

Human Neuropilin-1 ELISA Kit ab227901

Recombinant SimpleStep ELISA

2 References 10 Images

Overview

Product name Human Neuropilin-1 ELISA Kit

Detection method Colorimetric

Precision	Intra-assay				
	Sample	n	Mean	SD	CV%
	Human Serum	3			1.9%

	Inter-assay				
	Sample	n	Mean	SD	CV%
	Human Serum	5			3%

Sample type Milk, Urine, Serum, Cell culture extracts, Tissue Extracts, Tissue Culture Media, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 7 pg/ml

Range 37.5 pg/ml - 4800 pg/ml

Recovery	Sample specific recovery		
	Sample type	Average %	Range
	Milk	89	84% - 97%
	Urine	83	81% - 85%
	Serum	110	107% - 113%
	Cell culture extracts	95	86% - 105%
	Tissue Extracts	100	94% - 104%
	Hep Plasma	95	91% - 97%

Sample type	Average %	Range
EDTA Plasma	108	106% - 110%
Cit plasma	114	111% - 119%

Assay time

1h 30m

Assay duration

One step assay

Species reactivity

Reacts with: Human

Predicted to work with: Cow  **Does not react with:** Non human primates

Product overview

Human Neuropilin-1 ELISA Kit (ab227901) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Neuropilin-1 protein in cit plasma, edta plasma, hep plasma, milk, serum, tissue culture media, tissue extracts, urine, and cell culture extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Neuropilin-1 with 7 pg/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate ([ab203359](#)) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

Notes

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.

It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions

Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml

Components	1 x 96 tests
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 4BI	1 x 6ml
10X Human Neuropilin-1 Capture Antibody	1 x 600µl
10X Human Neuropilin-1 Detector Antibody	1 x 600µl
Human Neuropilin-1 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

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.

The soluble isoform 2 binds VEGF-165 and appears to inhibit its binding to cells. It may also induce apoptosis by sequestering VEGF-165. May bind as well various members of the semaphorin family. Its expression has an averse effect on blood vessel number and integrity.

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.

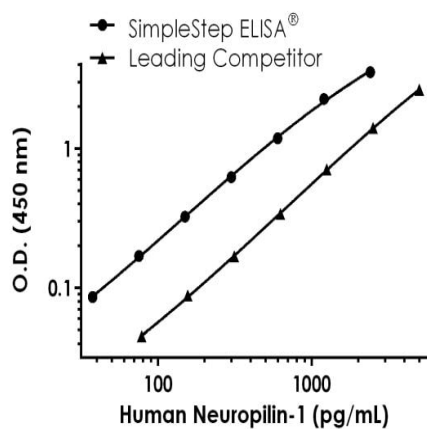
Sequence similarities

Belongs to the neuropilin family.
Contains 2 CUB domains.
Contains 2 F5/8 type C domains.
Contains 1 MAM domain.

Cellular localization

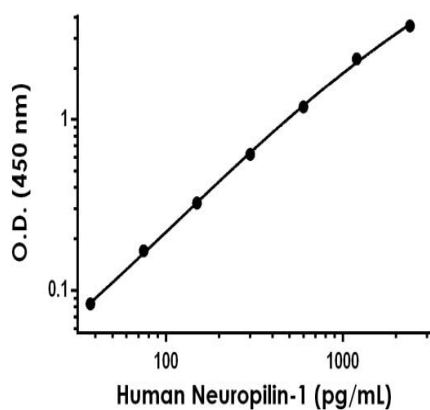
Secreted and Cell membrane.

Images



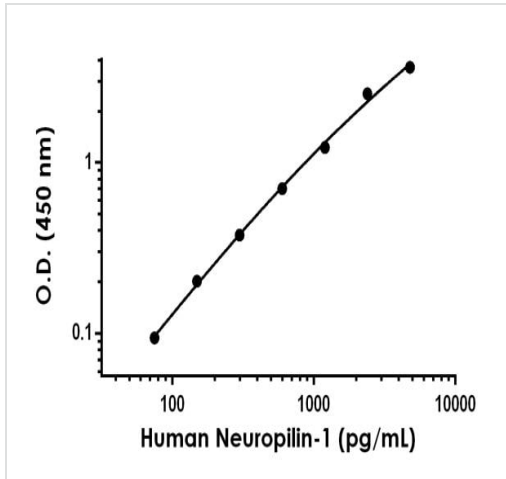
Human Neuropilin-1 Standard Curve Data

Standard curve comparison between human Neuropilin-1 SimpleStep ELISA® kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows increased sensitivity.



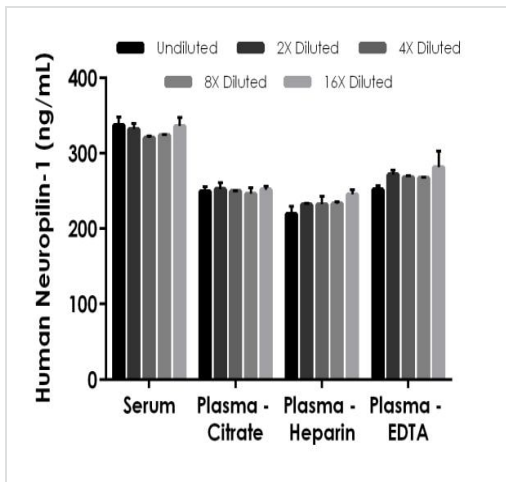
Example of human Neuropilin-1 standard curve in Sample Diluent NS

Background-subtracted data values (mean \pm SD) are graphed.



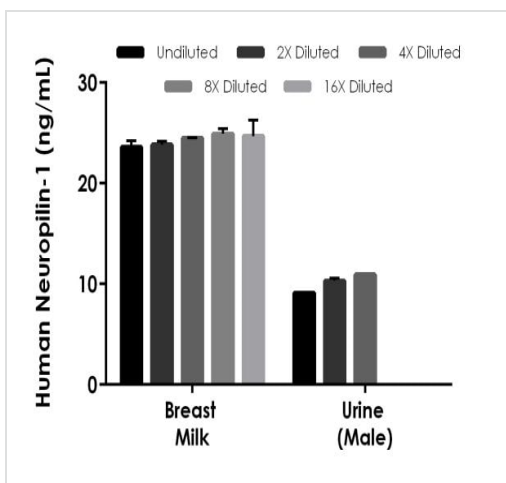
Example of human Neuropilin-1 standard curve in 1X Cell Extraction Buffer PTR

Background-subtracted data values (mean \pm SD) are graphed.



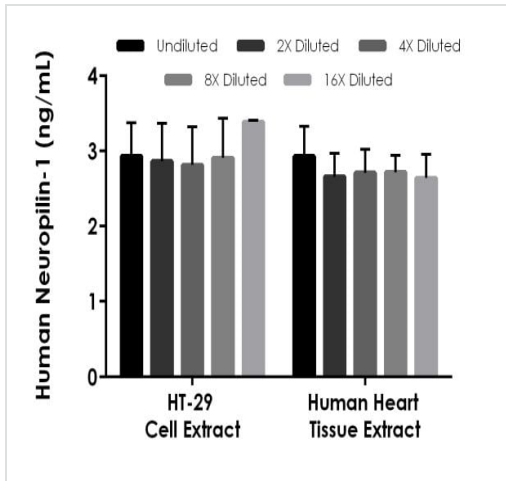
Interpolated concentrations of native Neuropilin-1 in human serum and plasma samples

The concentrations of Neuropilin-1 were measured in duplicates, interpolated from the Neuropilin-1 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:200, plasma (citrate) 1:100, plasma (heparin) 1:100 and plasma (EDTA) 1:100. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Neuropilin-1 concentration was determined to be 330.1 ng/mL in neat serum, 249.9 ng/mL in neat plasma (citrate), 232.5 ng/mL in neat plasma (heparin), and 268.1 ng/mL in neat plasma (EDTA).



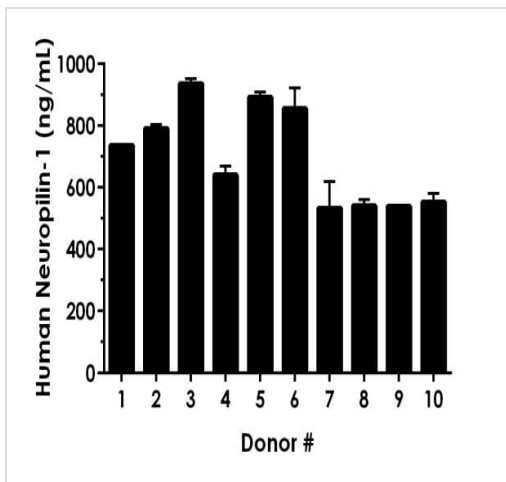
Interpolated concentrations of native Neuropilin-1 in human breast milk and urine samples

The concentrations of Neuropilin-1 were measured in duplicates, interpolated from the Neuropilin-1 standard curves and corrected for sample dilution. Undiluted samples are as follows: milk 1:50 and urine 1:8. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Neuropilin-1 concentration was determined to be 24.31 ng/mL in neat breast milk and 10.12 ng/mL in neat urine.



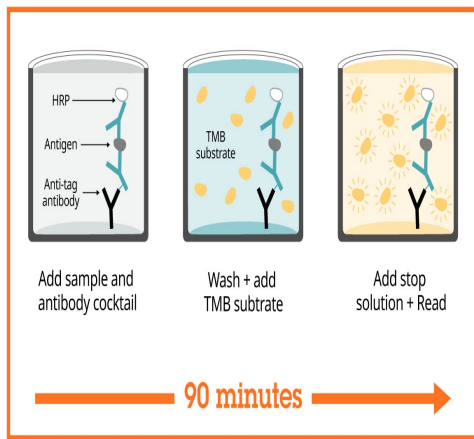
Interpolated concentrations of native Neuropilin-1 in human HT-29 cell extract based on a 250 µg/mL extract load and human heart tissue extract based on a 125 µg/mL extract load

The concentrations of Neuropilin-1 were measured in duplicate and interpolated from the Neuropilin-1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean \pm SD, n=2). The mean Neuropilin-1 concentration was determined to be 2.982 ng/mL in HT-29 cell extract and 2.732 ng/mL in human heart tissue extract.



Serum from ten individual healthy human female donors was measured in duplicate

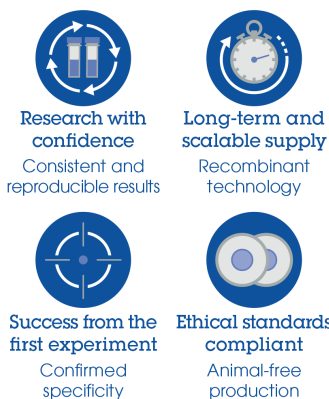
Interpolated dilution factor corrected values are plotted (mean \pm SD, n=2). The mean Neuropilin-1 concentration was determined to be 702.5 ng/mL with a range of 533.6 – 937.3 ng/mL.



Sandwich ELISA - Human Neuropilin-1 ELISA Kit
(ab227901)

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.

Powered by
recombinant antibodies



Sandwich ELISA - Human Neuropilin-1 ELISA Kit
(ab227901)

To learn more about the advantages of recombinant antibodies see [here](#).

Get more done with
SimpleStep ELISA



Sandwich ELISA - Human Neuropilin-1 ELISA Kit
(ab227901)

To learn more about the advantages of SimpleStep ELISA® kits see [here](#).

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours

- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors