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OPN-a/b Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11567a

Specification

OPN-a/b Antibody (N-term) - Product Information

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

OPN-a/b Antibody (N-term) - 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
IF~~1:25
WB~~1:1000
IHC-P~~1:50~100

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.

OPN-a/b Antibody (N-term) - 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

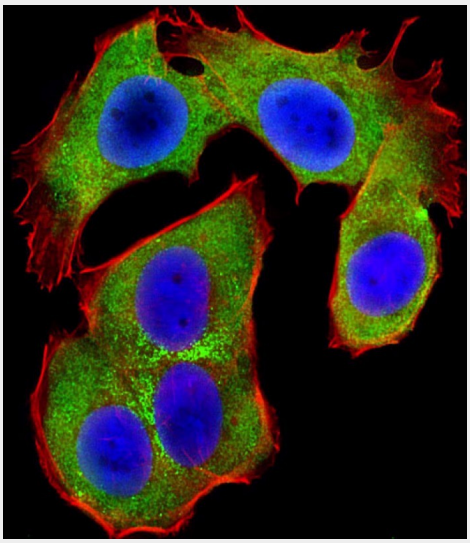
Tissue Location
Detected in cerebrospinal fluid and urine (at protein level) (PubMed:25326458, PubMed:36213313, PubMed:37453717) Bone. Found in plasma.

OPN-a/b 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

OPN-a/b Antibody (N-term) - 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).

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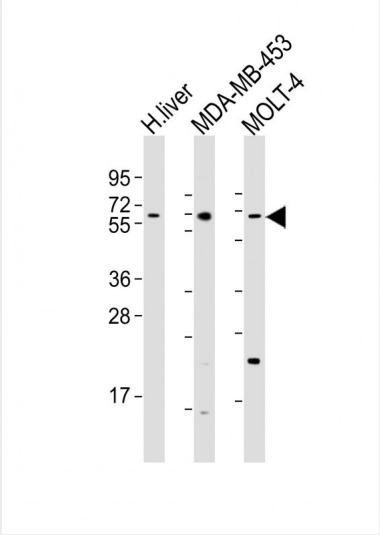
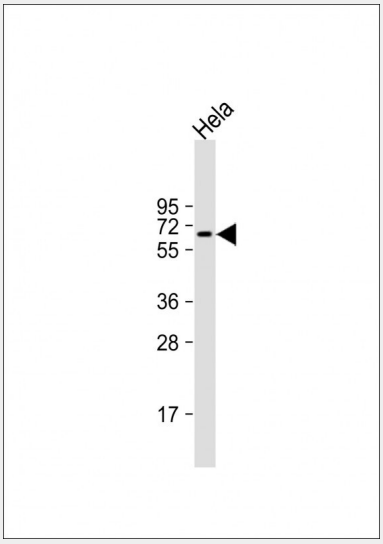


All lanes : Anti-OPN-a/b Antibody (N-term) at 1:1000 dilution Lane 1: human liver lysates Lane 2: MDA-MB-453 whole cell lysates Lane 3: MOLT-4 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size :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



Anti-OPN-a/b Antibody (N-term) at 1:2000 dilution + Hela 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 : 35 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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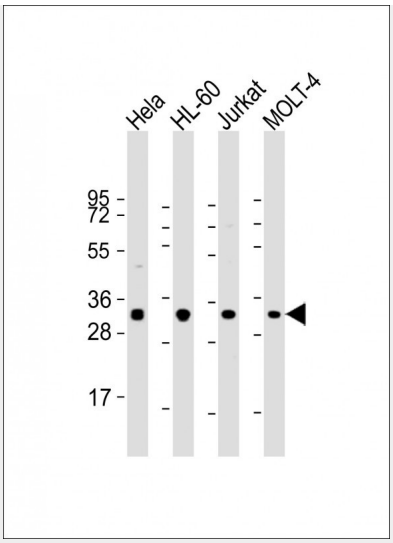
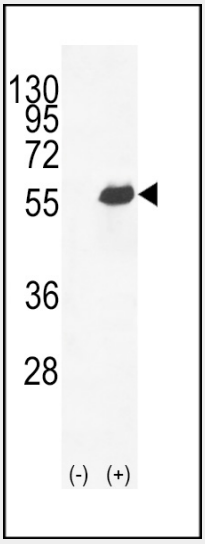
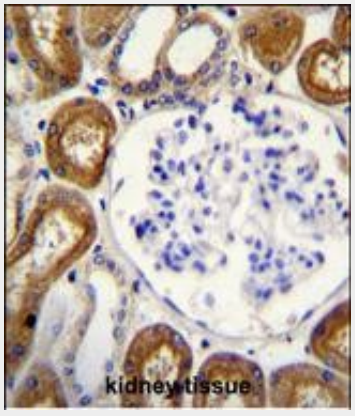


All lanes : Anti-OPN-a/b Antibody (N-term) at 1:2000 dilution Lane 1: Hela whole cell lysate Lane 2: HL-60 whole cell lysate Lane 3: Jurkat whole cell lysate Lane 4: MOLT-4 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 35 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of OPN-a/b (arrow) using rabbit polyclonal OPN-a/b Antibody (N-term) (Cat. #AP11567a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the OPN-a/b gene.



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OPN-a/b Antibody (N-term) (Cat. #AP11567a)immunohistochemistry analysis in formalin fixed and paraffin embedded human kidney tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of OPN-a/b Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.

OPN-a/b Antibody (N-term) - 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).

OPN-a/b Antibody (N-term) - 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) :

OPN-a/b Antibody (N-term) - Citations

- 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.