

Reagents Provided

Allophycocyanin (APC)-conjugated rat monoclonal anti-mouse

LIF R α : Supplied as 10 μ g of antibody in 1 mL saline containing up to 0.5% BSA and 0.1% sodium azide.

Clone #: 673602

Isotype: rat IgG₁

Reagents Not Provided

- Flow Cytometry Staining Buffer (Catalog # FC001) or other BSA-supplemented saline buffer.

Storage

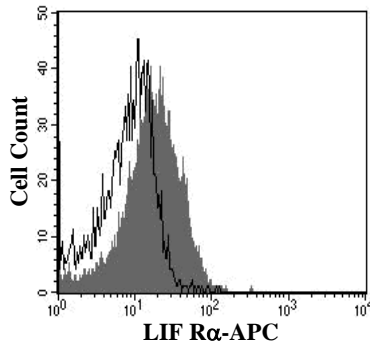
Reagents are stable for **twelve months** from the date of receipt when stored in the dark at 2-8 $^{\circ}$ C.

Intended Use

Designed to quantitatively determine the percentage of cells bearing LIF R α within a population and qualitatively determine the density of LIF R α on cell surfaces by flow cytometry.

Product Description

This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with purified NS0-derived recombinant mouse Leukemia Inhibitory Factor Receptor alpha (rmLIF R α ; Accession # P42703), extracellular domain. The IgG fraction of the tissue culture supernatant was purified by Protein A or G affinity chromatography. The purified antibody was then conjugated to APC fluorochrome. Cell surface expression of LIF R α is determined by flow cytometry using 620-650 nm wavelength excitation and monitoring emitted fluorescence with a detector optimized to collect peak emissions at 660-670 nm.



D3 cells were stained with APC-conjugated anti-mouse LIF R α (Catalog # FAB5990A; filled histogram) or APC-conjugated isotype control (Catalog # IC005A; open histogram).

Warning: Contains sodium azide as a preservative - sodium azide may react with lead and copper plumbing to form explosive metal azides. Flush with large volumes of water during disposal.

FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

Background Information

Leukemia Inhibitory Factor Receptor alpha (LIF R α), also known as LIF R β and CD118, is a 190 kDa type I transmembrane protein belonging to 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 LIF R α binds the pleiotropic cytokine LIF with low affinity, and the soluble isoform retains LIF-binding activity.² LIF R α is widely expressed, and LIF induces the proliferation, differentiation, and activation of cells in many tissues.³⁻⁵ In particular, LIF R α plays an important role in several aspects of early pregnancy such as blastocyst implantation in the uterus.^{3,6-8} Within the ECD, mouse LIF R α shares 73% and 90% amino acid sequence identity with human and rat LIF R α , respectively.

References

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- Layton, M.J. *et al.* (1992) Proc. Natl. Acad. Sci. USA **89**:8616.
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- Kubota, Y. *et al.* (2008) J. Clin. Invest. **118**:2393.
- Paiva, P. *et al.* (2009) Cytokine Growth Factor Rev. **20**:319.
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Flow Cytometry Validation

This antibody has been tested for flow cytometry using D3 cells.

- Cells may be Fc-blocked with 1 μ g of mouse IgG/10⁵ cells for 15 minutes at room temperature. Do not wash excess blocking IgG from this reaction.
- After blocking, 10 μ L of conjugated antibody was added to up to 1 x 10⁶ cells and incubated for 30 minutes at room temperature.
- Unbound antibody was removed by washing the cells twice in Flow Cytometry Staining Buffer (Catalog # FC001). Note that whole blood requires a RBC lysis step at this point using Flow Cytometry Mouse Lyse Buffer (Catalog # FC003).
- The cells were resuspended in Flow Cytometry Staining Buffer for final flow cytometric analysis. As a control for analysis, cells in a separate tube should be treated with APC-labeled rat IgG₁ antibody. This procedure may need to be modified, depending upon the cell type and final utilization. Individual users may need to titrate to determine the optimal reagent amount for their specific use.