Datasheet for ABIN411341

# Osteoprotegerin ELISA Kit

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## Overview

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| Quantity: | 96 tests |
| Target: | Osteoprotegerin (TNFRSF11B) |
| Binding Specificity: | AA 22-401 |
| Reactivity: | Human |
| Method Type: | Sandwich ELISA |
| Detection Range: | 93.7-6000 pg/mL |
| Minimum Detection Limit: | 93.7 pg/mL |
| Application: | ELISA |

## Product Details

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| Purpose: | Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human OPG |
| Brand: | PicoKine™ |
| Sample Type: | Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA), Saliva, Urine |
| Analytical Method: | Quantitative |
| Detection Method: | Colorimetric |
| Immunogen: | Expression system for standard: NSO<br>Immunogen sequence: E22-L401 |
| Specificity: | Expression system for standard: NSO<br>Immunogen sequence: E22-L401 |
| Cross-Reactivity (Details): | There is no detectable cross-reactivity with other relevant proteins. |

 

## Product Details

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| Sensitivity: | <5pg/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

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| Target: | Osteoprotegerin (TNFRSF11B) |
| Alternative Name: | Osteoprotegerin (OPG) (TNFRSF11B Products) |
| Target Type: | Chemical |
| Background: | Protein Function: Acts as decoy receptor for TNFSF11/RANKL and thereby neutralizes its function in osteoclastogenesis. Inhibits the activation of osteoclasts and promotes osteoclast apoptosis in vitro. Bone homeostasis seems to depend on the local ratio between TNFSF11 and TNFRSF11B. May also play a role in preventing arterial calcification. May act as decoy receptor for TNFSF10/TRAIL and protect against apoptosis. TNFSF10/TRAIL binding blocks the inhibition of osteoclastogenesis. .<br>Background: Osteoprotegerin(OPG) is identical to osteoclastogenesis inhibitory factor(OCIF), a soluble member of the tumor-necrosis factor receptor family that inhibits osteoclastogenesis. OPG is considered to play an important role in the regulation of bone resorption by modifying osteoclast differentiation. Osteoprotegerin is an independent risk factor for the progression of atherosclerosis and onset of cardiovascular disease. It can act as a soluble factor in the regulation of bone mass and imply a utility for OPG in the treatment of osteoporosis associated with increased osteoclast activity. OPG system may play a critical role in the development of osteolytic bone disease in multiple myeloma and that targeting this system may have therapeutic potential. OPG also plays a role in the vascular system. The standard product used in this kit is recombinant OPG, a 55KDa glycoprotein.<br>Synonyms: Tumor necrosis factor receptor superfamily member 11B,Osteoclastogenesis inhibitory factor,Osteoprotegerin,TNFRSF11B,OCIF, OPG,<br>Full Gene Name: Tumor necrosis factor receptor superfamily member 11B<br>Cellular Localisation: Secreted. |
| Gene ID: | 4982 |
| UniProt: | O00300 |

## Application Details

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| Application Notes: | Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing. |
| Comment: | Sequence similarities: Contains 2 death domains.<br>Tissue Specificity: Highly expressed in adult lung, heart, kidney, liver, spleen, thymus, prostate, ovary, small intestine, thyroid, lymph node, trachea, adrenal gland, testis, and bone marrow. Detected at very low levels in brain, placenta and skeletal muscle. Highly expressed in fetal kidney, liver and lung. |
| Plate: | Pre-coated |
| Protocol: | human OPG ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for OPG has been precoated onto 96-well plates. Standards(NSO, E22-L401) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for OPG 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 OPG amount of sample captured in plate. |
| Assay Procedure: | Aliquot 0.1 mL per well of the 6000pg/mL, 3000pg/mL, 1500pg/mL, 750pg/mL, 375pg/mL, 187.5pg/mL, 93.7pg/m human OPG 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 supernates, serum, plasma(heparin, EDTA), saliva or urine to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human OPG standard solution and each sample be measured in duplicate. |
| Assay Precision: | • Sample 1: n=16, Mean(pg/ml): 843, Standard deviation: 40.5, CV(%): 4.8<br>• Sample 2: n=16, Mean(pg/ml): 2186, Standard deviation: 111.5, CV(%): 5.1<br>• Sample 3: n=16, Mean(pg/ml): 3627, Standard deviation: 214, CV(%): 5.9,<br>• Sample 1: n=24, Mean(pg/ml): 924, Standard deviation: 60.06, CV(%): 6.5<br>• Sample 2: n=24, Mean(pg/ml): 2570, Standard deviation: 179.9, CV(%): 7<br>• Sample 3: n=24, Mean(pg/ml): 4085, Standard deviation: 310.46, CV(%): 7.6 |
| Restrictions: | For Research Use only |

## Handling

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| Handling Advice: | Avoid multiple freeze-thaw cycles. |

 

## Handling

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| 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 |

## Publications

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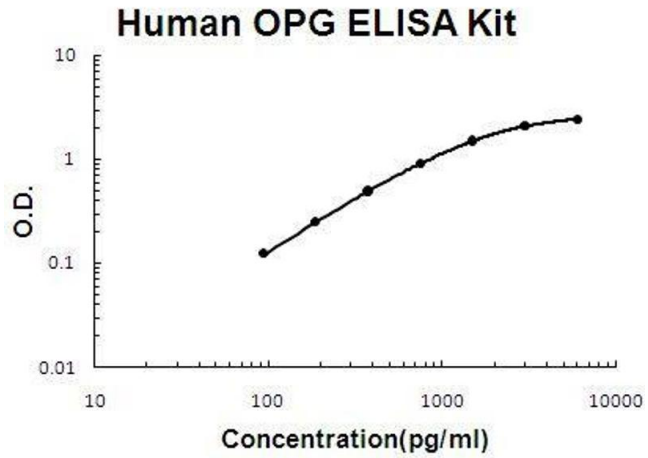
| Product cited in: | Kostrzewa-Nowak, Kubaszewska, Nowakowska, Nowak: "Effect of Aerobic and Anaerobic Exercise on the Complement System of Proteins in Healthy Young Males." in: **Journal of clinical medicine**, Vol. 9, Issue 8, (2020) (PubMed).<br><br>Bhattad, Rawat, Gupta, Suri, Garg, de Boer, Kuijpers, Singh: "Early Complement Component Deficiency in a Single-Centre Cohort of Pediatric Onset Lupus." in: **Journal of clinical immunology**, Vol. 35, Issue 8, pp. 777-85, (2015) (PubMed).<br><br>There are more publications referencing this product on: Product page |

## Images




**ELISA**

**Image 1.** Human OPG PicoKine ELISA Kit standard curve