Neuropilin-1 Protein, Human (HEK293, His)

Cat. No.:	HY-P70147
Synonyms:	rHuNeuropilin-1, His ; Neuropilin-1, CD304; NRP1; NRPNP1; VEGF165R; BDCA4
Species:	Human
Source:	HEK293
Accession:	O14786-2 (F22-K644)
Gene ID:	8829
Molecular Weight:	85-100 kDa

PROPERTIES

AA Sequence

F R N D K C G D T I K I E S P G Y L T S P G Y P H S Y H P S E K C E W L I Q A P
D P Y Q R I M I N F N P H F D L E D R D C K Y D Y V E V F D G E N E N G H F R G
K F C G K I A P P P V V S S G P F L F I K F V S D Y E T H G A G F S I R Y E I F
K R G P E C S Q N Y T T P S G V I K S P G F P E K Y P N S L E C T Y I V F A P K
M S E I I L E F E S F D L E P D S N P P G G M F C R Y D R L E I W D G F P D V G
P H I G R Y C G Q K T P G R I R S S S G I L S M V F Y T D S A I A K E G F S A N
Y S V L Q S S V S E D F K C M E A L G M E S G E I H S D Q I T A S S Q Y S T N W
S A E R S R L N Y P E N G W T P G E D S Y R E W I Q V D L G L L R F V T A V G T
Q G A I S K E T K K K Y Y V K T Y K I D V S S N G E D W I T I K E G N K P V L F
Q G N T N P T D V V V A V F P K P L I T R F V R I K P A T W E T G I S M R F E V
Y G C K I T D Y P C S G M L G M V S G L I S D S Q I T S S N Q Q G D R N W M P E N
I R L V T S R S G W A L P P A P H S Y I N E W L Q I D L G E E K I V R G I I I Q
G G K H R E N K V F M R K F K I G Y S N N G S D W K M I M D D S K R K A K S F E
G N N N Y D T P E L R T F P A L S T R F I R I Y P E R A T H G G L G L R M E L L
G C E V E A P T A G P T T P N G N L V D E C D D D Q A N C H S G T G D D F Q L T
G G T T V L A T E K P T V I D S T I Q S G I K

Biological Activity	1.Measured by its binding ability in a functional ELISA. Immobilized human Neuropilin-1, at 2 μg/mL (100 μL/well) can bind Biotinylated Human VEGF165 protein. The ED_{50} for this effect is 14.96 ng/mL. 2.Immobilized Recombinant Human / Cynomolgus VEGF / VEGFA / VEGF165 Protein at 2 μg/mL (100 μL/well) can bind Neuropilin-1, Human with a linear range of 32-160 μg/mL. 3.Measured by its ability to inhibit the cell growth of MCF-7 human breast cancer cell line. The ED_{50} forthis effect is 13.44 ng/mL, corresponding to a specific activity is 7.44×10^4 U/mg. 4.Measured in a cell proliferation assay using HUVEC cells. The ED_{50} for this effect is 154.3 ng/mL,corresponding to a specific activity is 6.48×10^3 units/mg.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4 or 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.

Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The Neuropilin-1 protein assumes a significant role as it binds to VEGF-165, potentially inhibiting its binding to cells and inducing apoptosis by sequestering VEGF-165. This dual functionality suggests Neuropilin-1's involvement in the regulation of VEGF-mediated cellular processes. Additionally, Neuropilin-1 may interact with various members of the semaphorin family, indicating its versatility in binding to different ligands. Notably, its expression appears to exert an adverse effect on blood vessel number and integrity, suggesting a potential role in angiogenesis and vascular development. The diverse interactions and regulatory effects of Neuropilin-1 underscore its importance in orchestrating complex cellular processes and its potential implications in angiogenesis and apoptotic pathways.

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