

# Cardiotrophin-2 (N-20): sc-49307

## BACKGROUND

Cardiotrophin-1 and -2 possess anti-inflammatory properties and send signals through gp130 receptor complexes. Cardiotrophin-1 displays trophic effects on cardiac myocytes and on a subset of neurons. The presence of the leukemia inhibitory factor (LIF) receptor, as a component of the gp130 receptor complex, is required for signal transduction of Cardiotrophin-1 in motor neurons.

Cardiotrophin-2 (CT-2), also designated neuropoietin (NP), is crucial for neuronal precursor development and maturation and has been found to increase platelet counts associated with splenomegaly. Cardiotrophin-2 is a secreted protein expressed solely in embryonic samples. Studies indicate that NP may sustain the *in vitro* survival of embryonic motor neurons and may increase the proliferation of neural precursors when associated to epidermal growth factor and fibroblast growth factor 2.

## REFERENCES

1. Cognet, I., et al. 2004. Expression of biologically active mouse ciliary neurotrophic factor (CNTF) and soluble CNTFR $\alpha$  in *Escherichia coli* and characterization of their functional specificities. *Eur. Cytokine Netw.* 15: 255-262.
2. Derouet, D., et al. 2004. Neuropoietin, a new IL-6-related cytokine signaling through the ciliary neurotrophic factor receptor. *Proc. Natl. Acad. Sci. USA* 101: 4827-4832.
3. Vlotides, G., et al. 2004. Novel neurotrophin-1/B cell-stimulating factor-3 (NNT-1/BSF-3)/cardiotrophin-like cytokine (CLC) – a novel gp130 cytokine with pleiotropic functions. *Cytokine Growth Factor Rev.* 15: 325-336.
4. Schroers, A., et al. 2005. Dynamics of the gp130 cytokine complex: a model for assembly on the cellular membrane. *Protein Sci.* 14: 783-790.
5. Ohno, M., Kohyama, J., Namihira, M., Sanosaka, T., Takahashi, J.A., Hashimoto, N. and Nakashima, K. 2006. Neuropoietin induces neuroepithelial cells to differentiate into astrocytes via activation of Stat3. *Cytokine* 36: 17-22.

## CHROMOSOMAL LOCATION

Genetic locus: Ctf2 (mouse) mapping to 7 F3.

## SOURCE

Cardiotrophin-2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Cardiotrophin-2 precursor of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49307 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Cardiotrophin-2 (N-20) is recommended for detection of Cardiotrophin-2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Cardiotrophin-2 (N-20) is also recommended for detection of Cardiotrophin-2 (also designated Neuropoietin) in additional species, including equine and porcine.

Suitable for use as control antibody for Cardiotrophin-2 siRNA (m): sc-61188, Cardiotrophin-2 shRNA Plasmid (m): sc-61188-SH and Cardiotrophin-2 shRNA (m) Lentiviral Particles: sc-61188-V.

Molecular Weight of Cardiotrophin-2: 22 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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) or our catalog for detailed protocols and support products.