

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived	
	Human CLF-1 (Ala38 - Arg422) Accession # O75462.1	10-His tag
	Human CLC (Leu28 - Phe225) Accession # Q9UBD9	6-His tag
	N-terminus	C-terminus
N-terminal Sequence Analysis	Ala38 (CLF-1) & Leu28 (CLC)	
Predicted Molecular Mass	44.5 kDa (CLF-1) & 23 kDa (CLC)	

SPECIFICATIONS

SDS-PAGE	50-65 kDa (CLF-1) & 28-30 kDa (CLC), reducing conditions
Activity	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells transfected with human CNTF R α . The ED ₅₀ for this effect is 0.5-3.5 ng/mL.
Endotoxin Level	<0.10 EU per 1 μ g of the protein by the LAL method.
Purity	>85%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 μ g/mL in sterile PBS 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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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-like cytokine (CLC), also known as novel neurotrophin-1 (NNT-1) and B cell stimulating factor (BSF-3), is a member of the IL-6 family of cytokines (1, 2). CLC associates with the secreted soluble cytokine-like factor1 (CLF-1), a member of the Cytokine Type I Receptor family, to form the heteromeric composite cytokine CLC/CLF-1 (3, 5). CLC can also form an alternate composite cytokine with soluble ciliary neurotrophic factor receptor α (CNTF R α) (4). Co-expression of CLC with either CLF-1 or CNTF R α is required for the formation of the composite cytokines and for CLC secretion (3 - 5). CLC/CLF-1 binds to the membrane-associated CNTF R α to initiate the heterodimerization between gp130 and leukemia inhibitory factor receptor (LIFR) and stimulate the PI 3-kinase and the MAP kinase activity. The CLC/CLF-1 complex displays activities only on those cells expressing the functional tripartite receptor complex (5). Human and mouse CLF-1 share 96% amino acid sequence identity (3). Human CLC is most homologous to cardiotrophin-1, sharing approximately 29% amino acid sequence homology. Human CLC also shares 96% amino acid sequence homology with mouse CLC. CLC/CLF-1 supports the survival of embryonic motor and sympathetic neurons and has been shown to induce astrocytes differentiation of fetal neuroepithelial cells (4 - 6). Both CLF-1 and CLC are expressed in the embryo, suggesting that the composite cytokine may have an important role in nervous system development (5, 7). CLC has also been shown to regulate immune functions by stimulating B cell proliferation and Ig production (8).

References:

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