

Mouse IL-27α ELISA Kit (Interleukin 27 p28 subunit)  
ab206306

Recombinant SimpleStep ELISA<sup>®</sup>

5 Images

Overview

Product name Mouse IL-27a ELISA Kit (Interleukin 27 p28 subunit)

Detection method Colorimetric

Precision Intra-assay

Sample	n	Mean	SD	CV%
IL-27 p28	5			4%

Inter-assay

Sample	n	Mean	SD	CV%
IL-27 p28	3			3.2%

Sample type Cell culture supernatant, Serum, Plasma

Assay type Sandwich (quantitative)

Sensitivity 7.1 pg/ml

Range 23.43 pg/ml - 1500 pg/ml

Recovery Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	109	107% - 111%
Serum	113	112% - 114%
Hep Plasma	108	106% - 109%
EDTA Plasma	105	103% - 105%
Cit plasma	100	97% - 102%

<b>Assay time</b>	1h 30m
<b>Assay duration</b>	One step assay
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse <b>Does not react with:</b> Sheep, Goat, Cow, Pig
<b>Product overview</b>	<p>Mouse IL-27a ELISA Kit (Interleukin 27 p28 subunit) (ab206306) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of IL-27a (Interleukin 27 p28 subunit) protein in cell culture supernatant, plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Mouse IL-27a (Interleukin 27 p28 subunit) with 7.1 pg/ml sensitivity.</p> <p>SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:</p> <ul style="list-style-type: none"> <li>- Single-wash protocol reduces assay time to 90 minutes or less</li> <li>- High sensitivity, specificity and reproducibility from superior antibodies</li> <li>- Fully validated in biological samples</li> <li>- 96-wells plate breakable into 12 x 8 wells strips</li> </ul> <p>A 384-well SimpleStep ELISA® microplate (<a href="#">ab203359</a>) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.</p>
<b>Notes</b>	Interleukin 27 p28 subunit (IL-27 p28) is a 25 kDa protein that heterodimerizes with EBI3 (IL27b) to form the IL-27 cytokine. Produced by activated APCs, IL-27 has both pro- and anti-inflammatory effects. IL-27 is involved in the regulation of T-helper cell development, B cell isotype switching, and stimulation of cytotoxic T-cell activity.
<b>Platform</b>	Pre-coated microplate (12 x 8 well strips)

## Properties

**Storage instructions** Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Mouse IL-27 p28 Capture Antibody	1 x 600µl
10X Mouse IL-27 p28 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 5BR	1 x 6ml
Mouse IL-27 p28 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml

Components	1 x 96 tests
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

## Function

Cytokine with pro- and anti-inflammatory properties, that can regulate T helper cell development, suppress T-cell proliferation, stimulate cytotoxic T cell activity, induce isotype switching in B-cells, and that has diverse effects on innate immune cells. Among its target cells are CD4 T helper cells which can differentiate in type 1 effector cells (TH1), type 2 effector cells (TH2) and IL17 producing helper T-cells (TH17). It drives rapid clonal expansion of naive but not memory CD4 T-cells. It also strongly synergizes with IL-12 to trigger interferon-gamma/IFN-gamma production of naive CD4 T-cells, binds to the cytokine receptor WSX-1/TCCR which appears to be required but not sufficient for IL-27-mediated signal transduction. IL-27 potentiates the early phase of TH1 response and suppresses TH2 and TH17 differentiation. It induces the differentiation of TH1 cells via two distinct pathways, p38 MAPK/TBX21- and ICAM1/ITGAL/ERK-dependent pathways. It also induces STAT1, STAT3, STAT4 and STAT5 phosphorylation and activates TBX21/T-Bet via STAT1 with resulting IL12RB2 up-regulation, an event crucial to TH1 cell commitment. It suppresses the expression of GATA3, the inhibitor of TH1 cell development. In CD8 T-cells, it activates STATs as well as GZMB. IL-27 reveals to be a potent inhibitor of TH17 cell development and of IL-17 production. Indeed IL-27 subunit p28 alone is also able to inhibit the production of IL17 by CD4 and CD8 T-cells. While IL-27 suppressed the development of proinflammatory Th17 cells via STAT1, it inhibits the development of anti-inflammatory inducible regulatory T-cells, iTreg, independently of STAT1. IL-27 has also an effect on cytokine production, it suppresses proinflammatory cytokine production such as IL2, IL4, IL5 and IL6 and activates suppressors of cytokine signaling such as SOCS1 and SOCS3. Apart from suppression of cytokine production, IL-27 also antagonizes the effects of some cytokines such as IL6 through direct effects on T cells. Another important role of IL-27 is its antitumor activity as well as its antiangiogenic activity with activation of production of antiangiogenic chemokines such as IP-10/CXCL10 and MIG/CXCL9. In vein endothelial cells, it induces IRF1/interferon regulatory factor 1 and increases the expression of MHC class II transactivator/CIITA with resulting up-regulation of major histocompatibility complex class II. IL-27 also demonstrates antiviral activity with inhibitory properties on HIV-1 replication.

## Tissue specificity

Expressed in monocytes and in placenta.

## Sequence similarities

Belongs to the IL-6 superfamily.

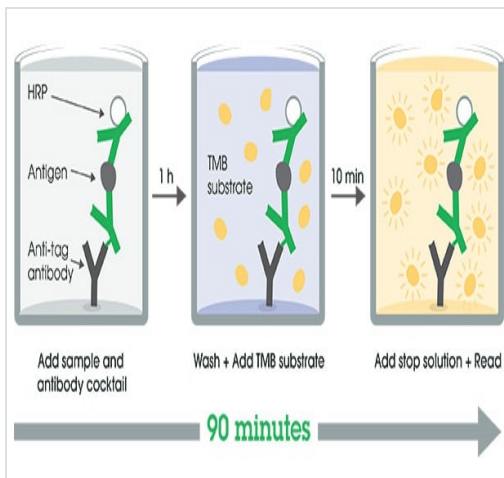
## Post-translational modifications

O-glycosylated.

## Cellular localization

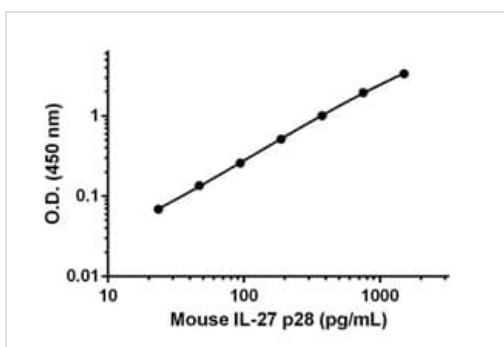
Secreted. Does not seem to be secreted without coexpression of EBI3.

## Images



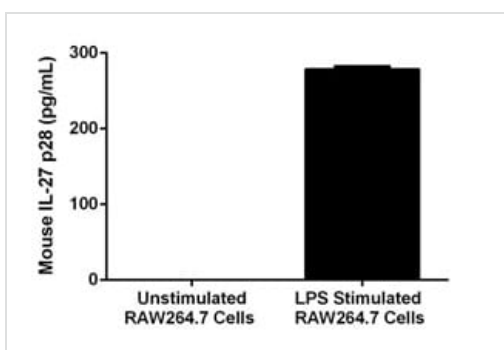
Other - Mouse IL-27a ELISA Kit (Interleukin 27 p28 subunit) (ab206306)

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



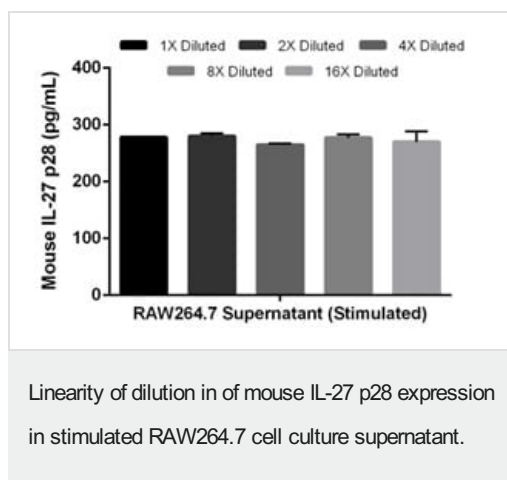
Example of IL-27 p28 standard curve.

Background-subtracted data values (mean  $\pm$  SD) are graphed.



Mouse IL-27 p28 expression in RAW264.7 cells treated for 48 hours in the presence and absence of 5  $\mu$ g/mL Lipopolysaccharide (LPS).

Samples were diluted in Sample Diluent NS. The concentrations of mouse IL-27 p28 were interpolated from a standard curve diluted in Sample Diluent NS. The interpolated values are graphed (mean  $\pm$  SD).



The concentrations of mouse IL-27 p28 were measured in duplicate and interpolated from a standard curve diluted in Sample Diluent NS. The interpolated dilution factor corrected values are graphed (mean  $\pm$  SD).

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recombinant antibodies

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**Long-term and scalable supply**  
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**Success from the first experiment**  
Confirmed specificity

**Ethical standards compliant**  
Animal-free production

Sandwich ELISA - Mouse IL-27a ELISA Kit  
(Interleukin 27 p28 subunit) (ab206306)

To learn more about the advantages of recombinant antibodies see [here](#).

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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