Recombinant Mouse Cardiotrophin-1/CT-1

Catalog Number: 438-CT/CF

DESCRIPTION

Source	*E. coli*-derived Ser2-Ala203 Accession # Q60753.1
N-terminal Sequence Analysis	Ser2
Predicted Molecular Mass	21 kDa

SPECIFICATIONS

Activity	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. Kitamura, T. *et al.* (1989) J. Cell Physiol. **140**:323. The ED_{50} for this effect is 0.2 – 0.6 ng/mL.
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. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile 4 mM HCl.
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

Cardiotrophin-1 (CT-1) is a member of the cytokine family which also includes IL-6, IL-11, leukemia inhibitory factor (LIF), oncostatin M (OSM), and ciliary neurotrophic factor (CNTF). It was originally isolated based on its ability to induce cardiac myocyte hypertrophy *in vitro*. CT-1 has since been shown to be a pleiotrophic cytokine with overlapping actions with other IL-6 family members on a variety of cell types. Mouse CT-1 encodes a 203 amino acid (aa) residue protein that lacks a hydrophobic signal peptide. The mechanism of CT-1 release from cells is currently not understood. Human and mouse CT-1 share 80% aa sequence identity and exhibit cross-species activity. CT-1 is highly expressed in heart, skeletal muscle, liver, lung and kidney. Lower levels of CT-1 expression is also seen in testis and brain. CT-1 initiates downstream signaling pathways through the heterodimerization of gp130 and the LIF receptor β subunit. A third α receptor subunit has also been implicated in the receptor complex.

References:

1. Pennica, D. *et al.* (1996) Cytokine and Growth Factor Reviews **7:**81.
2. Robledo, O. *et al.* (1997) J. Biol. Chem. **272:**4855.

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