

Datasheet for ABIN411300

IL-4 ELISA Kit**1** Image**31** Publications[Go to Product page](#)

Overview

Quantity: 96 tests

Target: IL-4 (IL4)

Binding Specificity: AA 21-140

Reactivity: Mouse

Method Type: Sandwich ELISA

Detection Range: 7.8-500 pg/mL

Minimum Detection Limit: 7.8 pg/mL

Application: ELISA

Product Details

Purpose: Sandwich High Sensitivity ELISA kit for Quantitative Detection of Mouse IL-4

Brand: PicoKine™

Sample Type: Cell Culture Supernatant, Serum

Analytical Method: Quantitative

Detection Method: Colorimetric

Immunogen: Expression system for standard: E.coli
Immunogen sequence: H21-S140Specificity: Expression system for standard: E.coli
Immunogen sequence: H21-S140

Cross-Reactivity (Details): There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity: <1pg/mL

Material not included: Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g NaCl

Target Details

Target: IL-4 (IL4)

Alternative Name: IL4 ([IL4 Products](#))

Background: Protein Function: Participates in at least several B-cell activation processes as well as of other cell types. It is a costimulator of DNA-synthesis. It induces the expression of class II MHC molecules on resting B-cells. It enhances both secretion and cell surface expression of IgE and IgG1. It also regulates the expression of the low affinity Fc receptor for IgE (CD23) on both lymphocytes and monocytes.

Background: Interleukin-4(IL-4), also known as a B-cell stimulatory factor1(BSF1), is an immunomodulatory cytokine, which can inhibit the growth of tumour cells. The human cDNA contains a single open reading frame encoding a protein of 153 amino acids, including a putative signal peptide. IL-4 may act as an autocrine growth factor in pancreatic cancer cells and also give rise to the possibility that cancer-derived IL-4 may suppress cancer-directed immunosurveillance in vivo in addition to its growth-promoting effects, thereby facilitating pancreatic tumor growth and metastasis.¹ The mouse and human genes and their protein products show structural and functional similarities. The human IL-4 gene, which occurs as a single copy in the haploid genome, is mapped on chromosome 5.

Synonyms: Interleukin-4,IL-4,B-cell IgG differentiation factor,B-cell growth factor 1,B-cell stimulatory factor 1,BSF-1,IgG1 induction factor,Lymphocyte stimulatory factor 1,IL4,IL-4,

Full Gene Name: Interleukin-4

Cellular Localisation: Secreted.

Gene ID: 16189

UniProt: [P07750](#)

Pathways: [JAK-STAT Signaling](#), [Regulation of Leukocyte Mediated Immunity](#), [Positive Regulation of Immune Effector Process](#), [Production of Molecular Mediator of Immune Response](#), [Proton Transport](#), [Activated T Cell Proliferation](#)

Application Details

Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Plate:	Pre-coated
Protocol:	mouse IL-4 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from rat specific for IL-4 has been precoated onto 96-well plates. Standards(E.coli, H21-S140) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for IL-4 is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the mouse IL-4 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL, 31.3pg/mL, 15.6pg/mL, 7.8pg/mL mouse IL-4 standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of mouse cell culture supernates or serum to each empty well. See "Sample Dilution Guideline" above for details. We recommend that each mouse IL-4 standard solution and each sample is measured in duplicate.
Assay Precision:	<ul style="list-style-type: none">• Sample 1: n=16, Mean(pg/ml): 44, Standard deviation: 2.38, CV(%): 5.4• Sample 2: n=16, Mean(pg/ml): 168, Standard deviation: 7.9, CV(%): 4.7• Sample 3: n=16, Mean(pg/ml): 283, Standard deviation: 17.55, CV(%): 6.2,• Sample 1: n=24, Mean(pg/ml): 57, Standard deviation: 3.88, CV(%): 6.8• Sample 2: n=24, Mean(pg/ml): 185, Standard deviation: 10.36, CV(%): 5.6• Sample 3: n=24, Mean(pg/ml): 326, Standard deviation: 23.8, CV(%): 7.3
Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C, 4 °C
Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
Expiry Date:	12 months

Publications

Product cited in:

Li, Jin, Wang, Li, Liu, Chang, Wang, Liu: "Live attenuated Salmonella displaying HIV-1 10E8 epitope on fimbriae: systemic and mucosal immune responses in BALB/c mice by mucosal administration." in: **Scientific reports**, Vol. 6, pp. 29556, (2018) ([PubMed](#)).

Dong, Han, Wang, Qin, Yang, Cao, Chen: "Role of serotonin on the intestinal mucosal immune response to stress-induced diarrhea in weaning mice." in: **BMC gastroenterology**, Vol. 17, Issue 1, pp. 82, (2018) ([PubMed](#)).

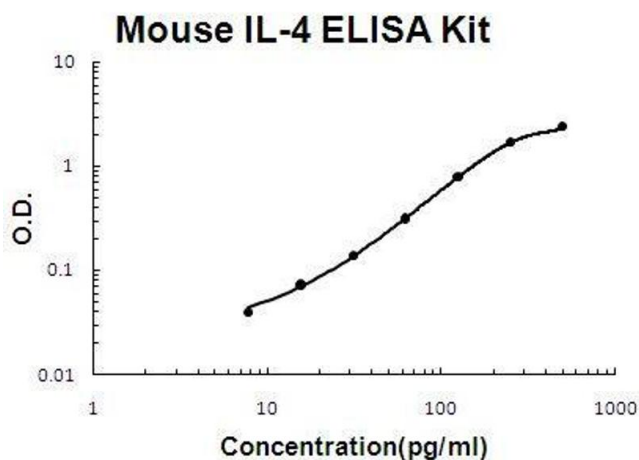
Han, Zhang, Tan, Liu, Ma, Ou-Yang, Wu: "EPO modified MSCs can inhibit asthmatic airway remodeling in an animal model." in: **Journal of cellular biochemistry**, Vol. 119, Issue 1, pp. 1008-1016, (2018) ([PubMed](#)).

Yang, Zhang, Cai, Shang: "Epigallocatechin-3-gallate inhibits inflammation and epithelial-mesenchymal transition through the PI3K/AKT pathway via upregulation of PTEN in asthma." in: **International journal of molecular medicine**, Vol. 41, Issue 2, pp. 818-828, (2018) ([PubMed](#)).

Hu, Feng, Wang, Song, Ni: "5-BDBD ameliorates an OVA-induced allergic asthma by the reduction of Th2 cytokines production." in: **Iranian journal of basic medical sciences**, Vol. 21, Issue 4, pp. 364-369, (2018) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)

Images



ELISA

Image 1. Mouse IL-4 PicoKine ELISA Kit standard curve