

DESCRIPTION

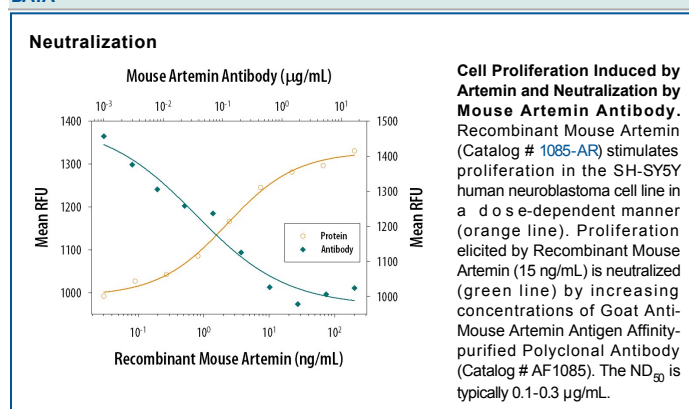
Species Reactivity	Mouse
Specificity	Detects mouse Artemin in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) GDNF, recombinant rat GDNF, rhNeurturin, and rhTGF-β1 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse Artemin Ala112-Gly224 Accession # Q9Z0L2
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.

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 Mouse Artemin (Catalog # 1085-AR)
Immunohistochemistry	5-15 µg/mL	Perfusion fixed frozen sections of mouse spinal cord
Neutralization	Measured by its ability to neutralize Artemin-induced proliferation in the SH-SY5Y human neuroblastoma cell line. The Neutralization Dose (ND ₅₀) is typically 0.1-0.3 µg/mL in the presence of 15 ng/mL Recombinant Mouse Artemin.	

DATA



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.
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.

BACKGROUND

Artemin is a member of the Glia Cell-Derived Neurotrophic factor (GDNF) family ligands, which include GDNF, Persephin, Artemin, and Neurturin. GDNF family ligands are distant members of the Transforming Growth Factor β (TGF- β) superfamily (1-4). Similar to other TGF- β family proteins, Artemin is synthesized as a large precursor protein that is cleaved at the dibasic cleavage site (RXXR) to release the carboxy-terminal domain. The carboxy-terminal domain of Artemin contains the characteristic seven conserved cysteine residues necessary for the formation of the cysteine-knot and the single interchain disulfide bond. Biologically active Artemin is a disulfide-linked homodimer of the carboxy-terminal 113 amino acid residues. Mature mouse Artemin shares 88.5% amino acid sequence similarity with human Artemin. Mature Artemin also shares approximately 40% amino acid sequence identity with the other three members of the GDNF family ligands (5). Bioactivities of all GDNF family ligands are mediated through a receptor complex composed of a high affinity ligand binding component (GFR α 1-GFR α 4) and a common signaling component, cRET (receptor tyrosine kinase) (5-8). Artemin prefers to bind to GFR α 3 and activates the GFR α 3-RET. However, in the presence of RET, it can bind to GFR α 1 as well (4, 5, 9). Artemin has been shown to promote the survival and growth of various peripheral and central neurons, including sympathetic and dopaminergic neurons. It may also play an important role in the development of sympathetic neurons and several organs (5, 10, 11).

References:

1. Lin, L-F.H. *et al.* (1993) *Science* **260**:1130.
2. Milbrandt, J. *et al.* (1998) *Neuron* **20**:245.
3. Kotzbauer, P.T. *et al.* (1996) *Nature* **384**:467.
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. Nishino, J. *et al.* (1999) *Neuron* **23**:725.
10. Enomoto, H. *et al.* (2001) *Development* **128**:3963.
11. Andres, R. *et al.* (2001) *Development* **128**:3685.