

**DESCRIPTION**

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-13 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human IL-4 or recombinant mouse IL-13 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 31606
<b>Purification</b>	Protein A or G purified from ascites
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human IL-13 Gly35-Asn146 Accession # P35225
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

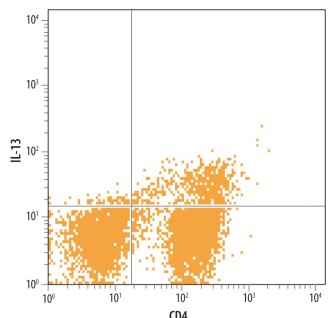
**APPLICATIONS**

**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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 µg/mL	Recombinant Human IL-13 (Catalog # 213-ILB)
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
<b>Neutralization</b>	Measured by its ability to neutralize IL-13-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. <i>et al.</i> (1989) <i>J. Cell Physiol.</i> <b>140</b> :323. The Neutralization Dose (ND <sub>50</sub> ) is typically 1-4 µg/mL in the presence of 10 ng/mL Recombinant Human IL-13.	

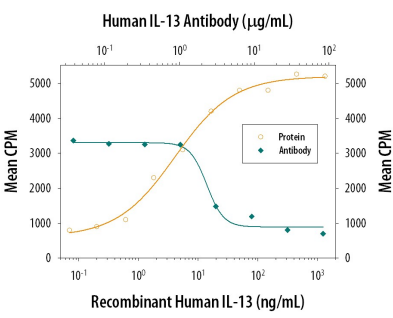
**DATA**

**Flow Cytometry**



**Detection of IL-13 in Human PBMCs by Flow Cytometry.** Human peripheral blood mononuclear cells (PBMCs) treated with 5 ng/mL Recombinant Human IL-4 (Catalog # 204-IL) and 10 µg/mL Goat Anti-Human IFN-γ Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-285-NA) for 3 days were stained with Mouse Anti-Human IL-13 Monoclonal Antibody (Catalog # MAB2131) followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B) and Mouse Anti-Human CD4 PE-conjugated Monoclonal Antibody (Catalog # FAB3791P). Quadrant markers were set based on control antibody staining (Catalog # MAB002).

**Neutralization**



**Cell Proliferation Induced by IL-13 and Neutralization by Human IL-13 Antibody.** Recombinant Human IL-13 (Catalog # 213-ILB) stimulates proliferation in the TF-1 human erythroleukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human IL-13 (10 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human IL-13 Monoclonal Antibody (Catalog # MAB2131). The ND<sub>50</sub> is typically 1-4 µg/mL.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**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<sup>+</sup> 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  $\alpha$ -helix configuration (4, 5). Mature human IL-13 shares 57%, 59%, and 94% amino acid sequence identity with mouse, 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- $\alpha$  production by fibroblasts and endothelial cells. IL-13 binds with low affinity to IL-13 R $\alpha$ 1, triggering IL-13 R $\alpha$ 1 association with IL-4 R $\alpha$ . 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 R $\alpha$ 2 which is expressed intracellularly, on the cell surface, and as a soluble molecule (11-14). IL-13 R $\alpha$ 2 regulates the bioavailability of both IL-13 and IL-4 and is over-expressed 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 R $\alpha$ 2 (17).

**References:**

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