abcam

ab216402

Anti-Osteopontin antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Proclin 300 Constituents: 50% Glycerol (glycerin, glycerine), 48.98% TBS, 1X, 1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Mouse Spp1 aa 200 to C-terminus conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link P10923
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Rat
Dilution info	1/100 - 1/500
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information SPP1

Function	Major non-collagenous bone protein that binds tightly to hydroxyapatite. Appears to form an integral part of the mineralized matrix. Probably important to cell-matrix interaction. Acts as a cytokine involved in enhancing production of interferon-gamma and interleukin-12 and reducing production of interleukin-10 and is essential in the pathway that leads to type I immunity.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Osteopontin also known as OPN or secreted phosphoprotein 1 (SPP1) is a glycoprotein with a molecular weight of approximately 44 to 75 kDa depending on its post-translational modifications. Osteopontin is characteristically expressed in bone but is also present in various body tissues including kidney liver and immune system cells. This multifunctional protein interacts with cell surface receptors such as integrins and CD44 playing an important role in cell signaling and extracellular matrix interactions. Researchers often study it using osteopontin western blot or osteopontin ELISA kit to understand its expression patterns and roles.
Biological function summary	Osteopontin affects cell adhesion migration and survival. It does not form part of a known large complex but interacts closely with its integrin receptors. Osteopontin modulates immune responses and aids in bone remodeling by affecting osteoclast and osteoblast functions. It is also influential in inflammation processes where it orchestrates the recruitment and activation of macrophages. The osteopontin function is significant in both physiological processes and pathologies marking it as an important protein to study in numerous biological contexts.
Pathways	Osteopontin is integral to both the bone remodeling and immune response pathways. It collaborates with proteins like osteocalcin and matrix metalloproteinases within these processes. In the bone remodeling pathway osteopontin mediates communication between osteoclasts and osteoblasts impacting bone resorption and formation. In the immune response pathway it coordinates with cytokines such as interleukin-6 to modulate immune cell activities. Its roles in these pathways indicate its multifunctional nature and its impact across different biological systems.
Associated diseases and disorders	Osteopontin links to cancer and cardiovascular diseases. It facilitates tumor progression and metastasis by interacting with proteins such as vascular endothelial growth factor (VEGF) and matrix metalloproteinase-9 (MMP-9). In cardiovascular diseases osteopontin influences atherosclerosis development through interactions with inflammatory cytokines and contributes to plaque stability. These disease associations highlight the importance of osteopontin as both a therapeutic target and a biomarker for disease progression and prognosis.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

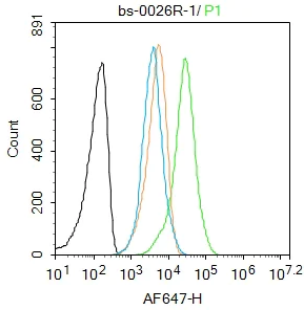
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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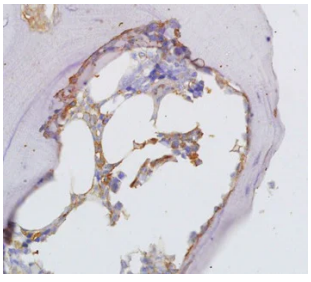
4 product images



Flow Cytometry - Anti-Osteopontin antibody (ab216402)

Osteopontin Flow Cytometry staining using rabbit Anti-Osteopontin antibody

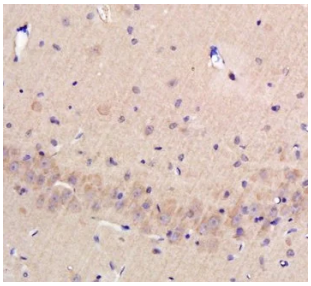
HepG2 cells were fixed with 4% PFA for 10min at room temperature,permeabilized with 0.1%PBST for 20 min at room temperature, and incubated in 5% BSA blocking buffer for 30 min at room temperature. Cells were then stained with Osteopontin Polyclonal Antibody (ab216402) at 1:100 dilution in blocking buffer and incubated for 30 min at room temperature, washed twice with 2%BSA in PBS, followed by secondary antibody incubation for 40 min at room temperature. Acquisitions of 20,000 events were performed. Cells stained with primary antibody (green), and isotype control (orange).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Osteopontin antibody (ab216402)

Osteopontin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Osteopontin antibody

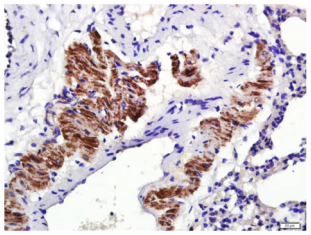
Immunohistochemical analysis of formalin-fixed, paraffin-embedded rat shin bone tissue tissue labeling Osteopontin with ab216402 at 1/300 dilution followed by conjugation to the secondary antibody and DAB staining.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Osteopontin antibody (ab216402)

Osteopontin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Osteopontin antibody

Immunohistochemical analysis of formalin-fixed, paraffin-embedded rat hippocampus tissue tissue labeling Osteopontin with ab216402 at 1/300 dilution followed by conjugation to the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Osteopontin antibody (ab216402)

Osteopontin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Osteopontin antibody

Paraformaldehyde-fixed, paraffin embedded Rat lung; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with Osteopontin Polyclonal Antibody, Unconjugated (ab216402) at 1:400 overnight at 4°C, DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.