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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 



Cardiotrophin-1, His Tag, human recombinant (rHuCT-1-His)

Catalog No: 87313
Lot No: XXXXX
Source: *E. coli*
Synonyms: CTF1, CT1, CT-1, Cardiophin 1

Background

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

Cardiotrophin produced in *E. coli*, is a 22.5 kDa protein containing 200 amino acid residues of human Cardiotrophin and 12 additional amino acid residues His Tag.

Physical Appearance

Lyophilized

Formulation

CT-1 was filtered (0.4 µm) and lyophilized from 0.5 mg/ml in 0.05 M acetate buffer pH 4.

Solubility

It is recommended to add 0.1 M acetate buffer pH-4 to prepare a working stock solution of approximately 0.5 mg/ml and let the lyophilized pellet dissolve completely. For conversion into higher pH value, we recommend intensive dilution by relevant buffer to a concentration of 10 µg/ml. In higher concentrations the solubility of this antigen is limited. Protein is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.

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.

Purity

Greater than 90% as determined by SDS-PAGE.



Amino Acid Sequence

MRGSHHHHHH GSSRREGSLE DPQTDSSVSL LPHLEAKIRQ THSLAHLTK YAEQLLQFYV QLQDPPFGLPSFSPRLPVA
GLSAPAPSHA GLPVHERLRL DAAALAALPP LLDVAVCRRQA ELNPRAPRLR RRLEDAARQA RALGAAVEAL LAALGAANRG
PRAEPPAATA SAASATGVFP AKVLGLRVCG LYREWLSRTE GDLGQLLPGG SA

Applications

WB*ELISA

Usage

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