Monoclonal Anti-mouse LIF Rα-PE

Catalog Number: FAB5990P
Lot Number: ACVD01
100 Tests

Reagents Provided

Phycoerythrin (PE)-conjugated rat monoclonal anti-mouse LIF Rα: Supplied as 25 μg of antibody in 1 mL saline containing up to 0.5% BSA and 0.1% sodium azide.

Clone #: 673602

Isotype: rat IgG_1

Reagents Not Provided

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

Storage

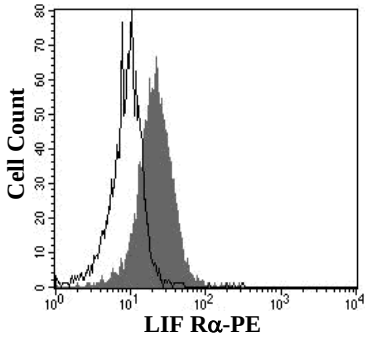
Reagents are stable for **twelve months** from the date of receipt when stored in the dark at 2-8 °C.

Intended Use

Designed to quantitatively determine the percentage of cells bearing LIF Rα within a population and qualitatively determine the density of LIF Rα 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 Rα; 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 PE fluorochrome. Cell surface expression of LIF Rα is determined by flow cytometry using 488 nm wavelength excitation and monitoring emitted fluorescence with a detector optimized to collect peak emissions at 565-605 nm.



D3 cells were stained with PE-conjugated anti-mouse LIF Rα (Catalog # FAB5990P; filled histogram) or PE-conjugated isotype control (Catalog # IC005P; 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.

Background Information

Leukemia Inhibitory Factor Receptor alpha (LIF Rα), also known as LIF Rβ 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] LIF Rα binds the pleiotropic cytokine LIF with low affinity, and the soluble isoform retains LIF-binding activity.[2] LIF Rα is widely expressed, and LIF induces the proliferation, differentiation, and activation of cells in many tissues.[3-5] In particular, LIF Rα 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 Rα shares 73% and 90% amino acid sequence identity with human and rat LIF Rα, respectively.

References

1. MullerNewen, G. (2003) Science STKE 2003:pe40.
2. Layton, M.J. *et al*. (1992) Proc. Natl. Acad. Sci. USA **89**:8616.
3. Owczarek, C.M. *et al*. (1996) J. Biol. Chem. **271**:5495.
4. Metcalf, D. (2003) Stem Cells **21**:5.
5. Kubota, Y. *et al*. (2008) J. Clin. Invest. **118**:2393.
6. Paiva, P. *et al*. (2009) Cytokine Growth Factor Rev. **20**:319.
7. Stewart, C.L. *et al*. (1992) Nature **359**:76.
8. Cheng, J.G. *et al*. (2001) Proc. Natl. Acad. Sci. USA **98**:8680.

Flow Cytometry Validation

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

1. Cells may be Fc-blocked with 1 μg of mouse IgG/10^5 cells for 15 minutes at room temperature. Do not wash excess blocking IgG from this reaction.
2. After blocking, 10 μL of conjugated antibody was added to up to 1 x 10^6 cells and incubated for 30 minutes at room temperature.
3. 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).
4. The cells were resuspended in Flow Cytometry Staining Buffer for final flow cytometric analysis. As a control for this analysis, cells in a separate tube should be treated with PE-labeled rat IgG_1 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.

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1-800-343-7475