

## Cardiotrophin 1 Protein, Human, Recombinant (hFc)

### General Information

Synonyms:	CT-1;CT1;cardiotrophin 1
Protein Construction:	A DNA sequence encoding the human CTF1(NP_001321.1)(Ser2-Ala201) was expressed with the fused Fc region of human IgG1 at the N-terminus. Predicted N terminal: Glu
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q16619-1
Molecular Weight:	49.5 kDa (predicted); 54 and 37 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED50 for this effect is typically 0.1-0.8 µg/mL.
Purity:	> 80 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

CTF1 is the first HOX11 protein partner identified that plays an important role in hematopoietic precursor cell immortalization. CTF1 was found to protect a gene from silencing when its DNA-binding sites were interposed between the gene and the telomeric extremity, while it did not affect a gene adjacent to the telomere. Protein fusions containing the CTF1 histone-binding domain displayed similar activities, while mutants impaired in their ability to interact with the histone did not. Cardiotrophin-1 (CTF1) has been reported to act as a trophic factor for a

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few neurons, such as sensory, cholinergic, dopaminergic, motor and cortical neurons. Studies have indicated that CTF1 delays degenerative disease progression in motor neuron disease.

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