Datasheet for ABIN411342
Osteoprotegerin ELISA Kit

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Overview

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

Product Details

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

Product Details

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

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. .
	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.
	Synonyms: Tumor necrosis factor receptor superfamily member 11B,Osteoclastogenesis inhibitory factor,Osteoprotegerin,Tnfrsf11b,Ocif, Opg,
	Full Gene Name: Tumor necrosis factor receptor superfamily member 11B
	Cellular Localisation: Secreted.
Gene ID:	18383
UniProt:	O08712

Application Details

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. Tissue Specificity: Highly expressed in liver, lung, stomach, intestines and calvaria. Highly expressed in decidua and placenta, and in embryo.
Plate:	Pre-coated
Protocol:	mouse OPG ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from rat 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 mouse 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 mouse 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 mouse cell culture supernates, serum or plasma(EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each mouse OPG standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 682, Standard deviation: 32.1, CV(%): 4.7 • Sample 2: n=16, Mean(pg/ml): 1537, Standard deviation: 86.1, CV(%): 5.6 • Sample 3: n=16, Mean(pg/ml): 3574, Standard deviation: 218, CV(%): 6.1, • Sample 1: n=24, Mean(pg/ml): 722, Standard deviation: 38.3, CV(%): 5.3 • Sample 2: n=24, Mean(pg/ml): 1647, Standard deviation: 118.6, CV(%): 7.2 • Sample 3: n=24, Mean(pg/ml): 3844, Standard deviation: 288.3, CV(%): 7.5
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

Handling

Expiry Date:	12 months

Publications

Product cited in:

Wu, Wu, Li, Cong, Chen, Xu, Biswas, Liu, Xia, Li, Hu, Zhang, Habib, Zhang, Zou, Zhang, Zhang, Li: "Bone Size and Quality Regulation: Concerted Actions of mTOR in Mesenchymal Stromal Cells and Osteoclasts." in: **Stem cell reports**, Vol. 8, Issue 6, pp. 1600-1616, (2017) (PubMed).

Guo, Li, Wu, Jing, Huang, Zhang, Xiang, Ren, Lv, Xiao, Guo: "Meclizine Prevents Ovariectomy-Induced Bone Loss and Inhibits Osteoclastogenesis Partially by Upregulating PXR." in: **Frontiers in pharmacology**, Vol. 8, pp. 693, (2017) (PubMed).
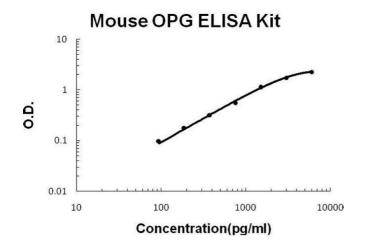
Zhao, Cai, Wang, Zhao, Li, Liu, Guan, Zhu, Xiao: "Dihydromyricetin Protects against Bone Loss in Ovariectomized Mice by Suppressing Osteoclast Activity." in: **Frontiers in pharmacology**, Vol. 8, pp. 928, (2017) (PubMed).

Zhang, Guan, Li, Fang, Chen, Li: "Amlexanox Suppresses Osteoclastogenesis and Prevents Ovariectomy-Induced Bone Loss." in: **Scientific reports**, Vol. 5, pp. 13575, (2016) (PubMed).

Montesi, Panseri, Iafisco, Adamiano, Tampieri: "Coupling Hydroxyapatite Nanocrystals with Lactoferrin as a Promising Strategy to Fine Regulate Bone Homeostasis." in: **PLoS ONE**, Vol. 10, Issue 7, pp. e0132633, (2015) (PubMed).

There are more publications referencing this product on: Product page

Images

ELISA

Image 1. Mouse OPG PicoKine ELISA Kit standard curve