



## Cardiotrophin-1 Human, Mouse Monoclonal Antibody, Clone: 3G6D9

### Product Data Sheet

**Source of Antigen:** *E. coli*

**Host:** Mouse

**Isotype:** IgG1

**Other names:** CT-1, CTF1

**Cat. No.:**

RD182026100-01 (0.1 mg)

### Research topic

Cardiovascular disease

### Preparation

The antibody is a mouse monoclonal antibody against 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 QLQGDPFGLP SFSPRLPVA  
GLSAPAPSHA GLPVHERLRL DAAALALPP LLDAVCRRQA ELNPRAPRL RRLEDAARQA RALGAAVEAL LAALGAANRG  
PRAEPPAATA SAASATGVFP AKVLGLRVCG LYREWLSRTE GDLGQLLP GG SA

### Species Reactivity

Human

Not yet tested in other species.

### Purification Method

Affinity chromatography on a column with immobilized protein G.

### 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 0.1 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  
SDS PAGE - to determine purity 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 via 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 is also present in the lungs of adult humans, expressed both in 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 improved 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.

## **Note**

This product is for research use only.

**Gentaur Molecular Products**  
**Voortstraat 49**  
**1910 Kampenhout, Belgium**  
**<http://www.gentaur-worldwide.com>**