9051 Mira Mesa Blvd, #910094
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CLCF1 Human

Cardiotrophin-Like Cytokine Factor 1 Human Recombinant
CYK0108

Product Overview

Name	CLCF1 Human
Description	
Cardiotrophin-Like Cytokine Factor 1 Human Recombinant	
Accession (Primary)	Q9UBD9
Synonyms	
Cardiotrophin-like cytokine factor 1, B-cell-stimulating factor 3, BSF-3, Novel neurotrophin-1, NNT-1, CLCF1, BSF3, CLC, NNT1, NR6, CISS2.	
Introduction	
Cardiotrophin-like cytokine factor 1 (CLCF1) is a member of the interleukin 6 family of cytokines, which are involved in cell signaling via phosphorylation of gp130. CLCF1 has a sequence of 225 amino acids with a 27 aa signal peptide, having a molecular mass of 22kDa in the mature form, and the maximum homology to cardiotrophin-1 and ciliary neurotrophic factor. CLCF1 is actively secreted from cells by forming a complex with soluble type I CRLF1 or soluble CNTFR. Defects in the CLCF1 gene cause cold-induced sweating syndrome 2 (CISS2). The CISS2 syndrome is typified by profuse sweating after exposure to cold as well as congenital physical abnormalities of the head and spine.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile Filtered clear solution.	
Formulation	
CLCF1 protein solution (1mg/ml) containing 20mM sodium citrate (pH 3.5), 0.4M Urea and 10% glycerol.	
Stability	
Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.	
Purity	
Greater than 90% as determined by SDS-PAGE.	
Amino acid sequence	
MGSSHHHHHH SSGLVPRGSH M LNRTGDPGP GPSIQKTYDL TRYLEHQLRS LAGTYLNYLG PPFNEPDFNP PRLGAETLPR ATVDLEVWRS LNDKLRLTQN YEAYSHLLCY LRGLNRQAAT AELRRSLAHF CTSLQGLLGS	

IAGVMAALGY PLPQPLPGTE PTWTPGPAHS DFLQKMDDFW LLKELQTWLW RSAKDFNRLK KKMQPPAAAV TLHLGAHGF.

Background

Cardiotrophin-Like Cytokine Factor 1 Human Recombinant: A Significant Player in Neuronal Development and Immune Regulation Cardiotrophin-like cytokine factor 1 (CLCF1) has emerged as a crucial player in neuronal development and immune regulation. As a heterodimeric neurotropic cytokine, CLCF1 in complex with cytokine-like factor-1 (CLF-1) has demonstrated vital roles in neuronal development. Studies show that mice lacking this heterodimer exhibit reduced motor neurons and die shortly after birth due to suckling defects. In humans, mutations in the genes encoding for CLCF1 and CLF-1 manifest as Sohar-Crisponi or cold-induced sweating syndrome, with individuals at high risk of early death 1 . CLCF1 also exhibits a significant role in the regulation of hematopoiesis, particularly skewing towards myeloid cell differentiation. It has been demonstrated that in mice, CLCF1 promotes B-cell expansion, enhances humoral responses, and triggers autoimmunity. Further, CLCF1 administration resulted in an increase in circulating myeloid cells, along with augmented hematopoietic progenitor cells in the bone marrow. These findings underscore CLCF1's crucial role in modulating the immune system, particularly in the context of bonemarrow transplants and recovery following sub-lethal irradiation 2 . Interestingly, CLCF1 is a member of the IL-6 family of cytokines, known for their significant roles in immune regulation and stem cell biology. Like other family members, CLCF1 is secreted as a composite cytokine with CRLF1 and signals through the heterodimerization of the signaling chains LIFRβ and gp130. This suggests overlapping functions with leukemia inhibitor factor (LIF), another IL-6 family member. Expression of CLCF1 is documented in lymph nodes, spleen, and circulating lymphocytes, further establishing its role in immune modulation. However, the comprehensive implications of CLCF1 in immune regulation and hematopoiesis remain an active area of investigation 3 . In summary, Cardiotrophin-like cytokine factor 1 human recombinant represents a promising area of research with potential therapeutic implications in neurodevelopmental disorders and immune regulation.

Precautions

CLCF1 Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (Q9UBD9)

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