**Recombinant Human CLF-1/CLC Complex**

**Catalog Number:** 1151-CL

### DESCRIPTION

**Source**
Mouse myeloma cell line, NS0-derived

<table>
<thead>
<tr>
<th>Human CLF-1</th>
<th>10-His tag</th>
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<tbody>
<tr>
<td>(Ala38 - Arg422) Accession # O75462.1</td>
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<table>
<thead>
<tr>
<th>Human CLC</th>
<th>6-His tag</th>
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<tbody>
<tr>
<td>(Leu28 - Phe225) Accession # Q9UBD9</td>
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</tbody>
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**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 Rα. The ED_{50} for this effect is 0.5-3.5 ng/mL.

**Endotoxin Level**
<0.10 EU per 1 μg 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 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

### PREPARATION AND STORAGE

**Reconstitution**
Reconstitute at 100 μg/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**
- 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-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 Rα) (4). Co-expression of CLC with either CLF-1 or CNTF Rα is required for the formation of the composite cytokines and for CLC secretion (3 - 5). CLC/CLF-1 binds to the membrane-associated CNTF Rα 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 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: