

Datasheet for ABIN4986932

**IL-13 ELISA Kit**[Go to Product page](#)**1** Image

## Overview

Quantity:	96 tests
Target:	IL-13 (IL13)
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	3.125-200 pg/mL
Minimum Detection Limit:	3.125 pg/mL
Application:	ELISA

## Product Details

Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (citrate), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	Natural and recombinant Human IL-13 Ligand
Sensitivity:	1 pg/mL
Material not included:	<ul style="list-style-type: none"><li>• Microplate reader.</li><li>• Pipettes and pipette tips.</li><li>• EP tube Deionized or distilled water.</li></ul>

## Target Details

Target:	IL-13 (IL13)
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## Target Details

Alternative Name: IL-13 ([IL13 Products](#))

**Background:** Interleukin-13 (IL-13) is a 17 kDa immunoregulatory cytokine that plays a key role in the pathogenesis of allergy, cancer, and tissue fibrosis (1-3). It is secreted by Th1, Th2, Th17, NK, and mast cells, visceral smooth muscle cells, eosinophils, and basophils (2, 4). This pattern is similar to the expression of Interleukin-4 (IL-4) but also includes subsets of Th1 and Th17 cells that do not secrete IL-4 (5). IL-13 circulates as a monomer and has two internal disulfide bonds that contribute to its bundled four  $\alpha$ -helix configuration (6, 7). Mature human IL-13 shares approximately 58 % amino acid sequence identity with mouse and rat IL-13. Despite the low homology, it exhibits cross-species activity between human, mouse, and rat (8, 9). IL-13 suppresses the production of proinflammatory cytokines and other cytotoxic substances by macrophages, fibroblasts, and endothelial cells. On B cells, it promotes cellular activation, immunoglobulin class switching to IgE, and the upregulation of CD23/Fc $\epsilon$  RII. Polymorphisms and upregulation of IL-13 are associated with atopy, asthma, airway hyperresponsiveness, and tissue fibrosis (1, 10). The biological effects of IL-13 and IL-4 are closely related due in part to a shared receptor system. IL-13 binds with low affinity to the transmembrane IL-13 R $\alpha$ 1 which then forms a signaling complex with the transmembrane IL-4 R $\alpha$  (11-13). This high affinity receptor complex also functions as the type 2 IL-4 receptor (11, 12). Soluble forms of IL-4 R $\alpha$  are expressed which retain ligand binding properties and inhibit IL-4 bioactivity (14, 15). IL-4 R $\alpha$  also associates with the common gamma chain ( $\gamma$ c) to form the type 1 IL-4 receptor complex (16, 17). Additionally, IL-13 binds with high affinity to IL-13 R $\alpha$ 2 which is expressed as cell surface and soluble forms (18-20). IL-13 R $\alpha$ 2 functions as a decoy receptor by preventing IL-13 from signaling through the IL-13 R $\alpha$ 1/IL-4 R $\alpha$  complex (21, 22). It also inhibits responsiveness to IL-4 by blocking signaling through IL-4-occupied IL-13 R $\alpha$ 1/IL-4 R $\alpha$  receptor complexes (22, 23). IL-13 R $\alpha$ 2 is upregulated during Th2-biased immune responses and limits inflammatory tissue damage (20, 24, 25). Aside from its decoy function, IL-13 R $\alpha$ 2 can signal in response to IL-13 to directly promote tumor cell invasiveness and the development of tissue fibrosis (26-28).

**Pathways:** [JAK-STAT Signaling](#), [Positive Regulation of Immune Effector Process](#), [Production of Molecular Mediator of Immune Response](#), [Proton Transport](#)

## Application Details

**Application Notes:** Detection Wavelength: 450 nm

**Sample Volume:** 20  $\mu$ L

**Assay Time:** 3 h

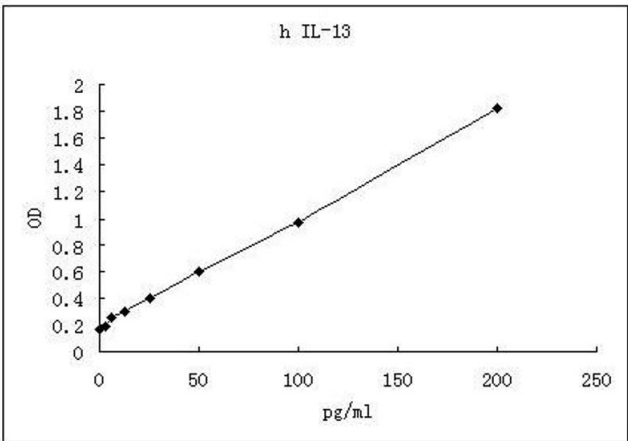
Application Details

Plate:	Pre-coated
Restrictions:	For Research Use only

Handling

Storage:	4 °C
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Images



ELISA

Image 1.