



Product Datasheet

Product Name	Cardiotrophin-1 Human Recombinant
Cata No	CB500338
Source	<i>Escherichia Coli.</i>
Synonyms	CTF1, CT1, CT-1, Cardiophin 1.

Description

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.

Cardiophin 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.

The Cardiotrophin His-Tagged Fusion Protein Human, produced in *E. coli*, is 22.5 kDa protein containing 200 amino acid residues of the human Cardiotrophin and 12 additional amino acid residues – His Tag (underlined).

MRGSHHHHHH GSSRREGSLE DPQTDSSVSL
LPHLEAKIRQ THSLAHLTK YAEQLLQEYV
QLQGDPFGLPSFSPRLPVA GLSAPAPSHA
GLPVHERLRL DAAALAALPP LLDVCCRQA
ELNPRAPRL RRLEDAARQA RALGAAVEAL
LAALGAANRG PRAEPPAATA SAASATGVFP
AKVLGLRVCG LYREWLSRTE GDLGQLLPGG SA.

Purity

Purity of CTF1 Human Recombinant is greater than 90% as determined by SDS-PAGE

Formulation

Sterile filtered and lyophilized from 0.5 mg/ml in 0.05M Acetate buffer pH-4.

Stability

Store lyophilized protein at -20°C. Aliquot the product after reconstitution to **avoid repeated freezing/thawing cycles**. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after two weeks at 4°C.

The lyophilized Cardiophin 1 remains stable until the expiry date when stored at -20°C.

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Applications

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