

Datasheet for ABIN411343

Osteopontin ELISA Kit**1** Image**4** Publications[Go to Product page](#)

Overview

Quantity:	96 tests
Target:	Osteopontin (SPP1)
Binding Specificity:	AA 17-300
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	156-10000 pg/mL
Minimum Detection Limit:	156 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human OPN
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA), Milk, Urine
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: I17-N300
Specificity:	Expression system for standard: NSO Immunogen sequence: I17-N300
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<10pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g NaCl

Target Details

Target:	Osteopontin (SPP1)
Alternative Name:	SPP1 (SPP1 Products)
Background:	<p>Protein Function: Binds tightly to hydroxyapatite. Appears to form an integral part of the mineralized matrix. Probably important to cell-matrix interaction.</p> <p>Background: Osteopontin(OPN) also called urinary stone protein, secreted phosphoprotein 1(SPP1), bone sialoprotein, and early T lymphocyte activation 1(ETA1). Osteopontin is a phosphorylated glycoprotein secreted to the mineralizing extracellular matrix by osteoblasts during bone development. It is believed to facilitate the attachment of osteoblasts and osteoclasts to the extracellular matrix, allowing them to perform their respective functions during osteogenesis. Osteopontin is presumably involved in stone formation as stone matrix. The deduced protein sequence reveals a 317-amino acid protein(34,982 Da) containing a 16-amino acid hydrophobic signal sequence and a 33,352-Da protein destined to undergo extensive post-translational modifications before being secreted from the cell. The gene is located on human chromosome 4. The standard product used in this kit is recombinant human OPN, consisting of 17-314 amino acid sequence with the molecular mass of 32.9KDa. As a result of glycosylation, the molecular mass is 60-65KDa.</p> <p>Synonyms: Osteopontin,Bone sialoprotein 1,Nephropontin,Secreted phosphoprotein 1,SPP-1,Urinary stone protein,Uropontin,SPP1,BNSP, OPN,PSEC0156,</p> <p>Full Gene Name: Osteopontin</p> <p>Cellular Localisation: Secreted.</p>
Gene ID:	6696
UniProt:	P10451
Pathways:	Regulation of Cell Size

Application Details

Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well
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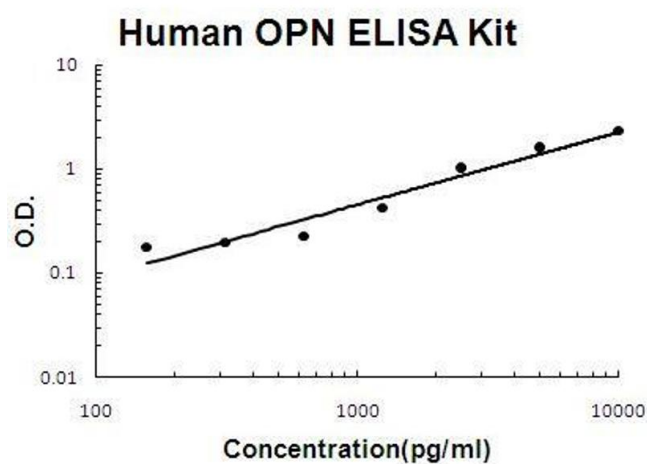
Application Details

	assay was recommended for both standard and sample testing.
Comment:	Sequence similarities: Belongs to the osteopontin family. Tissue Specificity: Bone. Found in plasma.
Plate:	Pre-coated
Protocol:	human OPN ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for OPN has been precoated onto 96-well plates. Standards(NSO, I17-N300) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for OPN is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human OPN amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 10000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 312pg/mL, 156pg/mL human OPN standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernatants, serum, plasma(heparin, EDTA), milk or urine to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human OPN standard solution and each sample be measured in duplicate.
Assay Precision:	<ul style="list-style-type: none">• Sample 1: n=16, Mean(ng/ml): 2.5, Standard deviation: 0.105, CV(%): 4.2• Sample 2: n=16, Mean(ng/ml): 4.3, Standard deviation: 0.146, CV(%): 3.4• Sample 3: n=16, Mean(ng/ml): 6.1, Standard deviation: 0.317, CV(%): 5.2,• Sample 1: n=24, Mean(ng/ml): 2.6, Standard deviation: 0.161, CV(%): 6.2• Sample 2: n=24, Mean(ng/ml): 3.9, Standard deviation: 0.226, CV(%): 5.8• Sample 3: n=24, Mean(ng/ml): 6.3, Standard deviation: 0.353, CV(%): 5.6
Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C, 4 °C
Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
Expiry Date:	12 months

- Product cited in: Leira, Ameijeira, Domínguez, López-Arias, Ávila-Gómez, Pérez-Mato, Sobrino, Campos, DAiuto, Leira, Blanco: "Periodontal inflammation is related to increased serum calcitonin gene-related peptide levels in patients with chronic migraine." in: **Journal of periodontology**, Vol. 90, Issue 10, pp. 1088-1095, (2020) ([PubMed](#)).
- Tarperi, Sanchis-Gomar, Montagnana, Danese, Salvagno, Gelati, Skroce, Schena, Lippi: "Effects of endurance exercise on serum concentration of calcitonin gene-related peptide (CGRP): a potential link between exercise intensity and headache." in: **Clinical chemistry and laboratory medicine**, Vol. 58, Issue 10, pp. 1707-1712, (2020) ([PubMed](#)).
- Pérez-Pereda, Toriello-Suárez, Ocejo-Vinyals, Guiral-Foz, Castillo-Obeso, Montes-Gómez, Martínez-Nieto, Iglesias, González-Quintanilla, Oterino: "Serum CGRP, VIP, and PACAP usefulness in migraine: a case-control study in chronic migraine patients in real clinical practice." in: **Molecular biology reports**, Vol. 47, Issue 9, pp. 7125-7138, (2020) ([PubMed](#)).
- Pinto-Sanchez, Hall, Ghajar, Nardelli, Bolino, Lau, Martin, Cominetti, Welsh, Rieder, Traynor, Gregory, De Palma, Pigrau, Ford, Macri, Berger, Bergonzelli, Surette, Collins, Moayyedi, Bercik: "Probiotic Bifidobacterium longum NCC3001 Reduces Depression Scores and Alters Brain Activity: A Pilot Study in Patients With Irritable Bowel Syndrome." in: **Gastroenterology**, Vol. 153, Issue 2, pp. 448-459.e8, (2017) ([PubMed](#)).
- Lei, Zhu, Zhang, Duan, Lei, Huang: "Transient Receptor Potential Vanilloid Subtype 1 Inhibits Inflammation and Apoptosis via the Release of Calcitonin Gene-Related Peptide in the Heart after Myocardial Infarction." in: **Cardiology**, Vol. 134, Issue 4, pp. 436-43, (2016) ([PubMed](#)).



ELISA

Image 1. Human OPN PicoKine ELISA Kit standard curve