Datasheet for ABIN2859243

Neuregulin 1 ELISA Kit

1 Image

Go to Product page

Overview

Quantity:	96 tests
Target:	Neuregulin 1 (NRG1)
Binding Specificity:	AA 2-246
Reactivity:	Human
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 Human Neuregulin-1
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: E.coli Immunogen sequence: S2-K246
Specificity:	Expression system for standard: E.coli Immunogen sequence: S2-K246
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:	Neuregulin 1 (NRG1)
Alternative Name:	NRG1 (NRG1 Products)
Background:	Protein Function: Direct ligand for ERBB3 and ERBB4 tyrosine kinase receptors. Concomitantly recruits ERBB1 and ERBB2 coreceptors, resulting in ligand-stimulated tyrosine phosphorylation and activation of the ERBB receptors. The multiple isoforms perform diverse functions such as inducing growth and differentiation of epithelial, glial, neuronal, and skeletal muscle cells, inducing expression of acetylcholine receptor in synaptic vesicles during the formation of the neuromuscular junction, stimulating lobuloalveolar budding and milk production in the mammary gland and inducing differentiation of mammary tumor cells, stimulating Schwann cell proliferation, implication in the development of the myocardium such as trabeculation of the developing heart. Isoform 10 may play a role in motor and sensory neuron development. . Background: Neuregulin 1 or NRG1 is a protein that in humans is encoded by the NRG1 gene. It is mapped to 8p12. NRG1 is one of four proteins in the neuregulin family that act on the EGFR family of receptors. The protein encoded by this gene is a membrane glycoprotein that mediates cell-cell signaling and plays a critical role in the growth and development of multiple organ systems. Dysregulation of this gene has been linked to diseases such as cancer, schizophrenia, and bipolar disorder (BPD). It is also essential for the normal development of the nervous system and the heart. Furthermore, it was originally identified as a 44-kD glycoprotein that interacts with the NEU/ERBB2 receptor tyrosine kinase to increase its phosphorylation on tyrosine residues. Synonyms: Pro-neuregulin-1, membrane-bound isoform,Pro-NRG1,Neuregulin-1,Acetylcholine receptor-inducing activity,ARIA,Breast cancer cell differentiation factor p45,Glial growth factor,Heregulin,HRG,Neu differentiation factor,Sensory and motor neuron-derived factor,NRG1,GGF, HGL, HRGA, NDF, SMDF, Full Gene Name: Pro-neuregulin-1, membrane-bound isoform Cellular Localisation: Pro-neuregulin-1, membrane-bound isoform: Cell membrane, Single-pass type I membrane protein. Does not seem to be active.

Target Details

Gene ID:	3084
UniProt:	Q02297
Pathways:	RTK Signaling, Fc-epsilon Receptor Signaling Pathway, EGFR Signaling Pathway, Neurotrophin Signaling Pathway, Regulation of Muscle 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:	Sequence similarities: Belongs to the neuregulin family. Tissue Specificity: Type I isoforms are the predominant forms expressed in the endocardium. Isoform alpha is expressed in breast, ovary, testis, prostate, heart, skeletal muscle, lung, placenta liver, kidney, salivary gland, small intestine and brain, but not in uterus, stomach, pancreas, and spleen. Isoform 3 is the predominant form in mesenchymal cells and in non-neuronal organs, whereas isoform 6 is the major neuronal form. Isoform 8 is expressed in spinal cord and brain. Isoform 9 is the major form in skeletal muscle cells, in the nervous system it is expressed in spinal cord and brain. Also detected in adult heart, placenta, lung, liver, kidney, and pancreas. Isoform 10 is expressed in nervous system: spinal cord motor neurons, dorsal root ganglion neurons, and brain. Predominant isoform expressed in sensory and motor neurons. Not detected in adult heart, placenta, lung, liver, skeletal muscle, kidney, and pancreas. Not expressed in fetal lung, liver and kidney. Type IV isoforms are brain-specific. .
Plate:	Pre-coated
Protocol:	human Neuregulin-1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for Neuregulin-1 has been precoated onto 96-well plates. Standards(E.coli, S2-K246) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for Neuregulin-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 Neuregulin-1 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 human Neuregulin-1 standard solutions into the precoated 96-well plate.

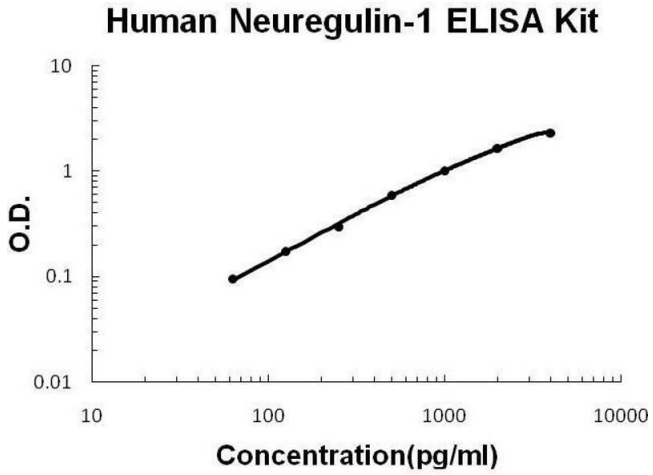
Application Details

	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 Neuregulin-1 standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 675, Standard deviation: 28.35, CV(%): 4.2 • Sample 2: n=16, Mean(pg/ml): 1308, Standard deviation: 61.48, CV(%): 4.7 • Sample 3: n=16, Mean(pg/ml): 2147, Standard deviation: 113.8, CV(%): 5.3, • Sample 1: n=24, Mean(pg/ml): 694, Standard deviation: 40.25, CV(%): 5.8 • Sample 2: n=24, Mean(pg/ml): 1382, Standard deviation: 84.3, CV(%): 6.1 • Sample 3: n=24, Mean(pg/ml): 2503, Standard deviation: 172.7, CV(%): 6.9
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 Neuregulin-1/NRG1-Beta1 PicoKine ELISA Kit standard curve