

# Cardiotrophin-1 (h): 293T Lysate: sc-112583

## BACKGROUND

Cardiotrophin-1 (CT-1) is a member of the IL-6 family of cytokines, which signal through gp130 receptor complexes. gp130 complexes with several different receptor subunits to transmit signals from Cardiotrophin-1, IL-6, LIF, OSM, CNTF and IL-11. Cardiotrophin-1 binds to and activates the leukemia inhibitory factor (LIF) receptor/gp130 receptor complex and has been shown to induce hypertrophy in cardiac myocytes *in vitro*. Cardiotrophin-1, a secreted protein expressed at high levels in myocardium during cardiogenesis, has been shown to promote proliferation and survival of embryonic cardiomyocytes, suggesting a role for Cardiotrophin-1 in the activation of gp130 during cardiac development. Cardiotrophin-1 is highly expressed in heart, prostate, ovary and skeletal muscle. Lower levels of expression are seen in lung, kidney, pancreas, thymus, testis and small intestine.

## REFERENCES

1. Pennica, D., King, K.L., Shaw, K.J., Luis, E., Rullamas, J., Luoh, S.M., Darbonne, W.C., Knutzon, D.S., Yen, R., Chien, K.R., et al. 1995. Expression cloning of Cardiotrophin-1, a cytokine that induces cardiac myocyte hypertrophy. *Proc. Natl. Acad. Sci. USA* 92: 1142-1146.
2. Klein, B. 1998. Update of gp130 cytokines in multiple myeloma. *Curr. Opin. Hematol.* 5: 186-191.
3. Hibi, M., Murakami, M., Saito, M., Hirano, T., Taga, T. and Kishimoto, T. 1990. Molecular cloning and expression of an IL-6 signal transducer, gp130. *Cell* 63: 1149-1157.
4. Ishikawa, M., Saito, Y., Miyamoto, Y., Kuwahara, K., Ogawa, E., Nakagawa, O., Harada, M., Masuda, I. and Nakao, K. 1996. cDNA cloning of rat Cardiotrophin-1 (CT-1): augmented expression of CT-1 gene in ventricle of genetically hypertensive rats. *Biochem. Biophys. Res. Commun.* 219: 377-381.
5. Pennica, D., Swanson, T.A., Shaw, K.J., Kuang, W.J., Gray, C.L., Beatty, B.G. and Wood, W.I. 1996. Human Cardiotrophin-1: protein and gene structure, biological and binding activities, and chromosomal localization. *Cytokine* 8: 183-189.
6. Wollert, K.C. and Chien, K.R. 1997. Cardiotrophin-1 and the role of gp130-dependent signaling pathways in cardiac growth and development. *J. Mol. Med.* 75: 492-501.

## CHROMOSOMAL LOCATION

Genetic locus: CTF1 (human) mapping to 16p11.2.

## PRODUCT

Cardiotrophin-1 (h): 293T Lysate represents a lysate of human Cardiotrophin-1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## APPLICATIONS

Cardiotrophin-1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Cardiotrophin-1 antibodies. Recommended use: 10-20 µl per lane.

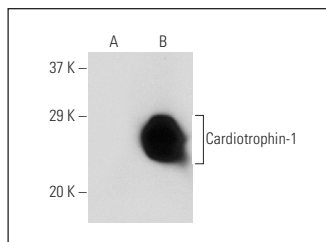
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Cardiotrophin-1 (AN-B3): sc-9991 is recommended as a positive control antibody for Western Blot analysis of enhanced human Cardiotrophin-1 expression in Cardiotrophin-1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

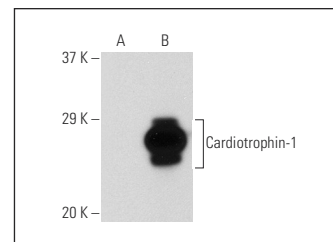
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



Cardiotrophin-1 (AN-B3): sc-9991. Western blot analysis of Cardiotrophin-1 expression in non-transfected: sc-117752 (A) and human Cardiotrophin-1 transfected: sc-112583 (B) 293T whole cell lysates.



Cardiotrophin-1 (4916): sc-73763. Western blot analysis of Cardiotrophin-1 expression in non-transfected: sc-117752 (A) and human Cardiotrophin-1 transfected: sc-112583 (B) 293T whole cell lysates.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.