3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-Interleukin-5
produced in goat, IgG fraction of antiserum

Catalog Number **I9898**

Synonym: Anti-IL-5

Product Description
Anti-Interleukin-5 is produced in goat using recombinant, human interleukin-5 (GeneID 3567) expressed in *Sf*21 insect cells as the immunogen. Whole antiserum is fractionated and then further purified by Protein G affinity chromatography.

Anti-Interleukin-5 recognizes human Interleukin-5. Applications include neutralization, immunoblotting and ELISA. This antibody shows less than 5% cross-reactivity with recombinant, mouse IL-5.

Human Interleukin-5 (IL-5) is a cytokine produced primarily by activated T lymphocytes. It exists as an antiparallel disulfide-linked homodimeric glycoprotein with 115 amino-acid residues in each chain.[1,2,3] Known also as EDG (eosinophil differentiating factor), it functions predominantly as an eosinophilopoietic factor.[1,3,4] Analysis of its crystal structure reveals a novel two-domain structure, with each domain showing significant homology to the cytokine fold in GM-CSF, M-CSF, IL-2, IL-4 and growth hormone.[5]
Human and mouse IL-5 have 70% amino acid sequence homology.[1,3]

Anti-Human IL-5 neutralizes the bioactivity of recombinant, human IL-5. It also neutralizes recombinant, mouse IL-5, but requires 4 times the antibody concentration. The molecular weight of interleukin-5 is 32-34 kDa.

Reagent
Supplied as a lyophilized powder from phosphate buffered saline, pH 7.4. No preservatives have been added.

Antibody concentration: ~1.0 mg

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 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.

Storage/Stability
For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Neutralization
The exact concentration of antibody required to neutralize rhIL-5 is dependent upon the cytokine concentration, cell type, growth conditions and the type of activity studied. The ND_{50} of the antibody is defined as the concentration of antibody resulting in a one-half maximal inhibition of bioactivity of recombinant, human IL-5, when IL-5 is present at a concentration just high enough to elicit a maximum response.

The biological activity of rhIL-4 was measured in a cell proliferation assay using the factor-dependent cell line TF-1. The TF-1 cell proliferation was then measured by incorporation of ^{3}H-thymidine.

Product Profile
Endotoxin: < 0.1 EU per 1 µg antibody as determined by the LAL method.

Immunoblotting: a working antibody dilution of 1-2 µg/mL is recommended to detect 5 ng/lane and 20 ng/lane of recombinant, human IL-5 under non-reducing and reducing conditions, respectively.

Indirect ELISA, a working antibody dilution of 0.5-1.0 µg/well is recommended along with the appropriate secondary reagents. The detection limit for rhIL-5 is approximately 1.6 ng/well.

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

References

1. Callard, R. and Gearing, A., In: The Cytokine FactsBook, Academic Press, San Diego, CA, p.59 (1994).
2. McKenzie, A. and Sanderson, C. *Chem. Immunol*., **51**, 135 (1992).
3. Takatsu, K., *Curr. Opin. Immun*., **4**, 299 (1992).
4. Sanderson, C., et al., *Immunol. Rev*., **102**, 29 (1988).
5. Milburn, M., et al., *Nature*, **363**, 172 (1993).
6. Kitamura, T., et al., *J. Cell. Physiol*., **140**, 323 (1989).
7. Kuwaki, T., et al., *Biochem. Biophys. Res. Comm*., **161**, 16 (1989).

BR,PHC 06/09-1