

Cytokines

Human Recombinant Cardiotrophin-1

Cardiotrophin 1

Catalog # 78160
78160.1

10 µg
50 µg



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Product Description

Cardiotrophin-1 is a member of the IL-6 (interleukin 6) cytokine family that includes IL-6, leukemia inhibitory factor (LIF), oncostatin M (OSM), and ciliary neurotrophic factor (CNTF). Cardiotrophin-1 is a pleiotropic cytokine with activity that overlaps with other IL-6 family members. Cardiotrophin-1 is expressed in various tissues including heart, skeletal muscle, liver, lung, kidney, ovary, colon, and prostate. It initiates downstream signaling pathways through the heterodimerization of gp130 and the LIF receptor β subunit (Pennica et al.; Robledo et al.). Binding of cardiotrophin-1 initiates signaling through the JAK/STAT, MEK/ERK, and AKT pathways. Cardiotrophin-1 has been shown to have cardioprotective and neuroprotective effects. It has also been shown to promote cardiomyocyte survival and plays an essential role in the development of neural tissue (López-Yoldi et al.).

Product Information

Alternative Names: CT-1, CTF1
Accession Number: Q16619
Amino Acid Sequence: SRREGSLEDP QTDSSVSLLP HLEAKIRQTH SLAHLTKYA EQLLQEYVQL QGDPFGLPSF SPPRLPVAGL SAPAPSHAGL PVHERLRLDA AALAALPPLL DAVCRRQAEL NPRAPRLRR LEDAARQARA LGAAVEALLA ALGAANRGPR AEPPAATASA ASATGVFPAK VLGLRVCGLY REWLSRTEGD LGQLLPGGSA
Predicted Molecular Mass: 21.1 kDa
Species: Human
Cross Reactivity: Reported to be species-specific
Formulation: Lyophilized after dialysis against phosphate-buffered saline.
Source: CHO

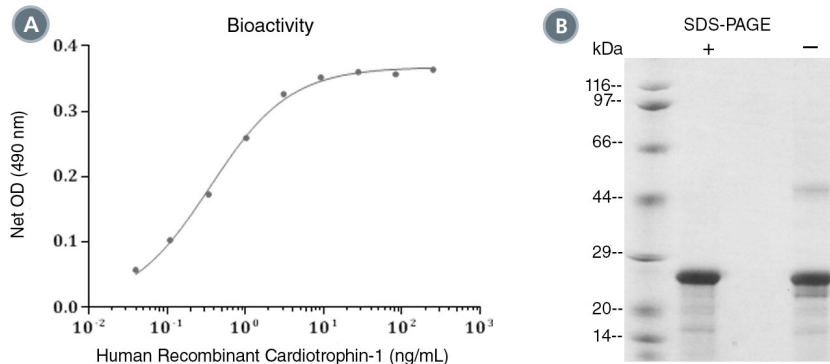
Specifications

Activity: The specific activity is $\geq 2.5 \times 10^6$ units/mg ($EC_{50} \leq 0.4$ ng/mL) as determined by a cell proliferation assay using TF-1 cells.
Purity: $\geq 95\%$
Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage: Store at -80°C .
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. As a general guide, do not store at $2 - 8^\circ\text{C}$ for more than 1 week or at -20°C for more than 2 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant Cardiotrophin-1 was tested by its ability to promote the proliferation of TF-1 cells. Cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the example above is less than 0.4 ng/mL.

(B) 2 μ g of Human Recombinant Cardiotrophin-1 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant Cardiotrophin-1 has a predicted molecular mass of 21.1 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

- López-Yoldi M et al. (2015) Cardiotrophin-1: A multifaceted cytokine. *Cytokine Growth Factor Rev* 26(5): 523–32.
- Pennica D et al. (1996) Cardiotrophin-1: a multifunctional cytokine that signals via LIF receptor-gp 130 dependent pathways. *Cytokine Growth Factor Rev* 7(1): 81–91.
- Robledo O et al. (1997) Signaling of the cardiotrophin-1 receptor. Evidence for a third receptor component. *J Biol Chem* 272(8): 4855–63.

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