



Recombinant Protein Technical Manual

Recombinant Mouse Interleukin-27/IL-27 Protein (His Tag) RPES1864

Product Data:

Product SKU: RPES1864

Size: 10µg

Species: Mouse

Expression host: Human Cells

Uniprot: O35228&Q8K3I6

Protein Information:

Molecular Mass: 49 kDa

AP Molecular Mass: 60-65 kDa

Tag: C-6His

Bio-activity:

Purity: > 90 % as determined by SDS-PAGE

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

Shipping: This product is provided as lyophilized powder which is shipped with ice packs.

Formulation: Lyophilized from a 0.2 µm filtered solution of PBS, 2mM EDTA, 5% Mannitol, pH 7.4.

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: Interleukin-27 subunit alpha, IL-27 subunit alpha, IL-27-A, IL27-A, p28, IL27, IL27a, Interleukin-27 subunit beta, Ebi3, IL-27 subunit beta, IL-27B, Epstein-Barr virus-induced gene 3 protein homolog, Ebi3, IL27b

Immunogen Information:

Sequence: Tyr19-Pro228&Phe29-Ser234

Background:

IL-27 is a heterodimeric cytokine which belongs to the IL-6/IL2 family of long type I cytokines. It is expressed on monocytes, endothelial cells and dendritic cells. IL-27 is an early product of activated antigen-presenting cells and drives rapid clonal expansion of naive CD4(+) T cells and plays a role in the early regulation of Th1 cells initiation which drives efficient adaptive immune response. 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. IL-27 has an antiproliferative activity on melanomas through WSX/STAT1 signaling. Thus, IL-27 protein may be an attractive candidate as an antitumor agent applicable to cancer immunotherapy. IL-27 reveals to be a potent inhibitor of TH17 cell development and of IL7 production. Indeed IL27 alone is also able to inhibit the production of IL17 by CD4 and CD8 T-cells. 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 IP0/CXCL10 and MIG/CXCL9.