

# Cardiotrophin-1 (4916): sc-73763

## 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

- 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.
- Klein, B. 1998. Update of gp130 cytokines in multiple myeloma. *Curr. Opin. Hematol.* 5: 186-191.
- 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.
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- 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.
- 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.

## SOURCE

Cardiotrophin-1 (4916) is a mouse monoclonal antibody raised against full length recombinant Cardiotrophin-1 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml PBS with < 0.1% sodium azide and protein stabilizer.

## RESEARCH USE

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

## APPLICATIONS

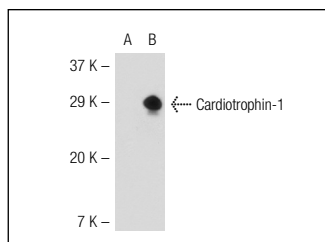
Cardiotrophin-1 (4916) is recommended for detection of Cardiotrophin-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Cardiotrophin-1 siRNA (h): sc-39327, Cardiotrophin-1 shRNA Plasmid (h): sc-39327-SH and Cardiotrophin-1 shRNA (h) Lentiviral Particles: sc-39327-V.

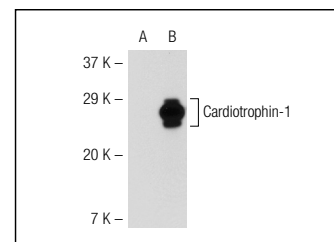
Molecular Weight of Cardiotrophin-1: 21 kDa.

Positive Controls: Cardiotrophin-1 (h): 293T Lysate : sc-112583.

## DATA



Cardiotrophin-1 (4916): sc-73763. Western blot analysis of Cardiotrophin-1 expression in non-transfected: sc-117752 (A) and human Cardiotrophin-1 transfected: sc-116959 (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.

## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## PROTOCOLS

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