Human/Rat Osteocalcin Antibody

Monoclonal Mouse IgG_1 Clone # 190125

Catalog Number: MAB1419

DESCRIPTION

Species Reactivity	Human/Rat
Specificity	Detects human Osteocalcin in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 190125
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human Osteocalcin synthetic peptide YLYQWLGAPVPYPDPLEPRREVCELNPDCDELADHIGFQEAYRRFYGPV Accession # P02818
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

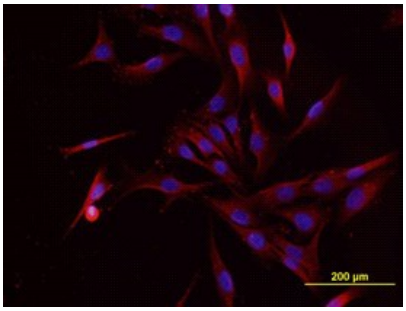
APPLICATIONS

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
Immunocytochemistry	8-25 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below
Intracellular Staining by Flow Cytometry	2.5 µg/10^6 cells	See Below

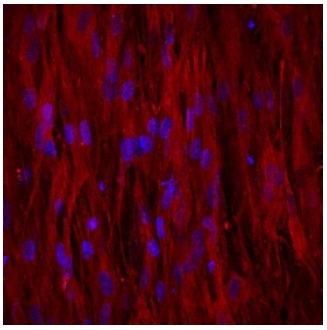
DATA

Immunocytochemistry



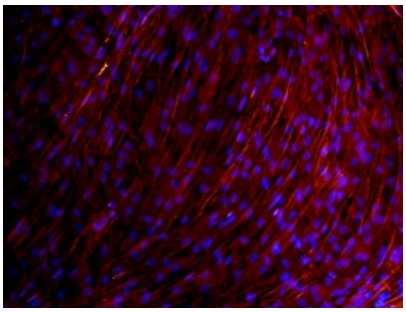
Osteocalcin in MG-63 Human Cell Line. Osteocalcin was detected in immersion fixed MG-63 human osteosarcoma cell line using Mouse Anti-Human/Rat Osteocalcin Monoclonal Antibody (Catalog # MAB1419) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunocytochemistry



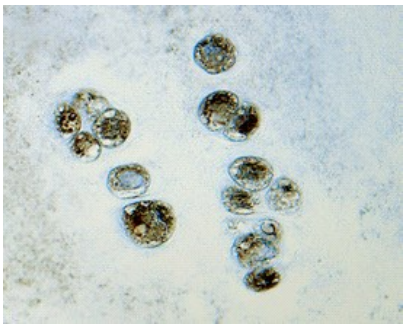
Osteocalcin in Human Osteocytes. Osteocalcin was detected in human mesenchymal stem cells differentiated into osteocytes using Mouse Anti-Human/Rat Osteocalcin Monoclonal Antibody (Catalog # MAB1419) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunocytochemistry



Osteocalcin in Rat Osteocytes. Osteocalcin was detected in immersion fixed rat osteocytes differentiated from mesenchymal stem cells using Mouse Anti-Human/Rat Osteocalcin Monoclonal Antibody (Catalog # MAB1419) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunohistochemistry



Osteocalcin in Human Cartilage. Osteocalcin was detected in immersion fixed paraffin-embedded sections of human cartilage using Mouse Anti-Human/Rat Osteocalcin Monoclonal Antibody (Catalog # MAB1419) at 8 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific labeling was localized to the cytoplasm of chondrocytes. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

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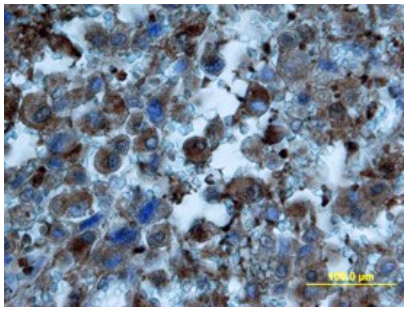
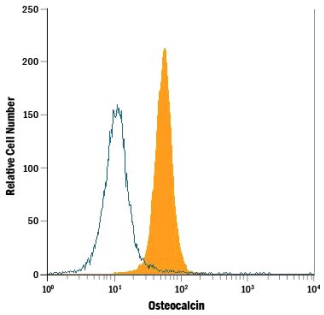
Immunohistochemistry



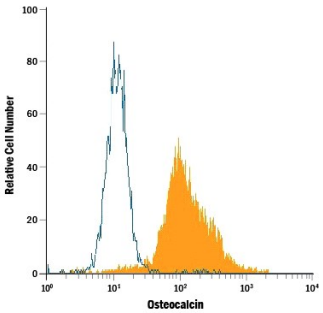
Osteocalcin in Human Osteosarcoma. Osteocalcin was detected in immersion fixed paraffin-embedded sections of human osteosarcoma using Mouse Anti-Human/Rat Osteocalcin Monoclonal Antibody (Catalog # MAB1419) at 25 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Intracellular Staining by Flow Cytometry



Detection of Osteocalcin in Saos-2 Human Cell Line by Flow Cytometry. Saos-2 human osteosarcoma cell line was stained with Mouse Anti-Human/Rat Osteocalcin Monoclonal Antibody (Catalog # MAB1419, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

Intracellular Staining by Flow Cytometry



Detection of Osteocalcin in Human Osteoblasts by Flow Cytometry. Human osteoblasts were stained with Mouse Anti-Human/Rat Osteocalcin Monoclonal Antibody (Catalog # MAB1419, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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.

BACKGROUND

Osteocalcin, also known as Bone γ-Carboxyglutamic Acid Protein, is a secreted protein whose expression is restricted to cells of the osteoblast lineage (1). It has been frequently used as a marker for osteoblast lineage cells.

References:

1. Lian, J.B. *et al.* (1999) Vitamin. Horm. **55**:443.