

For Research Use Only

# Osteopontin Recombinant antibody, PBS Only (Detector)

Catalog Number: 83341-1-PBS



## Basic Information

<b>Catalog Number:</b> 83341-1-PBS	<b>GenBank Accession Number:</b> BC007016	<b>Purification Method:</b> Protein A purification
<b>Size:</b> 100ug , Concentration: 1 mg/ml by Nanodrop;	<b>GeneID (NCBI):</b> 6696	<b>CloneNo.:</b> 240206A2
<b>Source:</b> Rabbit	<b>UNIPROT ID:</b> P10451-5	
<b>Isotype:</b> IgG	<b>Full Name:</b> secreted phosphoprotein 1	
	<b>Calculated MW:</b> 314 aa, 35 kDa	
	<b>Observed MW:</b> 60-66 kDa	

## Applications

**Tested Applications:**  
WB, IHC, IF/ICC, FC (Intra), Cytometric bead array,  
Sandwich ELISA, Indirect ELISA, Sample test

**Species Specificity:**  
human, mouse

## Product Information

83341-1-PBS targets Osteopontin as part of a matched antibody pair:

MP00375-1: 83341-2-PBS capture and 83341-1-PBS detection (validated in Cytometric bead array, Sandwich ELISA)

Unconjugated rabbit recombinant monoclonal antibody in PBS only (BSA and azide free) storage buffer at a concentration of 1 mg/mL, ready for conjugation. Created using Proteintech's proprietary in-house recombinant technology. Recombinant production enables unrivalled batch-to-batch consistency, easy scale-up, and future security of supply.

This conjugation ready format makes antibodies ideal for use in many applications including: ELISAs, multiplex assays requiring matched pairs, mass cytometry, and multiplex imaging applications. Antibody use should be optimized by the end user for each application and assay.

## Background Information

Osteopontin (OPN), also known as SPP1, is a secreted glycoprophosphoprotein that belongs to the small integrin-binding ligand N-linked glycoprotein (SIBLING) family. Originally isolated from bone, OPN has been found in kidneys, vascular tissues, biological fluids, and various tumor tissues (PMID: 15138464; 16406521). OPN can interact with CD44 and integrins and regulate diverse biological processes. It has a multifaceted role in bone development and remodeling, and is also involved in the inflammatory and immune response, oncogenesis and cancer progression. The very acidic nature of OPN, as well as the presence of variable posttranslational modifications, has led to anomalous migration in SDS-polyacrylamide gels and therefore to reports of different molecular weights for OPN (PMID: 8293561). Depending on the cell and tissue source and/or the SDS-PAGE system, OPN migrates with a molecular weight of 44-80 kDa, as well as at some smaller bands corresponding to peptide fragments (PMID: 8195113; 17890765).

## Storage

**Storage:**  
Store at -80°C.  
**Storage Buffer:**  
PBS Only

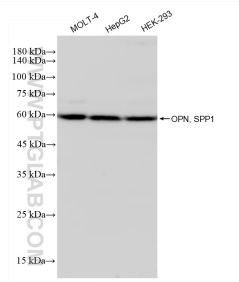
For technical support and original validation data for this product please contact:

T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free  
in USA), or 1(312) 455-8498 (outside USA)

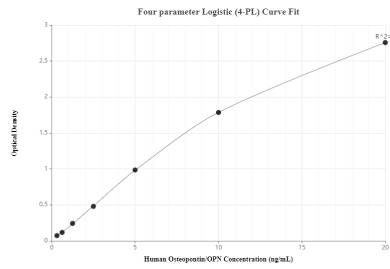
E: [proteintech@ptglab.com](mailto:proteintech@ptglab.com)  
W: [ptglab.com](http://ptglab.com)

**This product is exclusively available under Proteintech Group brand and is not available to purchase from any other manufacturer.**

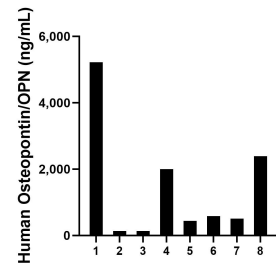
# Selected Validation Data



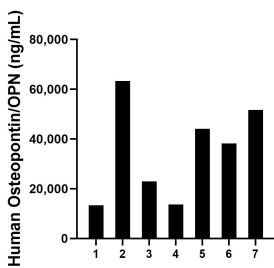
Various lysates were subjected to SDS PAGE followed by western blot with 83341-1-RR (OPN, SPP1 antibody) at dilution of 1:3000 incubated at room temperature for 1.5 hours. This data was developed using the same antibody clone with 83341-1-PBS in a different storage buffer formulation.



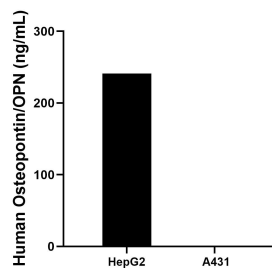
Sandwich ELISA standard curve of MP00375-1, Human Osteopontin Recombinant Matched Antibody Pair - PBS only. 83341-2-PBS was coated to a plate as the capture antibody and incubated with serial dilutions of standard Eg0754. 83341-1-PBS was HRP conjugated as the detection antibody. Range: 0.313-20 ng/mL.



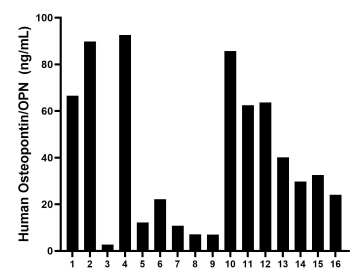
Urine of eight individual healthy human donors was measured. The Osteopontin concentration of detected samples was determined to be 1,426.23 ng/mL with a range of 136.64 - 5,219.95 ng/mL.



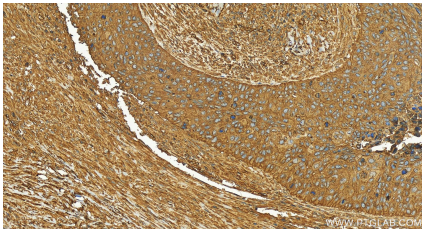
Milk of seven individual healthy human donors was measured. The Osteopontin concentration of detected samples was determined to be 35,304.3 ng/mL with a range of 13,338.9 - 63,338.0 ng/mL.



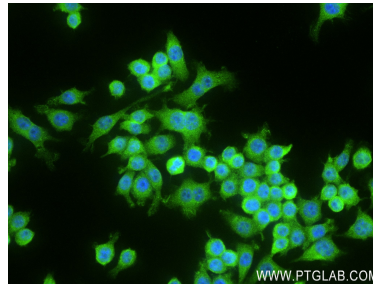
HepG2 (human hepatocellular carcinoma cells) were cultured in DMEM supplemented with 10% fetal bovine serum, 2.5 mM L-glutamine, 100 U/mL penicillin, and 100 µg/mL streptomycin sulfate. An aliquot of the cell culture supernate was removed, assayed for human Osteopontin, and measured 240.9 ng/mL. A431 were cultured in DMEM supplemented with 10% fetal bovine serum, 2.5 mM L-glutamine, 100 U/mL penicillin, and 100 µg/mL



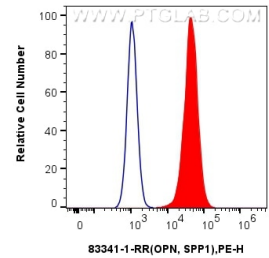
Plasma of sixteen individual healthy human donors was measured. The Osteopontin concentration of detected samples was determined to be 40.58 ng/mL with a range of 7.07 - 92.57 ng/mL.



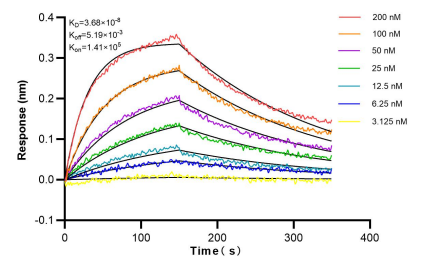
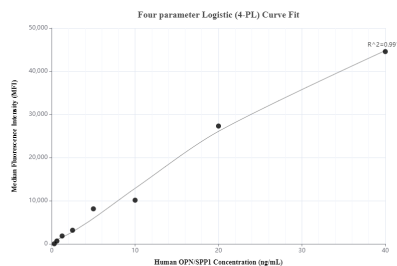
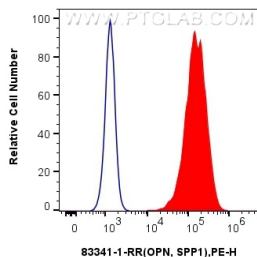
Immunohistochemical analysis of paraffin-embedded human cervical squamous cancer tissue slide using 83341-1-RR (Osteopontin antibody) at dilution of 1:400 (under 20x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0). This data was developed using the same antibody clone with 83341-1-PBS in a different storage buffer formulation.



Immunofluorescent analysis of (4% PFA) fixed RAW 264.7 cells using OPN, SPP1 antibody (83341-1-RR, Clone: 240206A2) at dilution of 1:250 and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L) (SA00013-2). This data was developed using the same antibody clone with 83341-1-PBS in a different storage buffer formulation.



1x10<sup>6</sup> U-937 cells were intracellularly stained with 0.25 µg OPN, Spp1 Recombinant Antibody (83341-1-RR, Clone:240206A2) and PE-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L)(red), or 0.25 µg Isotype Control (blue). Cells were fixed with 4% PFA and permeabilized with Flow Cytometry Perm Buffer (PF00011-C). This data was developed using the same antibody clone with 83341-1-PBS in a different storage buffer formulation.



1x10<sup>6</sup> A549 cells were intracellularly stained with 0.25 ug OPN, Spp1 Recombinant Antibody (83341-1-RR, Clone:240206A2) and PE-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L)(red), or 0.25 ug Isotype Control (blue). Cells were fixed with 4% PFA and permeabilized with Flow Cytometry Perm Buffer (PF00011-C). This data was developed using the same antibody clone with 83341-1-PBS in a different storage buffer formulation.

Cytometric bead array standard curve of MP00375-1, Osteopontin Recombinant Matched Antibody Pair, PBS Only. Capture antibody: 83341-2-PBS. Detection antibody: 83341-1-PBS. Standard: Eg0754. Range: 0.313-40 ng/mL

Biolayer interferometry (BLI) kinetic assays of 83341-1-RR against Human OPN/SPP1 were performed. The affinity constant is 36.8 nM.