Human/Mouse Neurturin Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF477

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse Neurturin in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant mouse Neurturin
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.

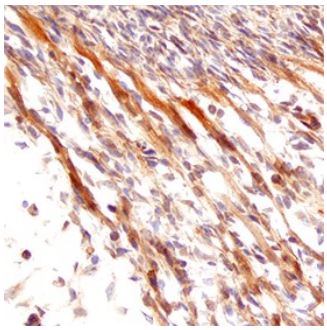
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human Neurturin (Catalog # 1297-NE) Recombinant Mouse Neurturin (Catalog # 477-MN)
Immunohistochemistry	5-15 µg/mL	See Below
Blockade of Receptor-ligand Interaction	In a functional ELISA, 0.05-0.15 µg/mL of this antibody will block 50% of the binding of 50 ng/mL of Recombinant Human Neurturin (Catalog # 387-NE) to immobilized Recombinant Human GFRα-2 Fc Chimera (Catalog # 613-FR) coated at 1 µg/mL (100 µL/well). At 2 µg/mL, this antibody will block >90% of the binding.	

DATA

Immunohistochemistry



Neurturin in Mouse Embryo. Neurturin was detected in immersion fixed frozen sections of mouse embryo (13 d.p.c.) using Goat Anti-Human/Mouse Neurturin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF477) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to developing muscle cells. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

BACKGROUND

Neurturin is a member of the GDNF family of ligands, which include glial cell-derived neurotrophic factor (GDNF), Neurturin, Persephin, and Artemin. GDNF family proteins are distant members of the Transforming Growth Factor β (TGF-β) superfamily (1 - 4). Similar to other TGF-β family proteins, Neurturin is synthesized as a precursor protein that is cleaved at the dibasic cleavage site (RXXR) to release the carboxy-terminal domain. The carboxy-terminal domain of Neurturin contains the characteristic seven conserved cysteine residues necessary for the formation of the cysteine knot and the single interchain disulfide bond. Biologically active Neurturin is a disulfide-linked homodimer of the carboxy-terminal 100 amino acid residues. Mature mouse Neurturin shares 91% amino acid sequence similarity with human Neurturin. Mature Neurturin also shares about 40% similarities with the other three members of the GDNF family ligands (2, 5). Unlike other members of TGF-β family, bioactivities of all GDNF family ligands are mediated through a unique multicomponent receptor complex composed of high affinity ligand binding component (GFRα-1 - GFRα-4) and a common signaling component (cRET receptor tyrosine kinase). Each member of the GDNF family ligands has its preferred binding protein. Neurturin preferentially binds to GFRα-2 but can also bind GFRα-1 at higher concentration (5 - 8). Neurturin has been shown to promote the survival of a variety of neurons including sympathetic, sensory, and central nervous system neurons. Neurturin is expressed in both neuronal and non-neuronal tissues. It may play a role in regulating the development and maintenance of the central and peripheral nervous systems as well as non-neuronal systems (9).

References:

1. Lin, L-FH. *et al*. (1993) Science **260**:1130.
2. Kotzbauer, P.T. *et al*. (1996) Nature **384**:467.
3. Milbrandt, J. *et al*. (1998) Neuron **20**:245.
4. Baloh, R.H. *et al*. (1998) Neuron **21**:1291.
5. Takahashi, M. (2001) Cytokine and Growth Factor Reviews **12**:361.
6. Baloh, R.H. *et al*. (1997) Neuron **18**:793.
7. Jing, S. *et al*. (1996) Cell **85**:1113.
8. Jing, S. *et al*. (1997) J. Biol. Chem. **272**:33111.
9. Airaksinen, M. and M. Saarma (2002) Nature Review Neuroscience **3**:383.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 **Europe | Middle East | Africa** TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956