SANTA CRUZ BIOTECHNOLOGY, INC.

Cardiotrophin-1 (AN-B3): sc-9991

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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., 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., et al. 1990. Molecular cloning and expression of an IL-6 signal transducer, gp130. Cell 63: 1149-1157.
4. Ishikawa, M., et al. 1996. cDNA cloning of rat Cardio-trophin-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., et al. 1996. Human Cardiotrophin-1: protein and gene structure, biological and binding activities, and chromosomal localization. Cytokine 8: 183-189.

CHROMOSOMAL LOCATION

Genetic locus: CTF1 (human) mapping to 16p11.2; Ctf1 (mouse) mapping to 7 F3.

SOURCE

Cardiotrophin-1 (AN-B3) is a mouse monoclonal antibody raised against full length Cardiotrophin-1 (CT-1) of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cardiotrophin-1 (AN-B3) is available conjugated to agarose (sc-9991 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9991 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9991 PE), fluorescein (sc-9991 FITC), Alexa Fluor® 488 (sc-9991 AF488), Alexa Fluor® 546 (sc-9991 AF546), Alexa Fluor® 594 (sc-9991 AF594) or Alexa Fluor® 647 (sc-9991 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-9991 AF680) or Alexa Fluor® 790 (sc-9991 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

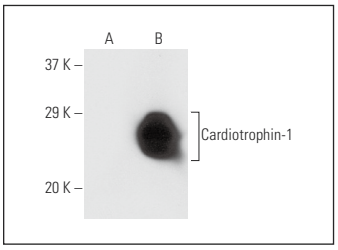
Cardiotrophin-1 (AN-B3) is recommended for detection of Cardiotrophin-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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 siRNA (m): sc-39328, Cardiotrophin-1 shRNA Plasmid (h): sc-39327-SH, Cardiotrophin-1 shRNA Plasmid (m): sc-39328-SH, Cardiotrophin-1 shRNA (h) Lentiviral Particles: sc-39327-V and Cardiotrophin-1 shRNA (m) Lentiviral Particles: sc-39328-V.

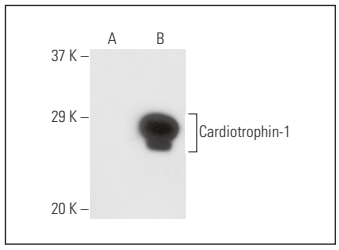
Molecular Weight of Cardiotrophin-1: 21 kDa.

Positive Controls: Cardiotrophin-1 (h): 293T Lysate: sc-112583 or Hep G2 cell lysate: sc-2227.

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 (AN-B3): sc-9991. 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.

SELECT PRODUCT CITATIONS

1. Nishikawa, J., et al. 2005. Increase of Cardiotrophin-1 immunoreactivity in regenerating and overloaded but not denervated muscles of rats. Neuropathology 25: 54-65.
2. Yu, M., et al. 2008. Interleukin-6 cytokine family member oncostatin M is a hair-follicle-expressed factor with hair growth inhibitory properties. Exp. Dermatol. 17: 12-19.
3. Raso, A., et al. 2019. Therapeutic delivery of miR-148a suppresses ventricular dilation in heart failure. Mol. Ther. 27: 584-599.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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