

## Datasheet for ABIN411301

**IL-4 ELISA Kit**[Go to Product page](#)**1** Image**19** Publications

## Overview

Quantity:	96 tests
Target:	IL-4 (IL4)
Binding Specificity:	AA 25-147
Reactivity:	Rat
Method Type:	Sandwich ELISA
Detection Range:	15.6-1000 pg/mL
Minimum Detection Limit:	15.6 pg/mL
Application:	ELISA

## Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Rat 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: C25-S147
Specificity:	Expression system for standard: E.coli Immunogen sequence: C25-S147
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. 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. Rat IL-4 is a 13.5KDa glycoprotein, consisting of 147 amino acids in precursor form and 123 amino acids in mature form.

Synonyms: Interleukin-4,IL-4,B-cell IGG differentiation factor,B-cell growth factor 1,B-cell stimulatory factor 1,BSF-1,Lymphocyte stimulatory factor 1,Il4,Il-4,

Full Gene Name: Interleukin-4

Cellular Localisation: Secreted.

Gene ID: 287287

UniProt: [P20096](#)

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

## Target Details

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:	rat IL-4 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for IL-4 has been precoated onto 96-well plates. Standards(E.coli, C25-S147) 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 rat IL-4 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL, 31.2pg/mL, 15.6pg/mL rat 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 rat cell culture supernates or serum to each empty well. See "Sample Dilution Guideline" above for details. We recommend that each rat IL-4 standard solution and each sample is measured in duplicate.
Assay Precision:	<ul style="list-style-type: none"><li>• Sample 1: n=16, Mean(pg/ml): 54.7, Standard deviation: 3.23, CV(%): 5.9</li><li>• Sample 2: n=16, Mean(pg/ml): 428, Standard deviation: 21.83, CV(%): 5.1</li><li>• Sample 3: n=16, Mean(pg/ml): 738, Standard deviation: 31.73, CV(%): 4.3,</li><li>• Sample 1: n=24, Mean(pg/ml): 53.8, Standard deviation: 4.79, CV(%): 8.9</li><li>• Sample 2: n=24, Mean(pg/ml): 387, Standard deviation: 25.93, CV(%): 6.7</li><li>• Sample 3: n=24, Mean(pg/ml): 729, Standard deviation: 45.2, CV(%): 6.2</li></ul>
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

Handling

Expiry Date: 12 months

Publications

Product cited in: Wang, Lee, Chou, Yang, Wei, Chen, Yao, Hsu, Zhu, Ying, Ye, Wang, Lim, Xia, Ko, Liu, Liu, Wu, Wang, Li, Prakash, Katz, Kang, Kim, Fleming, Fogelman, Javle, Maitra, Hung: "Angiogenin/Ribonuclease 5 Is an EGFR Ligand and a Serum Biomarker for Erlotinib Sensitivity in Pancreatic Cancer." in: **Cancer cell**, Vol. 33, Issue 4, pp. 752-769.e8, (2019) ([PubMed](#)).

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

Images

