

## DESCRIPTION

<b>Source</b>	Human embryonic kidney cell, HEK293-derived cynomolgus monkey LIFR alpha protein		
	Cynomolgus Monkey LIFR alpha (Gln45-Ser833) Accession # XP_005556818.1	IEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence Analysis</b>	Gln45 (blocked)		
<b>Structure / Form</b>	Disulfide-linked homodimer		
<b>Predicted Molecular Mass</b>	116 kDa		

## SPECIFICATIONS

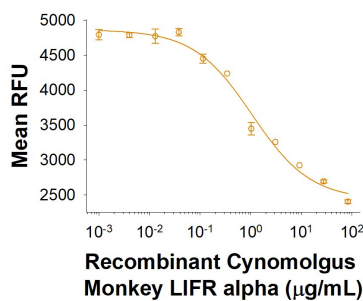
<b>SDS-PAGE</b>	133-149 kDa, under reducing conditions
<b>Activity</b>	Measured by its ability to inhibit LIF-dependent proliferation of TF-1 human erythroleukemic cells. Kitamura, T. <i>et al.</i> (1989) J. Cell Physiol. <b>140</b> :323. The ED <sub>50</sub> for this effect is typically 0.7-7 µg/mL in the presence of 0.3 ng/mL of recombinant human LIF.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 500 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

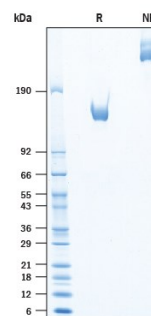
## DATA

### Bioactivity



Measured by its ability to inhibit LIF-dependent proliferation of TF-1 human erythroleukemic cells. The ED<sub>50</sub> for this effect is typically 0.7-7 µg/mL in the presence of 0.3 ng/mL of recombinant Human LIF.

### SDS-PAGE



2 µg/lane of Recombinant Cynomolgus Monkey LIFR alpha Fc Chimera Protein (Catalog # 10528-LR) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 133-149 kDa and 260-280 kDa, respectively.

**BACKGROUND**

Leukemia Inhibitory Factor Receptor alpha (LIF R $\alpha$ ), also known as LIFR beta and CD118, is a 190 kDa type I transmembrane protein in the Interleukin-6 receptor family. Members of this family mediate the biological effects of Cardiotrophin-1, CLC, CNTF, IL-6, IL-11, IL-27, and Oncostatin M (1). Based on its similarity with human LIF R $\alpha$ , mature cynomolgus LIF R $\alpha$  is predicted to consist of a 789 amino acid (aa) extracellular domain (ECD) with two cytokine receptor homology domains, one WSxWS motif, and three fibronectin type III repeats, followed by a 26 aa transmembrane segment and a 238 aa cytoplasmic domain (2). Within the ECD, cynomolgus LIF R $\alpha$  shares 97% aa sequence identity with human LIF R $\alpha$ . LIF R $\alpha$  binds the pleiotropic cytokine LIF with low affinity (3). Binding affinity is increased by the ligand-induced association of LIF R $\alpha$  with the signal transducing subunit gp130 (4, 6). The LIF R $\alpha$ /gp130 receptor complex also transduces Oncostatin M signals, although LIF R $\alpha$  alone does not interact with Oncostatin M (4). gp130 associates with different ligand-specific receptors to form signaling receptor complexes for the other IL-6 family ligands (1). The CNTF receptor is a ternary complex that contains CNTF R $\alpha$  and gp130 as well as LIF R $\alpha$  (6, 7). LIF R $\alpha$  is widely expressed, and LIF induces the proliferation, differentiation, and activation of cells in many tissues (8, 9). In particular, LIF R $\alpha$  plays an important role in several aspects of early pregnancy such as blastocyst implantation in the uterus (10-12).

**References:**

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