RayBiotech, Inc.
3607 Parkway Lane suite 200
Norcross,GA 30092
Tel: 770-729-2992, 1-888-494-8555
Fax: 770-206-2393
Website: www.raybiotech.com
Email: info@raybiotech.com

Recombinant Human Cardiotrophin-1 (CT-1)

Catalog No.	Size	Species	Protein Accession No.
230-00008	10, 50, 100 µg	Human	Q16619

Synonyms

Cardiophin 1, CT1; cardiotrophin-1, CT-1; CTF1.

Description

Cardiotrophin-1 (CT-1) is a cardiac hypertrophic factor and belongs to the IL-6 cytokine family. The protein interacts with the glycoprotein 130 (gp130)/leukemia inhibitory factor receptor beta (LIFR) heterodimer. *ct-1* deficiency causes increased motoneuron cell death in spinal cord and brainstem nuclei of mice. In addition, CT-1 enhances transcription factor NF kappa B DNA-binding activities and activates phosphatidylinositol 3-kinase (PI-3 kinase) in cardiac myocytes. Studies have revealed CT-1 is highly expressed in the heart, prostate, skeletal muscle, and ovary, and expressed at the lower levels in lung, kidney, pancreas, thymus, small intestine, and testis. CT-1 is highly secreted by myotubes, and promotes the survival of cultured embryonic mouse and rat MNs. CT-1 is associated with pathophysiology of heart diseases, like hypertension, myocardial infarction, valvular heart disease, and congestive heart failure.

Preparation

The full-length of human *CT-1* gene was cloned and expressed in *Escherichia coli*. The recombinant protein has an *N*-terminal 6×histidine tag and was purified by immobilized metal ion affinity chromatography (IMAC).

Source

Recombinant histidine-tagged protein, purified from *E. coli*.

Predicted Molecular Mass

~25 kDa with the 6×histidine tag.

Formulation

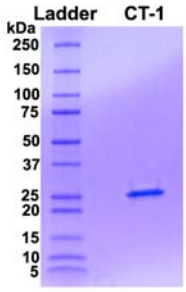
- Fine white powder, lyophilized.
- CT-1 protein was constituted in a 0.2 µm filtered phosphate-buffered saline (PBS) before lyophilized. It is recommended to briefly spin the vial prior to opening to bring the contents to the bottom, and reconstitute the lyophilized product with sterile 18 MΩ-cm deionized water or your desired buffer to a concentration of 0.1-1.0 mg/mL.

Stability & Storage

- Lyophilized product is stable at room temperature for 3 weeks, it is recommended to be stored desiccated below -20°C in a manual defrost freezer.
- Upon reconstituted, the protein should be stored at 4°C for one week. For long term storage, it is recommended to add a carrier protein (0.1% HSA or BSA) and store at -20 or -80°C. Please avoid repeated freeze-thaw cycles.

Purity

>95%, determined by SDS-PAGE and stained with Commassie blue (see image below).



References

1. Arce V, et. al. (1998) Synergistic effects of Schwann- and muscle-derived factors on motoneuron survival involve GDNF and cardiotrophin-1 (CT-1). J Neurosci 18:1440-1448.
2. Ronald W, et al. (2001). Cardiotrophin-1, a muscle-derived Cytokine, is required for the survival of subpopulations of developing motoneurons. J Neurosci. 21:1283-1291.
3. Arce V, et al. (1999) Cardiotrophin-1 requires LIFRbeta to promote survival of mouse motoneurons purified by a novel technique. J Neurosci Res 55:119-126.