



SZABO SCANDIC

Part of Europa Biosite

Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!



Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

Datasheet for 100-401-404S**Osteopontin Antibody****Overview**

Description:	Anti-Osteopontin (RABBIT) Antibody - 100-401-404S
Item No.:	100-401-404S
Size:	25 µL
Applications:	ELISA, IHC, WB, Other
Reactivity:	Human
Host Species:	Rabbit

Product Details

Background: Anti Osteopontin Antibody recognizes Osteopontin (OPN) that is an arginine-glycine-aspartic acid (RGD)-containing glycoprotein which 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:	rabbit anti-Osteopontin antibody, Bone sialoprotein 1, Secreted phosphoprotein 1, SPP-1, Urinary stone protein, Nephropontin, Uropontin, SPP1, BNSP, OPN
Host Species:	Rabbit

Clonality: Polyclonal

Format: Antiserum

Target Details

Gene Name: SPP1

Reactivity: Human

Immunogen Type: Conjugated Peptide

Immunogen: This whole rabbit serum was prepared by repeated immunizations with a synthetic peptide, from the human osteopontin protein, conjugated to KLH using maleimide.

Purity/Specificity: Osteopontin is directed against human osteopontin. The antibody recognizes the full-length osteopontin protein (which runs at 66 kDa on westerns), as well as the C-terminal fragments of both thrombin and MMP-cleaved OPN. The 32 kDa MMP-cleaved C-fragment is recognized, but not the 40 kDa N-terminal fragment. Reactivity is reported to occur with osteopontin from swine, dog, mouse and rat.

Relevant Links:

- [UniProtKB - P10451](#)

Application Details

Tested Applications: ELISA, IHC, WB

Suggested Applications: Other (Based on references)

Application Note: Anti-Osteopontin has been tested for western blotting, immunohistochemistry (formalin-fixed paraffin-embedded sections) and ELISA. The antibody exclusively recognizes C-terminal fragments of both thrombin and MMP-cleaved OPN. The antibody recognizes the full-length osteopontin protein (which runs at 66 kDa on westerns), and 32 kDa for the MMP-cleaved C-fragment, but the 40 kDa N-terminal fragment is not recognized. A 1:1000 dilution will detect strongly approximately 250 ng of OPN protein on a blot. A 1:100-1:300 dilution used for IHC on human breast tumor tissues. No pretreatment is required for IHC when formalin-fixed paraffin-embedded tissue is stained. Specific conditions for reactivity and signal detection should be optimized by the end user.

Assay Dilutions: All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.

ELISA: 1:5,000 - 1:20,000

IHC: 1:100 - 1:300

IP: 1:100

WB: 1:500 - 1:2,000

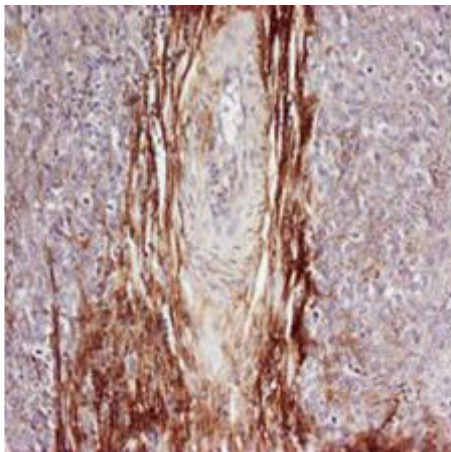
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	75 mg/mL by Refractometry
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.1% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

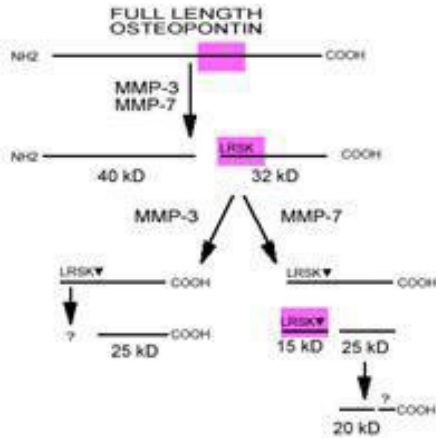
Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 µL). To minimize loss of volume dilute 1:10 by adding 225 µL of the buffer stated above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Immunohistochemistry

Rabbit anti-Osteopontin was used at a 1:100-1:300 dilution to detect osteopontin by immunohistochemistry. Osteopontin 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. Osteopontin is not expressed in breast tumor cells, and there is no staining of the breast cells in this section. No antigen retrieval is required.

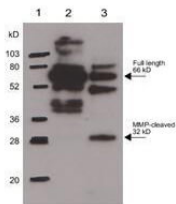


Diagram

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.

Western Blot

Western Blot of Rabbit Anti-Osteopontin Antibody. Lane 1: Molecular Weight Marker. Lane 2: Human Osteopontin [250ng]. Lane 3: MMP-cleaved Osteopontin. Primary Antibody: Anti-Osteopontin at 1:1000 overnight at 2-8°C. Secondary Antibody: Goat Anti-Rabbit IgG HRP (p/n 611-103-122) at 1:10,000. Observed MW: full length 66kDa, MMP-cleaved 32kDa.



References

- Dawson HD et al. Porcine cytokines, chemokines and growth factors: 2019 update *Res Vet Sci.* (2019)
- Cherepanova et al. Activation of the pluripotency factor OCT4 in smooth muscle cells is atheroprotective. *Nature Medicine* (2016)
- Kim S, Shin T. Immunohistochemical study of osteopontin in boar testis. *J Vet Sci.* (2007)

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.