



ANTI-NEUROTROPHIN-3

Developed in Goat, Affinity Isolated Antibody

Product Number **N 9773**

Product Description

Anti-Neurotrophin-3 (NT-3) is developed in goat by repeated immunization with purified human recombinant NT-3.

Anti-Neurotrophin-3 specifically recognizes human recombinant NT-3 by immunoblotting, neutralization studies and ELISA. This antibody exhibits less than 15 % cross-reactivity with human NT-4 based on immunoblotting and ELISA and exhibits no cross-reactivity with other cytokines when tested by ELISA.

Neurotrophic factors define a family of related proteins, which are important in the development, maintenance, and regulation of neurons in both the peripheral and central nervous system.

Neurotrophin-3 (NT-3) (13.6 kDa or 27.2 kDa dimer) is a member of the neurotrophin family of growth factors. NT-3 has an identical amino acid sequence in human, mouse and pig, with cross-reactivity between species. NT-3 is important in the development and maintenance of neuronal populations and promotes differentiation of neural crest-derived sensory and sympathetic neurons. NT-3 is also critical in the superior cervical and nodose ganglia. NT-3 promotes survival and differentiation of various cells including embryonic noradrenergic neurons of *locus coeruleus*, dopaminergic and cholinergic neurons from the *substantia nigra*, rat motor neurons, Purkinje cells, and hippocampal pyramidal neurons.

Reagent

Anti-Neurotrophin-3 is supplied as 100 µg of lyophilized affinity isolated goat polyclonal antibody in PBS.

Resuspend the lyophilized antibody in 1 ml of sterile distilled water containing at least 100 µg human serum albumin or bovine serum albumin and 0.1 % sodium azide. Be careful to reconstitute the entire contents of the vial. Portions of the pellet may have dislodged during shipment and may not be in the bottom of the vial.

Product Information

Storage/Stability

Store the lyophilized antibody at –20 °C. Upon reconstitution, store in working aliquots at –20 °C. Avoid repeated cycles of freezing and thawing. After reconstitution, this product is stable for six months at –20 °C.

Product Profile

Anti-Neurotrophin-3 has been selected for its ability to neutralize the biological activity of human recombinant NT-3. The exact concentration of antibody required to neutralize recombinant NT-3 is dependent on cytokine concentration, cell type, growth conditions and the type of activity studied. The suggested neutralization concentration required to yield one-half maximal inhibition of NT-3 activity is approximately 0.05 to 0.15 µg/ml in the presence of 2.5 ng/ml of human recombinant NT-3, in a neuron survival assay using embryonic chick dorsal root ganglia neurons.

For immunoblotting, the recommended working concentration is 0.1 to 0.2 µg/ml. The detection limit for human recombinant NT-3 is approximately 20 ng/lane under non-reducing conditions and 2 ng/lane under reducing conditions.

For ELISA, the suggested concentration is 0.5 to 1.0 µg/ml. The detection limit for human recombinant NT-3 is approximately 0.6 ng/well.

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

1. Barde, Y.-A., The nerve growth factor family – neurotrophins, in: Guidebook to Cytokines and Their Receptors, Nicola, N., ed., Oxford Press, New York, NY, pp. 140-143 (1994).
2. Callard, R., and Gearing, A., The Cytokine Facts Book, Academic Press, New York, NY, (1994).

3. Schuman, E.M., Curr. Opin. in Neurobiol., **9**, 105-109 (1999).
4. Davies, A.M., Curr. Biol., **10**, R198-R200 (2000).

5. Kaplan, D.R. and Miller, F.D., Curr. Opin. Neurobiol., **10**, 381-391 (2000).

MJE 01/01

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