OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for R1565

Osteopontin (SPP1) Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	ELISA, IHC, IP, WB
Recommended Dilution:	This antibody is suitable for Western blotting, Immunohistochemistry (Formalin Fixed Paraffin-Embedded Sections) and ELISA. A 1/1000 dilution will detect strongly approximately 250 ng of OPN protein on a Blot. No pretreatment is required for Immunohistochemistry when Formalin Fixed Paraffin-Embedded tissue is stained. ***Recommended Dilutions:*** ELISA: 1/5,000-1/20,000. Western blot: 1/500-1/2,000. Immunoprecipitation: 1/100. Immunohistochemistry: 1/100-1/300.
Reactivity:	Canine, Human, Mouse, Porcine, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Synthetic peptide corresponding to Human Osteopontin conjugated to KLH using maleimide.
Specificity:	This antiserum is directed against Human Osteopontin (OPN). The antibody recognizes the full length osteopontin protein (which runs at 66 kD on westerns), as well as the C-terminal fragments of both thrombin and MMP-cleaved OPN. The 32 kD MMP-cleaved C-fragment is recognized, but not the 40 kD N-terminal fragment.
Formulation:	0.02M Potassium Phosphate, 0.15M Sodium Chloride, pH 7.2 State: Serum State: Liquid (sterile filtered) Serum Stabilizer: None Preservative: 0.01% (w/v) Sodium Azide
Concentration:	lot specific
Conjugation:	Unconjugated
Storage:	Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.

View online »

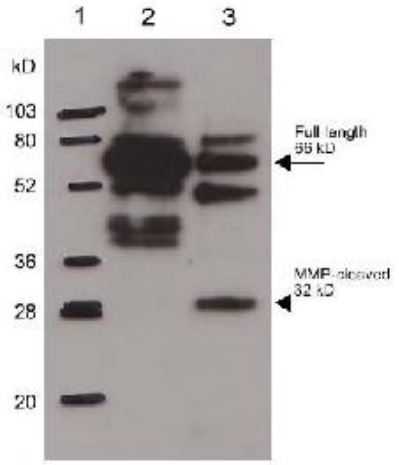
Gene Name: secreted phosphoprotein 1

Database Link: Entrez Gene 6696 Human
P10451

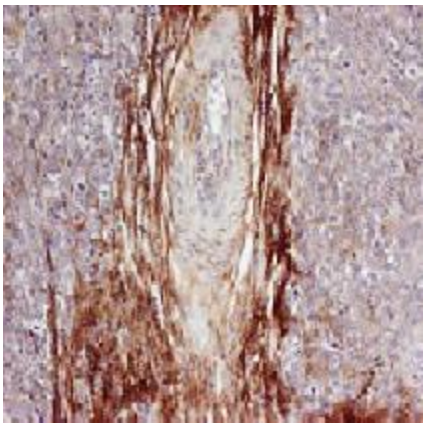
Background: Osteopontin (OPN) is an arginine-glycine-aspartic acid (RGD)-containing glycoprotein that interacts with integrins and CD44 as major receptors. OPN is multifunctional, with activities in cell migration, cell survival, inhibition of calcification, regulation of immune cell function, and control of tumor cell phenotype. The gene encoding OPN is called spp1. Targeting this gene has revealed that while OPN is not necessary for normal embryonic development, fertility, and health under pathogen-free conditions, loss of the protein has significant consequences in several models of injury/disease as diverse as renal injury, viral and bacterial infection, bone remodeling, and tumor growth. The fact that no other proteins seem to share a redundant activity with OPN under these conditions suggests that OPN has a unique functional role during tissue injury and stress. Interestingly, several members of the matrix metalloproteinase (MMP) family are also induced during injury/disease processes in patterns overlapping that of OPN. OPN has recently been shown to be a novel substrate for two MMPs, MMP-3 (stromelysin-1) and MMP-7 (matrilysin). There are three cleavage sites for MMP-3 in human OPN, two of which are also cleaved by MMP-7 (see cleavage diagram). Biological assays demonstrate that the MMP-cleaved OPN has increased activity in promoting both cell adhesion and migration compared with full-length OPN. In addition, inhibitory reagents were used to show that the same receptors that interact with OPN also mediate interaction of MMP-cleaved OPN with tumor cells. It is suggested that active forms of OPN at sites of tissue injury may be regulated by the activity of proteases including MMPs and that the differences in activity of modified OPN may be explained by differences in binding affinity of integrins or distinct downstream signaling events.

Synonyms: BNSP, OPN, SPP-1, Nephropontin, Uropontin

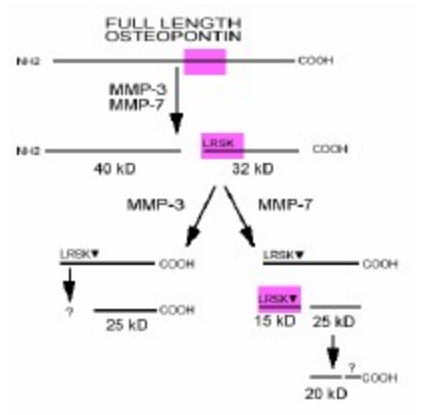
Product images:



Immunoblotting: Osteopontin antibody was used at a 1/1,000 dilution to detect Osteopontin by Western blot. In lane 2 reactivity is shown against 250 ng of Human osteopontin. Lane 3 shows reactivity of MMP-cleaved osteopontin. Lane 1 shows the position of molecular weight markers. Use a 1/10,000 dilution of HRP conjugated Goat anti-Rabbit IgG ([R1454HRP]) for detection.



Immunohistochemistry: Osteopontin antibody was used at a 1/100-1/300 dilution to detect Osteopontin which is a normal component of elastic fibers in the breast (shown heavily stained in this section of Human breast tumor cells). There is also weak staining of the extracellular matrix. Osteoponin is not expressed in breast tumor cells, and there is no staining of the breast cells in this section. No antigen retrieval is required.



Osteopontin cleavage diagram: OPN is cleaved by MMP to yield 2 fragments, which migrate at 40 kDa (N terminal) and 32 kDa (C terminal). The C terminal fragment can undergo further cleavage by both of these MMPs. The epitope that is recognized by Rabbit-anti-Osteopontin is shown in violet. This antibody detects the full length OPN and the 32 kDa fragment. It does not recognize the 40 kDa fragment.