

Datasheet for ABIN1889404

Osteoactivin ELISA Kit



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Overview

Quantity:	96 tests
Target:	Osteoactivin (GPNMB)
Binding Specificity:	AA 22-486
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	156-10.000 pg/mL
Minimum Detection Limit:	156 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human GPNMB/Osteoactivin
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: A22-P486
Specificity:	Expression system for standard: NSO Immunogen sequence: A22-P486
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: Osteoactivin (GPNMB)

Alternative Name: GPNMB ([GPNMB Products](#))

Background: Protein Function: Could be a melanogenic enzyme. .

Background: Transmembrane glycoprotein NMB is a protein that in humans is encoded by the GPNMB gene. In osteoblast progenitor cells, GPNMB works as a positive regulator of osteoblast differentiation during later stages of matrix maturation and mineralization that is mediated at least in part by BMP-2 in a SMAD1 dependent manner to promote osteoblast differentiation. GPNMB can enhance the repairing process in bone fracture, demonstrated by its high expression during chondrogenesis(soft callus) and osteogenesis(hard callus) compared to the intact femurs that is why Osteoactivin(OA) could be a novel therapeutic agent used to treat generalized osteoporosis or localized osteopenia during fracture repair by stimulating bone growth and regeneration. Similarly, GPNMB expression increases during osteoclast differentiation and it is functionally implicated in this process, possibly by promoting the fusion of osteoclast progenitor cells.

Synonyms: Transmembrane glycoprotein NMB,Transmembrane glycoprotein HGFN,GPNMB,HGFN, NMB,UNQ1725/PRO9925,

Full Gene Name: Transmembrane glycoprotein NMB

Cellular Localisation: Cell membrane, Single-pass type I membrane protein. Melanosome. Identified by mass spectrometry in melanosome fractions from stage I to stage IV. Detected at the cell surface in different types of cancers cells, including glioblastoma multiforme cells and most melanoma cell lines.

Gene ID: 10457

UniProt: [Q14956](#)

Application Details

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

Application Details

	assay was recommended for both standard and sample testing.
Comment:	<p>Sequence similarities: Belongs to the PMEL/NMB family.</p> <p>Tissue Specificity: Up-regulated in various cancer cells, including in glioblastoma multiforme. Expressed in many melanoma cells, as well as in tissue macrophages, including liver Kupffer cells and lung alveolar macrophages, in podocytes and in some cells of the ciliary body of the eye (at protein level). Hardly detectable in healthy brain. .</p>
Plate:	Pre-coated
Protocol:	human GPNMB ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for GPNMB has been precoated onto 96-well plates. Standards(NSO, A22-P486) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for GPNMB 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 GPNMB amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 10,000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 312pg/mL, 156pg/mL human GPNMB 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 or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human GPNMB standard solution and each sample be measured in duplicate.
Assay Precision:	<ul style="list-style-type: none">• Sample 1: n=16, Mean(pg/ml): 512, Standard deviation: 23.04, CV(%): 4.5• Sample 2: n=16, Mean(pg/ml): 3635, Standard deviation: 170.8, CV(%): 4.7• Sample 3: n=16, Mean(pg/ml): 5518, Standard deviation: 303.5, CV(%): 5.5,• Sample 1: n=24, Mean(pg/ml): 621, Standard deviation: 42.85, CV(%): 5.9• Sample 2: n=24, Mean(pg/ml): 3857, Standard deviation: 239.1, CV(%): 6.2• Sample 3: n=24, Mean(pg/ml): 6026, Standard deviation: 391.7, CV(%): 6.5
Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C, 4 °C

Handling

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

Images

