

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived mouse CLF-1/CLC Complex protein			
	Mouse CLF-1 (Gly40-Gly425) Accession # Q9JM58	SGGGGSGGGGSGGGGS	Mouse CLC (Leu28-Phe225) Accession # Q9QZM3	HHHHHH
	N-terminus		C-terminus	
N-terminal Sequence Gly40 & Ala41				
Analysis				
Predicted Molecular Mass 67 kDa				
Mass				

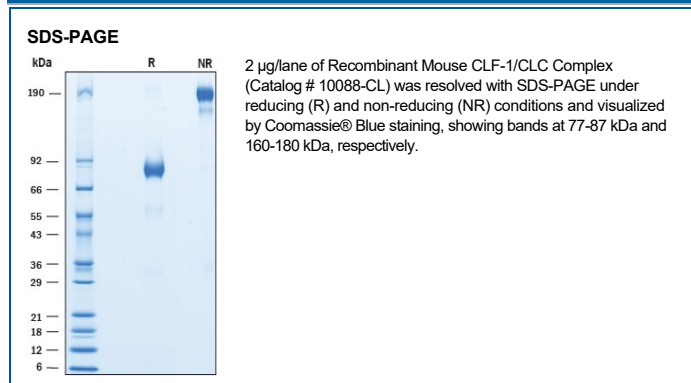
SPECIFICATIONS

SDS-PAGE	77-87 kDa, 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 15-90 ng/mL.
Endotoxin Level	<0.10 EU per 1 μ g of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 μ g/mL in PBS.
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.

DATA



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 factor 1 (CLF-1), a member of the cytokine type I receptor family, to form the heteromeric composite cytokine CLF-1/CLC (3, 5). CLC can also form an alternate composite cytokine with soluble ciliary neurotrophic factor receptor alpha (CNTF R alpha) (4). Co-expression of CLC with either CLF-1 or CNTF R alpha is required for the formation of the composite cytokines and for CLC secretion (3-5). CLF-1/CLC binds to the membrane-associated CNTF R alpha to initiate the heterodimerization between gp130 and leukemia inhibitory factor receptor (LIFR) and stimulate the PI 3-kinase and the MAP kinase activity. The CLF-1/CLC complex displays activities only on those cells expressing the functional tripartite receptor complex (5). Mouse CLF-1 is a 425 amino acid (aa) protein that contains a 33 aa signal sequence and a 392 aa chain. Mouse CLC is a 225 amino acid (aa) protein that contains a 27 aa signal sequence and a 198 aa chain. Human and mouse CLF-1 share 94% amino acid sequence identity. Human and mouse CLC shares 96% amino acid sequence identity. CLF-1/CLC 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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4. Plun-Favreau, H. *et al.* (2001) *EMBO J.* **20**:1692.
5. Elson, G.C.A. *et al.* (2000) *Nature Neurosci.* **3**:867.
6. Uemura, A. *et al.* (2002) *Cytokine* **18**:1.
7. Lelievre, E. *et al.* (2001) *J. Biol. Chem.* **276**:22476.
8. Senaldi, G. *et al.* (2002) *J. Immunol.* **168**:5690.