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Product Information

Monoclonal Anti-Interleukin-13

Clone 32116.11

Purified Mouse Immunoglobulin

Product Number I 3407

Product Description

Monoclonal Anti-Human Interleukin-13 (IL-13) (mouse IgG1 isotype) is produced from a hybridoma elicited from a mouse immunized with purified recombinant human interleukin 13 expressed in *Escherichia coli*. The antibody is purified from the IgG fraction of ascites fluid using Protein A chromatography.

Monoclonal Anti-Interleukin-13 recognizes recombinant human IL-13 by capture ELISA and neutralization.

Human IL-13 was originally identified by differential screening of an anti-CD28 activated human peripheral blood mononuclear cell cDNA library as an induction-specific novel cytokine. It was also isolated from cDNA libraries of human T cell clones using the murine IL-13 (P600) cDNA as a probe.² Human IL-13, a pleiotropic cytokine, is produced by activated Th0, Th1-like, Th2-like, and CD8 T cells.¹ The gene for human IL-13 maps to chromosome 5 and is closely linked to the genes for IL-3, IL-4, IL-5, and GM-CSF.³

IL-13 inhibits proinflammatory cytokine production and stimulates antibody production.¹ It induces proliferation in the human pre-myeloid cell line TF-1. IL-13 has multiple effects on the differentiation and functions of monocytes and macrophages. It suppresses cytotoxic functions and induces changes in the morphology of human monocytes and in the phenotype of human monocytes and B cells by upregulating MHC class II expression.⁴ IL-13 will also decrease the production of nitric oxide by activated murine macrophages, leading to impaired parasitocidal activity.⁵

Recombinant human IL-13 has a predicted molecular mass of ~12 kDa. The protein migrates as an ~9 kDa band on SDS-PAGE. Human and mouse interleukin-13 share ~58% amino acid sequence identity. Although human and mouse IL-13 are equally active on human

cells, human IL-13 is much less active than mouse IL-13 on mouse cells. Human IL-13 and human IL-4 also share ~30% sequence homology and have similar biological functions.¹

Reagent

The antibody is supplied as ~500 µg of antiserum lyophilized from a 0.2 µm filtered solution of phosphate buffered saline containing 5% trehalose.

Preparation Instructions

To one vial of lyophilized powder, add 1 ml of sterile phosphate buffered saline to produce a 0.5 mg/ml stock solution of antibody.

Storage/Stability

Prior to reconstitution, store at -20 °C. After reconstitution, the antibody may be stored at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots. Avoid repeated freezing and thawing. Do not store in frost-free freezer.

Product Profile

Monoclonal Anti-Human Interleukin-13 has the ability to neutralize the bioactivity of human IL-13 in the presence of 10 ng/ml of recombinant human IL-13 using the human erythroleukemia cell line, TF-1.

The ND₅₀ is the concentration of antibody required to yield one-half maximal inhibition of IL-13 activity on a responsive cell line, when IL-13 is present at a concentration just high enough to elicit a maximum response.

The exact concentration of antibody required to neutralize human IL-13 bioactivity is dependent on the cytokine concentration, cell type, growth conditions, and the type of activity.

For capture ELISAs, Monoclonal Anti-Human IL-13 may be used as the capture antibody in a human IL-13 ELISA in conjunction with a biotinylated affinity purified polyclonal IL-13 detection antibody. Using a working concentration of the capture antibody at 4 µg/mL (100 µL/well) in combination with the detection antibody (biotinylated anti-IL-13 polyclonal) at 400 ng/mL (100 µL/well), an ELISA for sample volumes of 100 µL can be obtained. The optimal dose range should be set up as a two-fold dilution series of the protein standard starting at 16 ng/mL.

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

References

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