Human IL-13 Antibody
Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF-213-NA

**DESCRIPTION**

**Species Reactivity** Human

**Specificity** Detects human IL-13 in direct ELISAs and Western blots. In direct ELISAs, approximately 100% cross-reactivity with recombinant rhesus monkey IL-13 is observed, approximately 25% cross-reactivity with recombinant canine IL-13 is observed, and approximately 15% cross-reactivity with recombinant rat IL-13 is observed and less than 5% cross-reactivity with recombinant mouse IL-13 and recombinant cotton rat IL-13 is observed.

**Source** Polyclonal Goat IgG

**Purification** Antigen Affinity-purified

**Immunogen** E. coli-derived recombinant human IL-13

**Accession #** AAK53823

**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.

*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.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Western Blot</th>
<th>Intra cellular Staining by Flow Cytometry</th>
<th>CyTOF-ready</th>
<th>Neutralization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recombinant Human IL-13 (Catalog # 213-ILB)</td>
<td>0.1 μg/mL</td>
<td>5 μg/10⁶ cells</td>
<td>Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.</td>
<td>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 (ND₅₀) is typically 0.5-3 μg/mL in the presence of 10 ng/mL Recombinant Human IL-13.</td>
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**DATA**

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 Goat Anti-Human IL-13 Antibody AF-213-NA. The ND₅₀ is typically 0.5-3 μg/mL.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 0.2 mg/mL in sterile PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

*Small pack size (SP) is supplied with polar packs. Upon receipt, store it immediately at -20 to -70 °C.

**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.
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 human IL-13 shares 57%, 59%, and 94% amino acid sequence identity with mouse, rat, and rhesus macaque 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 pro-inflammatory 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-13Rα1, triggering IL-13Rα1 association with IL-4Rα. 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-13Rα2 which is expressed intracellularly, on the cell surface, and as a soluble molecule (11-14). IL-13Rα2 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 Rα2 (17).

References: