Datasheet for ABIN1706067

RANKL ELISA Kit

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Overview

Quantity:	96 tests
Target:	RANKL (TNFSF11)
Binding Specificity:	AA 64-245
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	78-5000 pg/mL
Minimum Detection Limit:	78 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human TNFSF11/RANKL
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: G64-D245
Specificity:	Expression system for standard: NSO Immunogen sequence: G64-D245
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:	RANKL (TNFSF11)
Alternative Name:	TNFSF11 (TNFSF11 Products)
Background:	Protein Function: Cytokine that binds to TNFRSF11B/OPG and to TNFRSF11A/RANK. Osteoclast differentiation and activation factor. Augments the ability of dendritic cells to stimulate naive T-cell proliferation. May be an important regulator of interactions between T-cells and dendritic cells and may play a role in the regulation of the T-cell-dependent immune response. May also play an important role in enhanced bone-resorption in humoral hypercalcemia of malignancy. . Background: Receptor activator of nuclear factor kappa-B ligand(RANKL), also known as tumor necrosis factor ligand superfamily member 11(TNFSF11), is a protein that in humans is encoded by the TNFSF11 gene. This gene encodes a member of the tumor necrosis factor(TNF) cytokine family which is a ligand for osteoprotegerin and functions as a key factor for osteoclast differentiation and activation. This gene is mapped to chromosome13q14.11. Targeted disruption of the related gene in mice led to severe osteopetrosis and a lack of osteoclasts. The deficient mice exhibited defects in early differentiation of T and B lymphocytes, and failed to form lobulo-alveolar mammary structures during pregnancy. This gene may play an important role in enhanced bone-resorption in humoral hypercalcemia of malignancy. Synonyms: Tumor necrosis factor ligand superfamily member 11,Osteoclast differentiation factor,ODF,Osteoprotegerin ligand,OPGL,Receptor activator of nuclear factor kappa-B ligand,RANKL,TNF-related activation-induced cytokine,TRANCE,CD254,Tumor necrosis factor ligand superfamily member 11, membrane form,Tumor necrosis factor ligand superfamily member 11, soluble form,TNFSF11,OPGL, RANKL, TRANCE, Full Gene Name: Tumor necrosis factor ligand superfamily member 11 Cellular Localisation: Isoform 1: Cell membrane, Single-pass type II membrane protein.
Gene ID:	8600

Target Details

UniProt:	O14788
Pathways:	NF-kappaB Signaling

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:	Tissue Specificity: Highest in the peripheral lymph nodes, weak in spleen, peripheral blood Leukocytes, bone marrow, heart, placenta, skeletal muscle, stomach and thyroid.
Plate:	Pre-coated
Protocol:	human TNFSF11 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for TNFSF11 has been precoated onto 96-well plates. Standards(NSO, G64-D245) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for TNFSF11 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 TNFSF11 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 313pg/mL, 156pg/mL, 78pg/mL human TNFSF11 standard solutions into the pre-coated 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 or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. We recommend that each human TNFSF11 standard solution and each sample is measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 624, Standard deviation: 20.6, CV(%): 3.3 • Sample 2: n=16, Mean(pg/ml): 1302, Standard deviation: 66.4, CV(%): 5.1 • Sample 3: n=16, Mean(pg/ml): 2684, Standard deviation: 123.5, CV(%): 4.6, • Sample 1: n=24, Mean(pg/ml): 714, Standard deviation: 28.56, CV(%): 4 • Sample 2: n=24, Mean(pg/ml): 1428, Standard deviation: 92.82, CV(%): 6.5 • Sample 3: n=24, Mean(pg/ml): 2710, Standard deviation: 154.5, CV(%): 5.7
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

Publications

Product cited in:

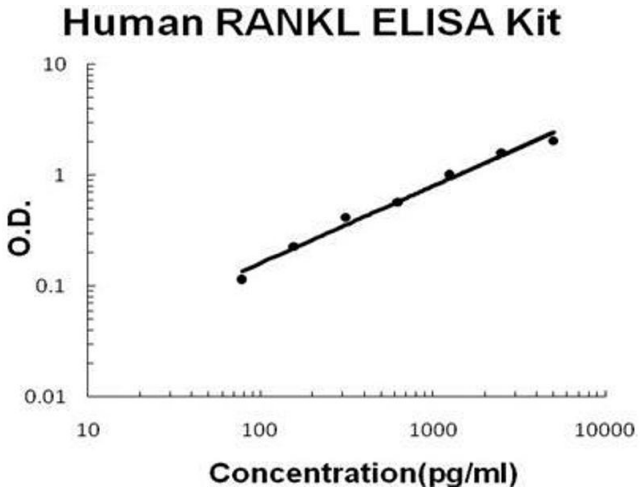
Zhao, Ning, Wang, Li, Qiao, Yao, Qin: "Calcitonin gene-related peptide inhibits osteolytic factors induced by osteoblast in co-culture system with breast cancer." in: **Cell biochemistry and biophysics**, Vol. 70, Issue 2, pp. 1097-104, (2014) (PubMed).

Xu, Wang, Lu, Xu: "Osteoprotegerin and RANKL in the pathogenesis of rheumatoid arthritis-induced osteoporosis." in: **Rheumatology international**, Vol. 32, Issue 11, pp. 3397-403, (2012) (PubMed).

Chen, Li, Liu, Wang, Xie, Liu, Hou, Chang, Du: "Canonical Wnt signaling is required for Panax notoginseng saponin-mediated attenuation of the RANKL/OPG ratio in bone marrow stromal cells during osteogenic differentiation." in: **Phytomedicine : international journal of phytotherapy and phytopharmacology**, Vol. 19, Issue 11, pp. 1029-34, (2012) (PubMed).

Tang, Zhang, Tang, Qi, Jiang: "Hypoxia induces RANK and RANKL expression by activating HIF-1? in breast cancer cells." in: **Biochemical and biophysical research communications**, Vol. 408, Issue 3, pp. 411-6, (2011) (PubMed).

Tang, Sun, Li, Zhou, Yin, Zhou: "Porphyromonas endodontalis lipopolysaccharides induce RANKL by mouse osteoblast in a way different from that of Escherichia coli lipopolysaccharide. " in: **Journal of endodontics**, Vol. 37, Issue 12, pp. 1653-8, (2011) (PubMed).



ELISA

Image 1. Human TNFSF11/RANKL PicoKine ELISA Kit standard curve