteocalcin Antibody (N-term) - Images



Anti-OSTC Antibody (C16) at 1:2000 dilution + MG-63 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 11 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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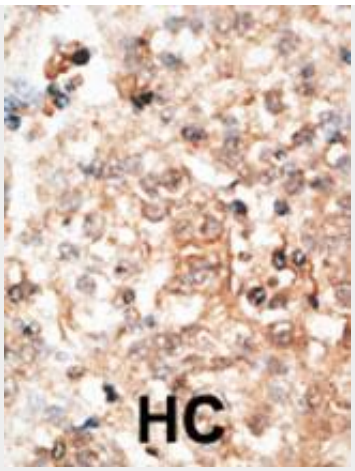

Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Osteocalcin Antibody (N-term) - 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 constitue 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) - 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).