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ProductInformation

ANTI- NERVE GROWTH FACTOR RECEPTOR (NGFR p75)
Developed in Rabbit, Affinity Isolated Antibody

Product Number **N 3908**

Product Description

Anti-Nerve Growth Factor Receptor (NGFR p75) is developed in rabbit using a synthetic peptide (K-QRADIVESLCSESTATSPV) corresponding to the C-terminal of rat NGFR p75 (amino acids 407-425 with N-terminally added lysine) conjugated to KLH as immunogen. This sequence is highly conserved in human (a single amino acid substitution) and chicken NGFR p75. Antibody to NGFR p75 is affinity purified using the immunogenic peptide immobilized on agarose.

Anti-Nerve Growth Factor Receptor (NGFR p75) specifically reacts with NGFR p75 (75 kDa). Staining of the NGFR p75 band by immunoblotting is specifically inhibited with the immunizing peptide (NGFR rat, amino acids 407-425 with N-terminally added lysine).

Anti-Nerve Growth Factor Receptor (NGFR p75) may be used for the detection and localization of NGFR p75 (75 kDa) by immunoblotting, immunohistochemistry and immunofluorescence.

Nerve Growth Factor Receptor, also termed NGFR p75 or p75NTR, is the low-affinity NGFR (LNGFR) which binds NGF and other neurotrophins including BDNF, NT-3, NT4/5 with similar, low affinity.[1,2] NGFR p75 is a 75kD transmembrane glycoprotein (399 a.a.) consisting of an extracellular domain (222 a.a.) which contains four cysteine-rich domains responsible for ligand binding, a transmembrane domain (22 a.a.), and a cytoplasmic domain (155 a.a.).[3,4] NGFR p75 is mainly expressed in Schwann cells and neurons and in a variety of non-neuronal cells.[5] NGFR p75 is necessary for regulating neuronal growth, migration, differentiation and cell death during development of the central and peripheral nervous system. The signal transduction mechanisms and components leading to NGFR p75 multiple signals are complex and not well understood. In contrast to other members of the neurotrophin receptors family (TrkA, TrkB and TrkC tyrosine kinases), NGFR p75 lacks intrinsic catalytic activity.[1] It has been suggested that NGFR p75 interacts with TrkA to form high affinity binding sites and to modulate TrkA signaling. NGFR p75 belongs to the TNF receptor superfamily which includes TNFR, CD40 and Fas.[6,7] These receptors all have an intracellular death domain and can couple to parallel signaling pathways leading to apoptotic cell death or activation of the transcription factor NF-κB. NGFR p75 plays a central role in the regulation of cell number by apoptosis in the developing CNS.[2,8] During early development, activation of NGFR p75 by NGF induces apoptotic cell death in some neuronal cells, probably through activation of the sphingomyelinase/ceramide pathway, the ICE-like proteases and the JNK pathway.[8-10] In rat Schwann cells, NGF binding to NGFR p75 activates NF-κB, possibly to modulate Schwann cell migration during nerve regeneration.[6]

Reagents

The product is provided as a solution in 0.01 M phosphate buffered saline pH 7.4 containing 1% BSA and 15 mM sodium azide as preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution.
Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. 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

A minimum working dilution of 1:5,000 is determined by immunoblotting using a whole cell extract of cultured NGF-differentiated PC12 cells.

A minimum working dilution of 1:10,000 is determined by immunohistochemistry of 4% paraformaldehyde perfusion-fixed, frozen, free-floating sections of rat brain.

A minimum working dilution of 1:500 is determined by immunofluorescent staining of cultured NGF-differentiated PC12 cells.

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

References

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