Datasheet for ABIN411261

BMP2 ELISA Kit

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Overview

Quantity:	96 tests
Target:	BMP2
Binding Specificity:	AA 283-396
Reactivity:	Rat
Method Type:	Sandwich ELISA
Detection Range:	62.5-4000 pg/mL
Minimum Detection Limit:	62.5 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Rat BMP-2
Brand:	PicoKine™
Sample Type:	Osseous Tissue, Cell Culture Supernatant, Serum
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: CHO Immunogen sequence: Q283-R396
Specificity:	Expression system for standard: CHO Immunogen sequence: Q283-R396
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<2pg/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:	BMP2
Alternative Name:	BMP2 (BMP2 Products)
Background:	Protein Function: Induces cartilage and bone formation. Background: Bone morphogenetic protein-2(BMP-2, BMP 2A) belongs to the transforming growth factor beta(TGF-beta) superfamily. It is thought to be involved in cartilage and bone formation during embryogenesis, but may have additional functions in morphogenesis as implied by its expression in various organs and embryonic tissues of mice. BMP-2 has been identified as a candidate mediator of retinoid activity. BMP-2 protein induces medulloblastoma cell apoptosis, whereas the BMP-2 antagonist noggin blocks both retinoid and BMP-2-induced apoptosis. BMP-2 also induces p38 mitogen-activated protein kinase(MAPK), which is necessary for BMP-2 and retinoid-induced apoptosis. Bone morphogenic proteins(BMPs) are known to promote osteogenesis, and clinical trials are currently underway to evaluate the ability of certain BMPs to promote fracture-healing and spinal fusion. The standard product used in this kit is recombinant rat BMP-2, constituting dimer by two chains of 114 amino acids with the molecular mass of 26KDa. Synonyms: Bone morphogenetic protein 2,BMP-2,Bone morphogenetic protein 2A,BMP-2A,Bmp2,Bmp-2, Full Gene Name: Bone morphogenetic protein 2 Cellular Localisation: Secreted.
Gene ID:	29373
UniProt:	P49001
Pathways:	Regulation of Hormone Metabolic Process, Regulation of Hormone Biosynthetic Process, Regulation of Muscle Cell Differentiation, Growth Factor Binding, Positive Regulation of fat Cell Differentiation

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: Expressed in femur, calvaria, trachea, lung and ovary.
Plate:	Pre-coated
Protocol:	rat BMP-2 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for BMP-2 has been precoated onto 96-well plates. Standards(CHO, Q283-R396) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for BMP-2 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 rat BMP-2 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 4000pg/mL, 2000pg/mL,1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL rat BMP-2 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 rat bone tissue, cell culture supernates or serum to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each rat BMP-2 standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 349, Standard deviation: 10.1, CV(%): 2.9 • Sample 2: n=16, Mean(pg/ml): 1058, Standard deviation: 33.9, CV(%): 3.2 • Sample 3: n=16, Mean(pg/ml): 2437, Standard deviation: 82.9, CV(%): 3.4, • Sample 1: n=24, Mean(pg/ml): 357, Standard deviation: 23.2, CV(%): 6.5 • Sample 2: n=24, Mean(pg/ml): 1068, Standard deviation: 75.8, CV(%): 7.1 • Sample 3: n=24, Mean(pg/ml): 2479, Standard deviation: 178.5, CV(%): 7.2
Restrictions:	For Research Use only

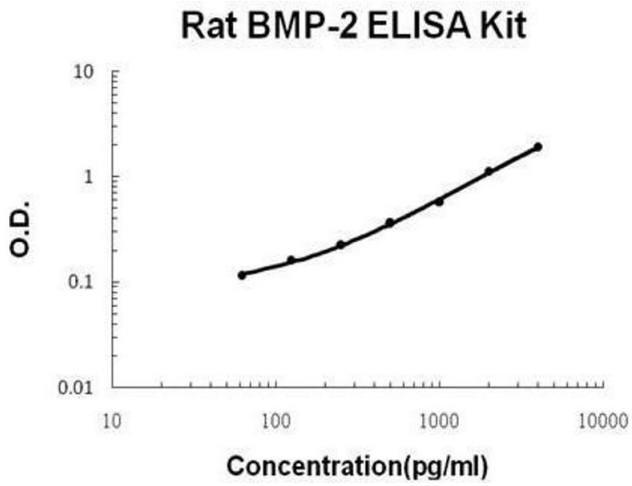
Handling

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:	Hu, Chen, Zhou, Chen, Hu, Cheng, Wang, Zhang: "Thermally induced self-agglomeration 3D scaffolds with BMP-2-loaded core-shell fibers for enhanced osteogenic differentiation of rat adipose-derived stem cells." in: **International journal of nanomedicine**, Vol. 13, pp. 4145-4155, (2018) (PubMed).

Images



ELISA

Image 1. Rat BMP-2 PicoKine ELISA Kit standard curve