

## Product Information

### Anti-Neurturin

produced in rabbit, affinity isolated antibody

Catalog Number **N0274**

### Synonym: Anti-NTN

### Product Description

Anti-Neurturin is produced in rabbit using a peptide corresponding to amino acids 178 to 193 of human neurturin as immunogen.<sup>1</sup> Anti-Neurturin recognizes human neurturin by immunoblotting.

Neurturin (NTN) is a member of the GDNF family of ligands, which includes glial cell-derived neurotrophic factor (GDNF), neurturin, persephin, and artemin. Glial cell line-derived neurotrophic factor and the related neurotrophic factor neurturin exert potent effects on the function and survival of central and peripheral neurons.<sup>1,2</sup> Neurturin has been cloned from human and mouse.<sup>1,3</sup> Human and mouse neurturin share 91 % amino acid sequence identity. Neurturin is distantly related to the TGF- $\beta$  superfamily and contains a conserved seven-cysteine motif found in all members of the TGF- $\beta$  family.

The bioactivities of the GDNF family are mediated through a receptor complex composed of a high affinity ligand-binding component (GFR $\alpha$ 1 to GFR $\alpha$ 4) and a common signaling component RET receptor tyrosine kinase (RTK).<sup>4,5,6,7</sup> Neurturin prefers to bind GFR $\alpha$ 2 but can also bind GFR $\alpha$ 1. NTN forms a complex with GFR $\alpha$ 2 and the Ret PTK activating the RET receptor tyrosine kinase pathway. Also, NTN and GDNF activate the MAP kinase and phosphatidylinositol 3-kinase pathways. Neurturin is widely expressed in both neuronal and non-neuronal tissues and plays an important role in the development and maintenance of the central and peripheral nervous systems. Human neurturin maps to chromosome 19p13.3.<sup>3</sup>

### Reagent

Supplied at ~0.5 mg/ml in phosphate buffered saline (PBS), containing 0.02 % sodium azide.

### Storage/Stability

Antibody can be stored at 2-8 °C for three months and at -20 °C for one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles.

Antibodies should not be exposed to prolonged high temperatures.

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

### Product Profile

**Immunoblotting:** a working dilution of 1:500 is recommended using a HeLa cell lysate. The detection limit for recombinant human NTN is at least 2.5 ng/lane. A band of ~14 kDa is detected.

**Note:** In order to obtain best results in different techniques and preparations we recommend determining optimal working concentrations by titration test.

### References

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3. Heuckeroth, R.O., et al., Neurturin, a novel neurotrophic factor, is localized to mouse chromosome 17 and human chromosome 19p13.3. *Genomics*, **44**, 137-140 (1997).
4. Baloh, R.H., et al., TrnR2, a novel receptor that mediates neurturin and GDNF signaling through Ret. *Neuron*, **18**, 793-802 (1997).
5. Sanicola, M., et al., Glial cell line-derived neurotrophic factor-dependent RET activation can be mediated by two different cell-surface accessory proteins. *Proc. Natl. Acad. Sci. USA*, **94**, 6238-6243 (1997).
6. Klein, R.D., et al., GPI-linked protein that interacts with Ret to form a candidate neurturin receptor. *Nature*, **387**, 717-721 (1997).
7. Buj-Bello, A., et al., Neurturin responsiveness requires a GPI-linked receptor and the Ret receptor tyrosine kinase. *Nature*, **387**, 721-724 (1997).

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