Human IL-13 Alexa Fluor® 647-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 31606

Catalog Number: FAB2131R

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	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.
Source	Monoclonal Mouse IgG_1 Clone # 31606
Purification	Protein A or G purified from ascites
Immunogen	*E. coli*-derived recombinant human IL-13 Gly35-Asn146 Accession # P35225
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Flow Cytometry	0.25-1 µg/10^6 cells	Human peripheral blood mononuclear cells (PBMCs) treated with Recombinant Human IL-4 (Catalog # 204-IL) and Goat Anti-Human IFN-γ Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-285-NA)

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

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 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-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 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:

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