

Cardiotrophin-1 Human, Rabbit Polyclonal Antibody

Product Data Sheet

Source of Antigen: *E. coli*

Host: Rabbit

Cat. No.:

RD181026100

(0.1 mg)

Other names: CT-1, CTF1

Research topic

Cardiovascular disease

Preparation

The antibody was raised in rabbits by immunization with the recombinant Human Cardiotrophin-1.

Amino Acid Sequence

The immunization antigen (22.5 kDa) is a protein containing 212 AA of recombinant Human Cardiotrophin-1. N-Terminal His-tag, 12 extra AA (highlighted).

MRGSHHHHHH GSSRREGSLE DPQTDSSVSL LPHLEAKIRQ THSLAHLTK YAEQLLQEYV QLQGDPPFGLP SFSPPRLPVA
GLSAPAPSHA GLPVHERLRL DAAALAALPP LLDVAVCRROA ELNPRAPRLR RRLEDAARQA RALGAAVEAL LAALGAANRG
PRAEPPAATA SAASATGVFP AKVLGLRVCG LYREWLSRTE GDLGQLLPGG SA

Species Reactivity

Human

Not yet tested in other species.

Purification Method

Immunoaffinity chromatography on a column with immobilized recombinant Human Cardiotrophin-1.

Antibody Content

0.1 mg (determined by BCA method, BSA was used as a standard)

Formulation

The antibody is lyophilized in 0.05 M phosphate buffer, 0.1 M NaCl, pH 7.2. **AZIDE FREE.**

Reconstitution

Add 0.2 ml of deionized water and let the lyophilized pellet dissolve completely. Slight turbidity may occur after reconstitution, which does not affect activity of the antibody. In this case clarify the solution by centrifugation.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage/Stability

The lyophilized antibody remains stable and fully active until the expiry date when stored at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles and store frozen at -80°C. Reconstituted antibody can be stored at 4°C for a limited period of time; it does not show decline in activity after one week at 4°C.

Expiration

See vial label.

Lot Number

See vial label.

Quality Control Test

Indirect ELISA - to determine titer of the antibody

Applications

Western blotting

Introduction to the Molecule

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. CT-1 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. CT-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. CT-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. CT-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.

References to this Product

- Khan SQ, Kelly D, Quinn P, Davies JE, Ng LL . *Cardiotrophin-1 predicts death or heart failure following acute myocardial infarction.* [J Card Fail](#) . Oct;12(8):635-40 (2006)

Note

This product is for research use only.

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