



RayBiotech, Inc.

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Certificate of Analysis and Data Sheet Recombinant Human Cardiotrophin-1

Catalog No.
228-10287

Source
Escherichia Coli.

Synonyms

CTF1, CT1, CT-1, Cardiophin 1.

Introduction

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.

Description

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 THSLAHL LTK
YAEQLLQEYV QLQGDPFGLPSFSPRLPVA GLSAPAPSHA GLPVHERLRL
DAAALALP LLDVAVCRRQA ELNPRAPRLR RLLEDAARQA RALGAAVEAL
LAALGAANRG PRAEPPAATA SAASATGVFP AKVLGLRVCG LYREWLSRTE
GDLGQLLP GG SA.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Formulation

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

Purity

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

Solubility

Add 0.2 ml of 0.1M Acetate buffer pH-4 and let the lyophilized pellet dissolve completely. For conversion into higher pH value, we recommend intensive dilution by relevant buffer to a concentration of 10µg/ml. In higher concentrations the solubility of this antigen is limited.

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.

Applications

Western blotting.

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