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Product Information

Anti-Leukemia Inhibitory Factor
produced in goat, affinity isolated antibody

Catalog Number **L1044**

Product Description

Anti-Leukemia Inhibitory Factor (rmLIF) is produced in goats immunized with purified, *E. coli*-derived, recombinant mouse leukemia inhibitory factor (GeneID 16878). The antibody is purified by mouse LIF affinity chromatography.

Anti-Leukemia Inhibitory Factor recognizes mouse leukemia inhibitory factor. Applications include immunoblotting, and neutralization of rmLIF. Based on western blot results (non-reducing conditions), this antibody shows less than 5% cross-reactivity with rhLIF.

Leukemia inhibitory factor is a multifunctional glycoprotein that induces macrophage differentiation and suppresses the proliferation of the murine M1 myeloid cell line.[1]

Reagent

Supplied lyophilized from a 0.2 μm filtered solution of phosphate buffered saline with 5% trehalose.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

To one vial of lyophilized powder, add 1 mL of 0.2 µm filtered PBS to produce a 0.1 mg/mL stock solution. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

Storage/Stability

Prior to reconstitution, store at –20 °C. The reconstituted product may be stored at 2-8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended.

Product Profile

Immunoblotting: a working concentration of 0.1-0.2 μg/mL is recommended. The detection limit for recombinant mouse LIF is ~2.0 ng/lane under non-reducing and reducing conditions.

Neutralization: To measure the ability of the antibody to neutralize the bioactivity of rmLIF on mouse DA-1a cells, rmLIF was incubated with various concentrations of the antibody for 1 hour at 37° C in a 96 well microplate. Following this preincubation period, DA-1a cells were added. The assay mixture in a total volume of 100 μL, containing antibody at concentrations ranging from 0.0001-1.0 μg/mL, rmLIF at 0.5 ng/mL and cells at 5 x 10^4 cells/mL, was incubated at 37° C for 68 hours in a humidified CO_2 incubator. The pale yellow tetrazolium salt 3-(4.5 dimethylthiazol-2yl) - 2, 5 – diphenyl tetrazodiumbromide (MTT), at 5 mg/mL in PBS, was added for the final four hours (25 μL/well). The dark blue formazan crystals, from the reduction of MTT by various dehydrogenases in the mitochondria, are presolubilized by the addition (100 μL/well) of the solubilization solution (50% v/v dimethyl formamide, 20% (w/v) SDS, pH 4.7). After an overnight incubation to ensure that the crystals have completely dissolved, the optical density of each well was measured in a microplate reader set at 540 nm. For background noise subtraction, the second wavelength was set at 690 nm.

The Neutralization $Dose_{50}$ (ND_{50}) for this antibody is defined as that concentration of antibody required to yield one-half maximal inhibition of the cytokine activity on a responsive cell line, when that cytokine is present at a concentration just high enough to elicit a maximum response.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

Endotoxin: < 0.1 EU/μg antibody as determined by the LAL method.

References

1. Gearing, D., et al., *EMBO J.*, **6**, 3995 (1987).
2. Moreau, F.J., et al., *Nature*, **336**, 690 (1988).

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