Recombinant Mouse Artemin

Catalog Number: 1085-AR

DESCRIPTION

Source	*E. coli*-derived Ala112-Gly224 Accession # Q9Z0L2.1
N-terminal Sequence Analysis	Ala112
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	12 kDa (monomer)

SPECIFICATIONS

Activity	Measured in a cell proliferation assay using SH-SY5Y human neuroblastoma cells. The ED_{50} for this effect is 2-8 ng/mL. Measured by its binding ability in a functional ELISA. Immobilized Recombinant Mouse GFRα-3/GDNF Rα-3 Fc Chimera (Catalog # 2645-FR) at 1 µg/mL (100 µL/well) can bind Recombinant Mouse Artemin with an apparent K_D <1 nM.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>97%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in Acetonitrile and TFA with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile 4 mM HCl containing at least 0.1% human or bovine serum albumin.
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. ● 3 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 (GFRα-1-GFRα-4) and a common signaling component, cRET (receptor tyrosine kinase) (5-8). Artemin prefers to bind to GFRα-3 and activites the GFRα-3-RET. However, in the presence of RET, it can bind to GFRα-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.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449