Datasheet for ABIN2859225

Neuropilin 1 ELISA Kit

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Overview

Quantity:	96 tests
Target:	Neuropilin 1 (NRP1)
Binding Specificity:	AA 22-644
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	0.78-50 ng/mL
Minimum Detection Limit:	0.78 ng/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human Neuropilin-1
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: F22-K644
Specificity:	Expression system for standard: NSO Immunogen sequence: F22-K644
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<20pg/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:	Neuropilin 1 (NRP1)
Alternative Name:	NRP1 (NRP1 Products)
Background:	Protein Function: The membrane-bound isoform 1 is a receptor involved in the development of the cardiovascular system, in angiogenesis, in the formation of certain neuronal circuits and in organogenesis outside the nervous system. It mediates the chemorepulsant activity of semaphorins. It binds to semaphorin 3A, The PLGF-2 isoform of PGF, The VEGF-165 isoform of VEGF and VEGF-B. Coexpression with KDR results in increased VEGF-165 binding to KDR as well as increased chemotaxis. It may regulate VEGF-induced angiogenesis. Background: NRP1(Neuropilin 1) also known as NP1, NRP, BDCA4 or VEGF165R, is a membrane-bound coreceptor to a tyrosine kinase receptor for both vascular endothelial growth factor (VEGF) and semaphorin family members. NRP1 plays versatile roles in angiogenesis, axon guidance, cell survival, migration, and invasion. By somatic cell hybrid analysis, the NRP1 gene was mapped to chromosome 10. NRP1 bounds PGF1 with lower affinity. NRP1-mediated interactions are a necessary element in the initiation of the primary immune response and offer another example, like that of agrin, of a molecule shared by neurologic and immunologic synapses. After T-cell contact with DC, T-cell NRP1 colocalized with CD3 in the immunologic synapse and, sometimes, also at the opposite pole of the T cell. Soluble NRP1 interacts in a homophilic fashion with NRP1 on both DC and T cells, and this binding can be inhibited by blocking antibodies to NRP1. Furthermore, selective NRP1 inhibition in this model suppressed neovascular formation substantially. Synonyms: Neuropilin-1,Vascular endothelial cell growth factor 165 receptor,CD304,NRP1,NRP, VEGF165R, Full Gene Name: Neuropilin-1 Cellular Localisation: Cell membrane, Single-pass type I membrane protein.
Gene ID:	8829
UniProt:	O14786

Target Details

Pathways:	Regulation of Cell Size, Signaling Events mediated by VEGFR1 and VEGFR2, Smooth Muscle Cell Migration, Platelet-derived growth Factor Receptor Signaling, VEGFR1 Specific Signals

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: Belongs to the neuropilin family. Tissue Specificity: The expression of isoforms 1 and 2 does not seem to overlap. Isoform 1 is expressed by the blood vessels of different tissues. In the developing embryo it is found predominantly in the nervous system. In adult tissues, it is highly expressed in heart and placenta, moderately in lung, liver, skeletal muscle, kidney and pancreas, and low in adult brain. Isoform 2 is found in liver hepatocytes, kidney distal and proximal tubules.
Plate:	Pre-coated
Protocol:	human Neuropilin-1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for Neuropilin-1 has been precoated onto 96-well plates. Standards(NSO, F22-K644) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for Neuropilin-1 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 Neuropilin-1 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 50 ng/mL, 25 ng/mL, 12.5 ng/mL, 6.25 ng/mL, 3.12 ng/mL, 1.56 ng/mL, 0.78 ng/mL human Neuropilin-1 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 Neuropilin-1 standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(ng/ml): 6.8, Standard deviation: 0.374, CV(%): 5.5 • Sample 2: n=16, Mean(ng/ml): 16, Standard deviation: 0.752, CV(%): 4.7 • Sample 3: n=16, Mean(ng/ml): 25, Standard deviation: 0.85, CV(%): 3.4, • Sample 1: n=24, Mean(ng/ml): 7.3, Standard deviation: 0.445, CV(%): 6.1 • Sample 2: n=24, Mean(ng/ml): 20, Standard deviation: 1.04, CV(%): 5.2

Application Details

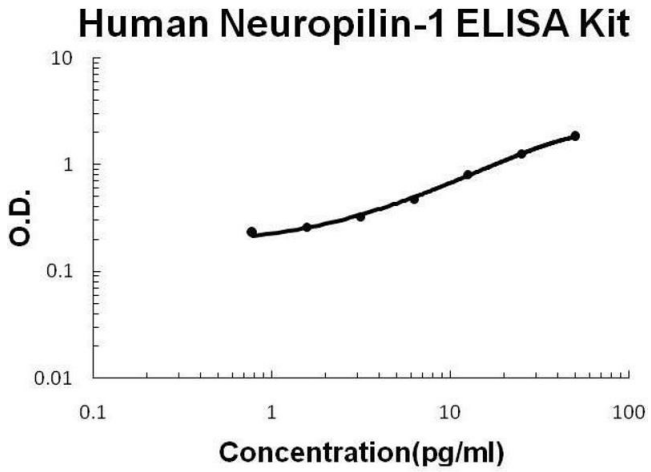
- Sample 3: n=24, Mean(ng/ml): 31, Standard deviation: 1.49, CV(%): 4.8

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

Images



ELISA

Image 1. Human Neuropilin-1 PicoKine ELISA Kit standard curve