

Anti-Neuropilin-1 Antibody
Catalog # ABO11062**Specification**

Anti-Neuropilin-1 Antibody - Product Information

Application	WB
Primary Accession	O14786
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Neuropilin-1(NRP1) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Neuropilin-1 Antibody - Additional Information

Gene ID 8829

Other Names

Neuropilin-1, Vascular endothelial cell growth factor 165 receptor, CD304, NRP1, NRP, VEGF165R

Calculated MW

103134 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization

Cell membrane; Single-pass type I membrane protein.

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.

Protein Name

Neuropilin-1

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human Neuropilin

1(211-230aa LEIWDGFDPVGPVPHIGRYCGQ), different from the related rat and mouse sequences by one amino acid.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the neuropilin family.

Anti-Neuropilin-1 Antibody - Protein Information

Name NRP1 ([HGNC:8004](#))

Synonyms NRP, VEGF165R

Function

Cell-surface 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. Mediates the chemorepulsant activity of semaphorins (PubMed:[10688880](http://www.uniprot.org/citations/10688880), PubMed:[9288753](http://www.uniprot.org/citations/9288753), PubMed:[9529250](http://www.uniprot.org/citations/9529250)). Recognizes a C-end rule (CendR) motif R/KXXR/K on its ligands which causes cellular internalization and vascular leakage (PubMed:[19805273](http://www.uniprot.org/citations/19805273)). It binds to semaphorin 3A, the PLGF-2 isoform of PGF, the VEGF165 isoform of VEGFA and VEGFB (PubMed:[10688880](http://www.uniprot.org/citations/10688880), PubMed:[19805273](http://www.uniprot.org/citations/19805273), PubMed:[9288753](http://www.uniprot.org/citations/9288753), PubMed:[9529250](http://www.uniprot.org/citations/9529250)). Coexpression with KDR results in increased VEGF165 binding to KDR as well as increased chemotaxis. Regulates VEGF-induced angiogenesis. Binding to VEGFA initiates a signaling pathway needed for motor neuron axon guidance and cell body migration, including for the caudal migration of facial motor neurons from rhombomere 4 to rhombomere 6 during embryonic development (By similarity). Regulates mitochondrial iron transport via interaction with ABCB8/MITOSUR (PubMed:[30623799](http://www.uniprot.org/citations/30623799)).

Cellular Location

[Isoform 2]: Secreted

Tissue Location

[Isoform 1]: The expression of isoforms 1 and 2 does not seem to overlap. Expressed in olfactory epithelium (at protein level) (PubMed:33082293). Expressed in fibroblasts (at protein level) (PubMed:36213313). 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 (PubMed:10688880, PubMed:9529250). Expressed in the central nervous system, including

olfactory related regions such as the olfactory tubercles and paraolfactory gyri
(PubMed:33082293)

Anti-Neuropilin-1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-Neuropilin-1 Antibody - Images



Anti-Neuropilin 1 antibody, ABO11062, Western blotting Lane 1: HELA Cell Lysate Lane 2: MM231 Cell Lysate

Anti-Neuropilin-1 Antibody - 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 (see SEMA3A) 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. They localized the NRP1 gene to 10p12 using radiation hybrid mapping. Sulfation of the glucosamine-O-6 and iduronic acid-O-2 groups of heparin potentiated PGF2 binding to NRP1. NRP1 also bound 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.