

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

1. Pennica, D., King, K.L., Shaw, K.J., Luis, E., Rullamas, J., Luoh, S.M., Darbonne, W.C., Knutson, 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.
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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.

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 IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

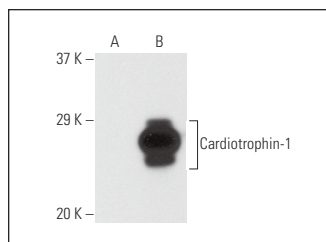
Cardiotrophin-1 (4916) is recommended for detection of Cardiotrophin-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution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

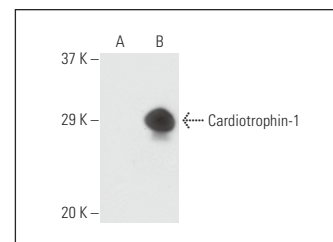
Molecular Weight of Cardiotrophin-1: 21 kDa.

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-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-116959 (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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.