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Datasheet for ABIN1889404

Osteoactivin ELISA Kit





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

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
	HGFIN,GPNMB,HGFIN, 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

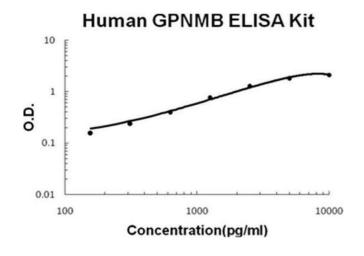
Application Details

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	assay was recommended for both standard and sample testing.
Comment:	Sequence similarities: Belongs to the PMEL/NMB family.
	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 Kuppfer
	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
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:	• 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



ELISA

Image 1. Human GPNMB/Osteoactivin PicoKine ELISA Kit standard curve