



Product Information

ANTI-NEUROFILIN-1

Developed in Rabbit, IgG Fraction of Antiserum

Product Number **N 0899**

Product Description

Anti-Neurofilin-1 (NRP1) is developed in rabbit using a highly purified synthetic peptide, CDLDKKNTEIKID-ETG, corresponding to amino acids 813-827 of the rat neurofilin-1 with an additional N-terminal cysteine as the immunogen. This amino acid sequence is identical with the reported mouse sequence and contains one mismatch with the human neurofilin-1 sequence.

Anti-Neurofilin-1 specifically recognizes neurofilin-1 (130 kDa) and may be used for the detection of neurofilin-1 in mouse and rat brain extracts by immunoblotting and in mouse embryonic neural tissue by immunohistochemistry on frozen sections.

The establishment of precise axonal connections between specific populations of neurons and their appropriate target cells is a critical process in neural development. Several diffusible proteins have been identified which are involved in axon guidance, including the netrins and the semaphorins.^{1,2} The semaphorins comprise a large family of transmembrane and secreted proteins shown to cause neuronal growth cone collapse *in vitro* and function as a chemorepellent for sensory and sympathetic axons. The receptor for the semaphorin Sema III has been identified as neurofilin-1 (NRP1),^{3,4} a type 1 transmembrane protein distinct from the Ig-CAMS, cadherins and integrins. Neurofilin-1 expression is restricted to axons of particular neurons and is developmentally regulated, suggesting that neurofilin-1 may be involved in growth, fasciculation and targeting of certain neurons.⁵ In addition to its reported involvement in axon guidance, neurofilin-1 has been shown to modulate VEGF binding to the tyrosine kinase receptor KDR, stimulating growth towards a VEGF source. In addition, *in vitro* expression of neurofilin-1 on tumor cells promotes tumor angiogenesis and progression.^{6,7}

Reagent

Anti-Neurofilin-1 is supplied as 100 µg of purified rabbit IgG in 1.0 ml of 0.05 M sodium phosphate buffer containing 0.1 % sodium azide and 0.2 % gelatin.

Storage/Stability

Store the antibody at 2-8 °C. **Do not freeze the antibody.** If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

The recommended working dilution for frozen sections is 0.5-1.5 µg/ml with DAB (diaminobenzidine) detection. Immunohistochemistry was performed using embryonic day 14 (E14) mouse brain sections fixed in 4 % paraformaldehyde.

The recommended working dilution for immunoblotting is 1 µg/ml using chemiluminescent detection.

Note: In order to obtain best results and assay sensitivities of different techniques and preparations, we recommend determining optimal working dilutions by titration test.

References

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