

# Biotin Conjugated Anti-Human IL-27 Antibody [PSH03-82] - Detector

## HA722622B



|                            |   |
|----------------------------|---|
| <b>Product Type:</b>       | Recombinant Rabbit monoclonal IgG, primary antibodies |
| <b>Species reactivity:</b> | Human   |
| <b>Applications:</b>       | ELISA(Det)  |
| <b>Molecular Wt:</b>       | Predicted band size: 27.5 kDa                         |
| <b>Clone number:</b>       | PSH03-82  |

**Description:** IL-27 has 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 TH1 cells 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 IL27 alone is also able to inhibit the production of IL17 by CD4 and CD8 T-cells. While IL-27 suppressed the development of pro-inflammatory 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 pro-inflammatory 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 increase 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.

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| <b>Conjugate:</b>             | Biotin-conjugated  |
| <b>Immunogen:</b>             | Recombinant protein within Human IL-27 aa 21-229 (Q8NEV9) + Human EBI3 aa 29-243 (Q14213).   |
| <b>Positive control:</b>      | Recombinant Human IL-27 protein (HA210912).  |
| <b>Subcellular location:</b>  | Secreted.  |
| <b>Database links:</b>        | SwissProt: Q8NEV9 Human   Q14213 Human   |
| <b>Recommended Dilutions:</b> |  |
| <b>ELISA(Det)</b>             | Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH03-81] to Human IL-27 (Capture) (HA722048). The reference range value is 61.7-5000 pg/ml. |
| <b>Storage Buffer:</b>        | PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% ProClin300.   |
| <b>Storage Instruction:</b>   | Shipped at 4°C. Store at +4°C short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20°C long term.  |
| <b>Purity:</b>                | Protein A affinity purified.   |

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No Images

**Note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

**Background References**

1. Pflanz S., Timans J.C., Cheung J., Rosales R., Kanzler H., Gilbert J., Hibbert L., Churakova T., Travis M., Kastelein R.A. IL-27, a heterodimeric cytokine composed of EBI3 and p28 protein, induces proliferation of naive CD4(+) T cells. *Immunity* 16:779-790 (2002)
2. Feng X.M., Chen X.L., Liu N., Chen Z., Zhou Y.L., Han Z.B., Zhang L., Han Z.C. Interleukin-27 upregulates major histocompatibility complex class II expression in primary human endothelial cells through induction of major histocompatibility complex class II transactivator. *Hum. Immunol.* 68:965-972 (2007)

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