

## DESCRIPTION

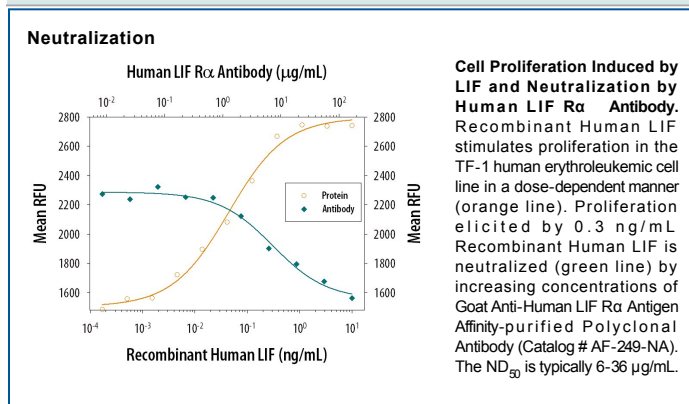
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human LIF R $\alpha$ in direct ELISAs and Western blots. In direct ELISAs, approximately 7% cross-reactivity with recombinant mouse LIF R $\alpha$ is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf21-derived recombinant human LIF R $\alpha$ Gln45-Ser833 Accession # P42702
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu$ g of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 $\mu$ g/mL	Recombinant Human LIF R $\alpha$ (Catalog # 249-LR/CF)
<b>Neutralization</b>	Measured by its ability to neutralize LIF-induced proliferation in the TF-1 human erythroleukemic cell line [Kitamura, T. <i>et al.</i> (1989) J. Cell Physiol. <b>140</b> :323]. The Neutralization Dose (ND <sub>50</sub> ) is typically 6-36 $\mu$ g/mL in the presence of 0.3 ng/mL Recombinant Human LIF.	

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile 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>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <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>6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

The activities of the pleiotropic cytokine LIF are mediated through a high-affinity heterodimeric receptor complex consisting of two membrane glycoproteins: an  $\alpha$  subunit (LIF R $\alpha$ , also known as LIF R $\beta$  and CD118) that binds LIF with low affinity and the 130 kDa (gp130) subunit that does not bind LIF by itself, but is required for high-affinity binding of LIF by the complex. The gp130 subunit was first described as the signal transducing subunit of the high-affinity IL-6 receptor complex. Besides LIF, the high-affinity heterodimeric LIF receptor complex has been shown to mediate the activities of oncostatin M (OSM), cardiotrophin-1 and ciliary neurotrophic factor (CNTF).

Human LIF R $\alpha$  cDNA encodes a 1097 amino acid (aa) residue precursor type I membrane protein with a 44 aa residue signal peptide, a 789 aa residue extracellular domain, a 26 aa residue transmembrane domain, and a 238 aa residue cytoplasmic domain. LIF R $\alpha$  is a member of the cytokine receptor family and has extensive homology to gp130. The extracellular domain of LIF R $\alpha$  has two cytokine receptor domains and three fibronectin type III repeats. In mouse, mRNAs encoding a soluble LIF R $\alpha$  and lacking transmembrane and intracellular domains, have been isolated. Soluble LIF R $\alpha$  has been shown to bind LIF and has LIF antagonistic activity.

## References:

1. Bazan, J.F. (1990) Proc. Natl. Acad. Sci. USA **87**:6934.
2. Gearing, D.P. (1994) *Guidebook to Cytokines and Their Receptors*, Academic Press, p130.
3. Pennica D. *et al.* (1995) J. Biol. Chem. **270**:10915.