

Product Information

Anti-Interleukin-1 α

produced in goat, IgG fraction of antiserum

Catalog Number **I3392**

Synonym: Anti- IL-1 α

Product Description

Anti-Interleukin-1 α is produced in goat using recombinant mouse IL-1 α , expressed in *E. coli*, as immunogen. The antibody is purified by Protein G affinity chromatography.

Anti-Interleukin-1 α has the ability to neutralize the biological activity of recombinant mouse IL-1 α . The antibody may also be used in immunoblotting. It will not neutralize the biological activity of recombinant human IL-1 α , recombinant human IL-1 β , or recombinant mouse IL-1 β .

Interleukin-1 (IL-1), originally known as lymphocyte activating factor (LAF), activates T cells and lymphocytes, which then proliferate and secrete interleukin-2.¹ IL-1 is primarily released from stimulated macrophages and monocytes, but also is released from several other cell types,² and is thought to play a key role in inflammatory and immune responses.³ Other synonyms for IL-1 include: endogenous pyrogen (EP), mitogenic protein (MP), helper peak-1 (HP-1), T cell replacing factor III (TRF III or TRF_H), B cell activating factor (BAF) and B cell differentiation factor (BDF).⁴ The two closely related agents, interleukin-1 α (IL-1 α) and interleukin-1 β (IL-1 β) bind to the same cell surface receptor, elicit nearly identical biological responses and share 25% homology in their amino acid sequence.

Reagent

Supplied as a lyophilized powder from a 0.2 μ m-filtered solution in phosphate buffered saline, pH 7.4, 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.

Storage/Stability

Prior to reconstitution, store at -20 °C. Reconstituted product may be stored at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Avoid repeated freezing and thawing.

Reconstitution and Use

To one vial of lyophilized powder, add 1 ml of 0.2 μ m-filtered phosphate buffered saline to produce a 1 mg/ml stock solution of antibody. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

Procedure

Anti-Interleukin-1 α (IL-1 α) is tested for its ability to neutralize the biological activity of recombinant mouse IL-1 α on the mouse T-helper D10.G4.1 cell line.⁵ In this bioassay, 50 pg/ml recombinant mouse IL-1 α was mixed with various dilutions of antibody in a 96-well plate for 1 hour at 37 °C. After preincubation, D10.G4 cells and 1.25 μ g/ml concanavalin A are added to the antigen-antibody mixture. The assay mixture is incubated at 37 °C for 72 hours in a humidified CO₂ incubator and pulsed during the final 4 hours with ³H-thymidine. Cells are harvested onto glass filters and the ³H-thymidine incorporation into DNA is measured.

The ND₅₀ of the antibody is defined as the concentration of antibody resulting in a one-half maximal inhibition of bioactivity of recombinant mouse IL-1 α that is present at a concentration just high enough to elicit a maximum response.

Product Profile

Bioactivity: The ND₅₀ is 0.04 -0.2 μ g/ml.

Immunoblotting: a working antibody concentration of 1-2 μ g/ml antibody detects recombinant mouse IL-1 α at 5 ng/lane under reducing and non-reducing conditions.

References

1. Gery, I., et al., *J. Exp. Med.*, **136**, 128 (1972).

2. Oppenheim, J., et al., *Immunol. Today*, **7**, 45 (1986).
3. Durum, S., et al., *Ann. Rev. Immunol.*, **3**, 263 (1985).
4. Aarden, L., et al., *J. Immunol.*, **123**, 2928 (1979).
5. Symons, J.A., et al., in *Lymphokines and Interferons, A Practical Approach*, Clemens, M., et al., (eds.), IRL Press, Oxford, p. 272 (1987).

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