

## Background

Artemin, also known as enovin or neublastin, is a protein that is encoded by the ARTN gene.<sup>[1]</sup> Artemin is a neurotrophic factor in the glial cell line-derived neurotrophic factor family of ligands which are a group of ligands within the TGF-beta superfamily of signaling molecules. GDNFs are unique in having neurotrophic properties and have potential use for gene therapy in neurodegenerative disease. Artemin has been shown in culture to support the survival of a number of peripheral neuron populations and at least one population of dopaminergic CNS neurons. Its role in the PNS and CNS is further substantiated by its expression pattern in the proximity of these neurons. This protein is a ligand for the RET receptor and uses GFR-alpha 3 as a coreceptor. Artemin could promote the proliferation and invasiveness of lung cancer cells in vitro and therefore could be a new potential target to combat lung cancer.<sup>[2]</sup> Artemin regulates CXCR4 expression to induce migration and invasion in pancreatic cancer cells through activation of NF-kappaB signaling.<sup>[3]</sup> ARTN and MMP-9 are involved in the occurrence, development, invasion and metastasis of EC, and play a synergistic role in the development of EC and lymphatic metastasis.<sup>[4]</sup> AhR activation and ARTN expression were positively correlated in the epidermis of patients with atopic dermatitis.<sup>[5]</sup>

## References

1. Baloh RH, et al. (1998). *Neuron*. 21 (6): 1291–302.
2. Song Z, et al. (2018) *Thorac Cancer* 9 (5), 555-562.
3. Wang J, et al. (2018) *Exp. Cell Res.* 365 (1), 12-23.
4. Wang XH, et al. (2017) *J. Biol. Regul. Homeost. Agents* 31 (4), 879-887.
5. Hidaka T, et al. (2017) *Nat. Immunol.* 18 (1), 64-73.



## Genorise® Recombinant Rat Artemin DataSheet

Catalog Number: GR125004

### Description

**Source:** *E. coli* derived

**Amino acid sequence:** Thr37-Gly156

**Accession #** Q6AYE8

**Structure/Form:** Disulfide-linked homodimer

**Predicted Molecular Mass:** 13 kDa

### Specifications

**SDS-PAGE:** 13 kDa, reducing conditions

**Activity** Measured in a cell proliferation assay using SH-SY5Y human neuroblastoma cells. The ED<sub>50</sub> for this effect is 3-15 ng/mL.

Measured by its binding ability in a functional ELISA.

Immobilized recombinant human GFR $\alpha$ -3/GDFN R $\alpha$  Fc chimera (R&D Systems, Catalog # 7269-FR) at 1  $\mu$ g/ml (100  $\mu$ l/well) can bind recombinant Rat Artemin with an apparent K<sub>d</sub> < 1 nM.

**Endotoxin Level:** < 0.01 EU per 1  $\mu$ g of the protein by the LAL method.

**Purity:** > 95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation:** Lyophilized from 0.2  $\mu$ m filtered solution of 4 mM HCl, pH 2.4.

### Preparation and Storage

**Reconstitution:** Reconstitute at 50-100  $\mu$ g/mL in sterile 4 mM HCl.

**Shipping:** The product is shipped at ambient temperature or in a foam box with ice pads. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage:** Use a manual defrost freezer and avoid repeated freeze thaw cycles.

- 6 months from date of receipt, -20 to -70°C as supplied.
- 1 month, -20 to -70°C under sterile conditions after reconstitution.

**FOR LABORATORY RESEARCH USE ONLY  
NOT FOR USE IN HUMANS AND ANIMALS**