

## 32-1117: rCT 1 Recombinant Protein

**Alternative Name :** Cardiotrophin-1,CT-1,Ctf1.

### Description

Source : Escherichia Coli. Cardiotrophin-1 Rat Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 203 amino acids and having a molecular mass of 21.4kDa.The CTF1 Rat is purified by proprietary chromatographic techniques. Cardiotrophin 1 (CT-1) is a 201 amino acid member of the interleukin-6 superfamily. It was identified by its ability to induce hypertrophic response in cardiac myocytes. CT-1 mRNA levels were found both in cardiac myocytes and in cardiac nonmyocytes. CT 1 was also detected in abundance in normal adult human lung and was expressed in both fetal and adult airway smooth muscle cells. CT 1 activates gp130 dependent signaling and stimulates the Janus kinase/signal transducers and activators of transcription (JAK/STAT) pathway to transduce hypertrophic and cytoprotective signals in cardiac myocytes.CT 1 has also a neurotrophic function. CTF1 deficiency causes increased motoneuron cell death in spinal cord and brainstem nuclei of mice during a period between embryonic day 14 and the first postnatal week. Moreover, CT-1 is a hepatocyte survival factor that efficiently reduces hepatocellular damage in animal models of acute liver injury. Cardiotrophin 1 expression is augmented after hypoxic stimulation and it can protect cardiac cells when added either prior to simulated ischaemia or at the time of reoxygenation following simulated ischaemia. Cardiotrophin 1 can induce expression of the protective heat shock proteins (hsps) in cardiac cells.Cardiotrophin-1 increased ventricular expression of ANP, brain natriuretic peptide (BNP) and angiotensinogen mRNA.Cardiotrophin 1 levels were significantly elevated in patients with heart failure, patients with dilatative cardiomyopathy, moderate/severe mitral regurgitation, stable and unstable angina and after acute myocardial infarction.

### Product Info

<b>Amount :</b>	10 µg
<b>Purification :</b>	Greater than 95.0% as determined by SDS-PAGE and HPLC analyses.
<b>Content :</b>	Lyophilized from a 0.2µm filtered concentrated solution in PBS, pH 7.4.
<b>Storage condition :</b>	Lyophilized Cardiotrophin-1 Rat although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution CTF1 Rat should be stored at 4°C between 2-7 days and for future use below -18°C.Please prevent freeze-thaw cycles.
<b>Amino Acid :</b>	MSQREGSLED HQT DSSFSFL PHLEAKIRQT HNLARLLTKY ADQLLEEVQ QQGEFGLPG FSPRLPLAG LSGPAPSHAG LPVSELRQD AAALSALPAL LDAVRRRQAE LNPRAPRLLR SLEDAARQVR ALGAAVETVL AALGAAARGP VPEPVATSAL FTSNSAAGVF SAKVLGLHVC GLYGEWVSRT EGD LGQLVPG GVA.

### Application Note

It is recommended to reconstitute the lyophilized CTF1 in sterile 4mM HCl not less than 100µg/ml, which can then be further diluted to other aqueous solutions. The ED50 as determined by the dose-dependent proliferation of TF-1 cells was found to be < 0.5ng/ml, corresponding to a specific activity of > 2.0x10<sup>6</sup> units/mg.

