Mouse Artemin Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1085

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Artemin in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant human GDNF and recombinant rat GDNF is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-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. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

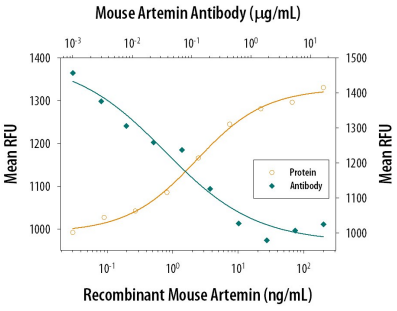
APPLICATIONS

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 Mouse Artemin (Catalog # 1085-AR)
Immunohistochemistry	1-15 µg/mL	Perfusion fixed paraffin-embedded sections of mouse brain
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.	

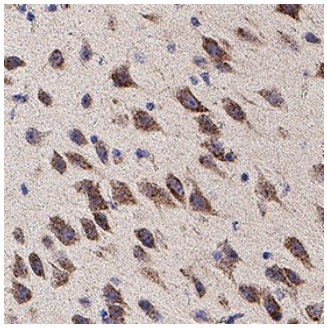
DATA

Neutralization



Cell Proliferation Induced by Artemin and Neutralization by Mouse Artemin Antibody. Recombinant Mouse Artemin (Catalog # Catalog # 1085-AR) stimulates proliferation in the SH-SY5Y human neuroblastoma cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse Artemin (15 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse Artemin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1085). The ND_{50} is typically 0.1-0.3 µg/mL.

Immunohistochemistry



Detection of Artemin in Mouse Brain. Artemin was detected in perfusion fixed paraffin-embedded sections of mouse brain using Goat Anti-Mouse Artemin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1085) at 3 µg/ml for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004) or the HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to the cytoplasm. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store 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.

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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 (GFRα1-GFRα4) and a common signaling component, cRET (receptor tyrosine kinase) (5-8). Artemin prefers to bind to GFRα3 and activites the GFRα3-RET. However, in the presence of RET, it can bind to GFRα1 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:

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