

#### DESCRIPTION

|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Human  |
| <b>Specificity</b>        | Detects human LIF R $\alpha$ in direct ELISAs and Western blots.   |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # 32953  |
| <b>Purification</b>       | Protein A or G purified from ascites   |
| <b>Immunogen</b>          | <i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human LIF R $\alpha$<br>Gln45-Ser833<br>Accession # P42702   |
| <b>Conjugate</b>          | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm  |
| <b>Formulation</b>        | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

#### 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.

|                       | Recommended Concentration            | Sample   |
|-----------------------|--------------------------------------|--|
| <b>Flow Cytometry</b> | 0.25-1 $\mu$ g/10 <sup>6</sup> cells | HeLa human cervical epithelial carcinoma cell line |

#### PREPARATION AND STORAGE

|                                |  |
|--------------------------------|--|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.                                  |
| <b>Stability &amp; Storage</b> | <b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</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 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.

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