Human NT-3 Antibody

Monoclonal Mouse IgG_1 Clone # 41512

Catalog Number: MAB267

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human NT-3 in ELISAs. In sandwich immunoassays, no cross-reactivity with recombinant human (rh) BDNF, rhCNTF, rhGDNF, rhβ-NGF, and rhNT-4 is observed.
Source	Monoclonal Mouse IgG_1 Clone # 41512
Purification	Protein A or G purified from ascites
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant human NT-3 Tyr139-Thr257 Accession # P20783
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

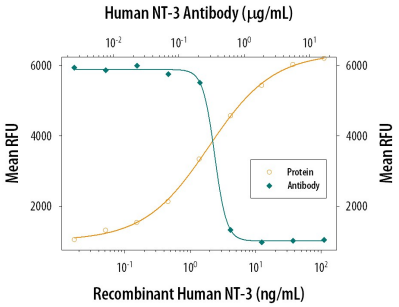
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Human NT-3 Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Human NT-3 Antibody (Catalog # MAB267)
ELISA Detection	0.1-0.4 µg/mL	Human NT-3 Biotinylated Antibody (Catalog # BAF267)
Standard		Recombinant Human NT-3 (Catalog # 267-N3)
Neutralization	Measured by its ability to neutralize NT-3-induced proliferation in BaF-TrKB-BD mouse pro-B cell line transfected with TrkB. The Neutralization Dose (ND_{50}) is typically 0.1-0.5 µg/mL in the presence of 100 ng/mL Recombinant Human NT-3.	

DATA

Neutralization



Cell Proliferation Induced by NT-3 and Neutralization by Human NT-3 Antibody. Recombinant Human NT-3 (Catalog # 267-N3) stimulates proliferation in BaF-TrKB-BD mouse pro-B cell line transfected with TrkB in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human NT-3 (100 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human NT-3 Monoclonal Antibody (Catalog # MAB267). The ND_{50} is typically 0.1-0.5 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Neurotrophin-3 (NT-3) is a member of the NGF family of neurotrophic factors (also named neurotrophins) that are required for the differentiation and survival of specific neuronal subpopulations in both the central as well as the peripheral nervous systems. The neurotrophin family is comprised of at least four proteins including NGF, BDNF, NT-3, and NT-4/5. These secreted cytokines are synthesized as prepropeptides that are proteolytically processed to generate the mature proteins. All neurotrophins have six conserved cysteine residues that are involved in the formation of three disulfide bonds and all share approximately 55% sequence identity at the amino acid level. Similarly to NGF, bioactive NT-3 is predicted to be a non-covalently linked homodimer.

The NT-3 cDNA encodes a 257 amino acid residue precursor protein with a signal peptide and a proprotein that are cleaved to yield the 119 amino acid residue mature NT-3. The amino acid sequence of mature NT-3 is identical in human, mouse and rat. NT-3 transcripts have been detected in the cerebellum, hippocampus, placenta, heart, skin, and skeletal muscle. NT-3 primarily activates the TrkC tyrosine kinase receptor. In addition, NT-3 can activate Trk and TrkB kinase receptors in certain cell systems. NT-3 can also bind with low affinity to the low affinity NGF receptor.

References:

1. Eide, F.F. *et al.* (1993) Exp. Neurol. **121**:200.
2. Snider, W.D. (1994) Cell **77**:627.
3. Barbacid, M. (1994) J. Neurobiol. **25**:1386.

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