Mouse IL-13 Antibody

Polyclonal Goat IgG

Catalog Number: AB-413-NA

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-13 in direct ELISAs and Western blots. In direct ELISAs and Westerns, less than 1% cross-reactivity with recombinant human IL-13 is observed. Neutralizes the biological activity of recombinant mouse IL-13, but will not neutralize the biological activity of recombinant human IL-13.
Source	Polyclonal Goat IgG
Purification	Protein A or G purified
Immunogen	*E. coli*-derived recombinant mouse IL-13 Ser26-Phe131 Accession # P20109
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

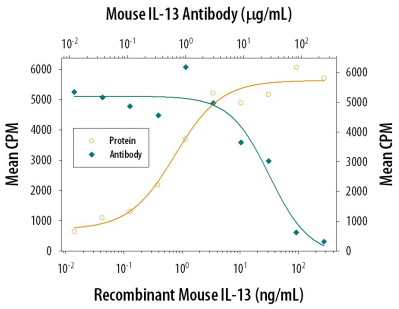
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Mouse IL-13 (Catalog # 413-ML)
Neutralization	Measured by its ability to neutralize IL-13-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. *et al.* (1989) J. Cell Physiol. **140**:323. The Neutralization Dose (ND_{50}) is typically 15-30 µg/mL in the presence of 10 ng/mL Recombinant Mouse IL-13.	

DATA

Neutralization



Cell Proliferation Induced by IL-13 and Neutralization by Mouse IL-13 Antibody. Recombinant Mouse IL-13 (Catalog # 413-ML) stimulates proliferation in the TF-1 human erythroleukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse IL-13 (10 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse IL-13 Polyclonal Antibody (Catalog # AB-413-NA). The ND_{50} is typically 15-30 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

IL-13 is a 17 kDa immunoregulatory cytokine that plays a key role in the pathogenesis of allergic asthma and atopy. It is secreted by Th1 and Th2 $CD4^+$ T cells, NK cells, visceral smooth muscle cells, eosinophils, mast cells, and basophils (1-3). IL-13 circulates as a monomer with two internal disulfide bonds that contribute to a bundled four α-helix configuration (4, 5). Mature mouse IL-13 shares 57%, 75%, and 58% amino acid sequence identity with human, rat, and rhesus IL-13, respectively. Despite the low homology, it exhibits cross-species activity between human, mouse, and rat (6, 7). IL-13 has diverse activities on numerous cell types (8). On macrophages, IL-13 suppresses the production of proinflammatory cytokines and other cytotoxic substances. On B cells, IL-13 induces immunoglobulin class switching to IgE, upregulates the expression of MHC class II, CD71, CD72, and CD23, and costimulates proliferation. IL-13 upregulates IL-6 while downregulating IL-1 and TNF-α production by fibroblasts and endothelial cells. IL-13 binds with low affinity to IL-13 Rα1, triggering IL-13 Rα1 association with IL-4 Rα. This high affinity receptor complex also functions as the type 2 IL-4 receptor complex (9, 10). Additionally, IL-13 binds with high affinity to IL-13 Rα2 which is expressed intracellularly, on the cell surface, and as a soluble molecule (11-14). IL-13 Rα2 regulates the bioavailability of both IL-13 and IL-4 and is overexpressed in glioma and several bronchial pathologies (10, 15, 16). Compared to wild type IL-13, the atopy-associated R110Q variant of IL-13 elicits increased responsiveness from eosinophils that express low levels of IL-13 Rα2 (17).

References:

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