

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived		
	Human CNTF R α (Gln23 - Pro346) Accession # P26992	GSGSSRGGSGSGSGGGGSKL	Human CLC (Leu28 - Phe225) Accession # Q9UBD9
	N-terminus		C-terminus

N-terminal Sequence Analysis No results obtained: Gln23 predicted

Predicted Molecular Mass 61 kDa

SPECIFICATIONS

SDS-PAGE	85-93 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. Kitamura, T. <i>et al.</i> (1989) J. Cell Physiol. 140 :323. The ED ₅₀ for this effect is 10-25 ng/mL.
Endotoxin Level	<0.01 EU per 1 μ g of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 μ g/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Cardiotrophin-like cytokine (CLC), (also known as novel neurotrophin-1 (NNT-1) and B cell stimulating factor (BSF-3) is a 22 - 25 kDa member of the IL-6 family of cytokines (1 - 3). As such, it is expressed as a long, type I cytokine with four α -helices in its structure (2). Human CLC is synthesized as a 225 amino acid (aa) precursor that contains a 27 aa signal sequence and a 198 aa mature region. It contains one potential N-linked glycosylation site that is apparently utilized, and two distinct binding sites for Ciliary Neurotrophic Factor Receptor alpha (CNTF R α) and Cytokine Receptor-like Factor (CLF) (4, 5). Although CLC has a signal sequence, it is not secreted unless noncovalently complexed to either CLF or soluble CNTF R α (5, 6). Once complexed, CLC signals through a tripartite receptor complex composed of gp130, LIF R β and CNTF R α (5, 7). Within the IL-6 family, human CLC is most homologous to cardiotrophin-1, sharing approximately 29% amino acid sequence identity (8). Human to mouse, mature CLC shares 96% aa sequence identity. CLC is a trophic factor for motor neurons, a stimulator of ACTH release from corticotrophs, and an inducer of IgE synthesis and B cell proliferation (9 - 11). Cells known to express CLC include embryonic muscle, lung epithelium, and mesenchyme in various regions (12).

References:

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