10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

OPN-a/b Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11567a

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	P10451
Other Accession	NP_000573.1, NP_001035147.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB19160
Calculated MW	35423
Antigen Region	14-40

Additional Information

Gene ID	6696
Other Names	Osteopontin, Bone sialoprotein 1, Nephropontin, Secreted phosphoprotein 1, SPP-1, Urinary stone protein, Uropontin, SPP1, BNSP, OPN
Target/Specificity	This OPN-a/b antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 14-40 amino acids from the N-terminal region of human OPN-a/b.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	OPN-a/b Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SPP1
Synonyms	BNSP, OPN

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.
Cellular Location	Secreted
Tissue Location	Detected in cerebrospinal fluid and urine (at protein level) (PubMed:25326458, PubMed:36213313, PubMed:37453717) Bone. Found in plasma.

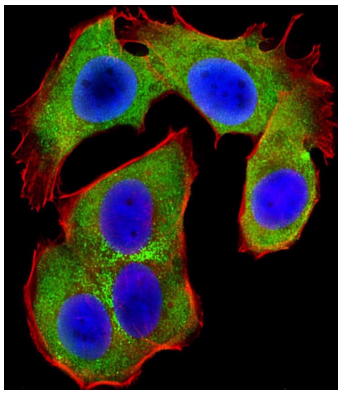
Background

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 (By similarity).

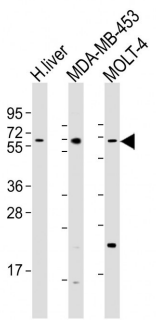
References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Weber, G.F., et al. Br. J. Cancer 103(6):861-869(2010)
Chen, R.X., et al. J. Gastroenterol. Hepatol. 25(8):1435-1442(2010)
Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :
Johnatty, S.E., et al. PLoS Genet. 6 (7), E1001016 (2010) :

Images



Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized MCF-7 (human breast cancer cell line) cells labeling OPN-a/b with AP11567a at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-rabbit IgG (NK179883) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing cytoplasm staining on MCF-7 cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (PD18466410) at 1/100 dilution (red).The nuclear counter stain is DAPI (blue).



All lanes : Anti-OPN-a/b Antibody (N-term) at 1:1000 dilution Lane 1: human liver lysates Lane 2: MDA-MB-453 whole cell lysates Lane 3: MOLT-4 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 35 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- AGEs-Induced Calcification and Apoptosis in Human Vascular Smooth Muscle Cells Is Reversed by Inhibition of Autophagy
- Avian eggshell thinning caused by transovarian exposure to o,p'-DDT: changes in histology and calcium-binding protein production in the oviduct uterus
- MALAT1/miR-127-5p regulates osteopontin (OPN)-mediated proliferation of human chondrocytes through PI3K/Akt pathway.
- NEAT1/miR-181c regulates osteopontin (OPN)-mediated synoviocyte proliferation in osteoarthritis.
- MicroRNA-127-5p regulates osteopontin expression and osteopontin-mediated proliferation of human chondrocytes.
- Osteopontin Promotes Expression of Matrix Metalloproteinase 13 through NF-κB Signaling in Osteoarthritis.

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