

IL-27 (C-8): sc-390482

BACKGROUND

IL-27 triggers expansion of antigen-specific naive CD4⁺ T cells and promotes polarization towards a Th1 phenotype with expression of γ -interferon. IL-27 contributes to the development of an adaptive immune response through its action on CD4⁺ T cells and also directly acts on cells of the innate immune system. IL-27 protein levels increase upon activation of antigen-presenting cells. IL-27 protein induces orphan cytokine receptor WSX-1/TCCR-dependent clonal expansion of naive but not memory CD4⁺ T cells. IL-27 signaling through TCCR/WSX-1 induces phosphorylation of Stat1-5. The predicted 243 amino acid human IL-27 protein, which is 73% identical to the mouse protein, contains an N-terminal signal peptide, several O-glycosylation sites and a stretch of 13 glutamate residues between helices C and D.

REFERENCES

1. Pflanz, S., et al. 2002. IL-27, a heterodimeric cytokine composed of EBI3 and p28 protein, induces proliferation of naive CD4⁺ T cells. *Immunity* 16: 779-790.
2. Cordoba-Rodriguez, R., et al. 2003. L-23 and IL-27: new members of the growing family of IL-12-related cytokines with important implications for therapeutics. *Expert Opin. Biol. Ther.* 3: 715-723.

CHROMOSOMAL LOCATION

Genetic locus: IL27 (mouse) mapping to 7 F3.

SOURCE

IL-27 (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 91-105 within an internal region of IL-27 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-27 (C-8) is available conjugated to agarose (sc-390482 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390482 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390482 PE), fluorescein (sc-390482 FITC), Alexa Fluor® 488 (sc-390482 AF488), Alexa Fluor® 546 (sc-390482 AF546), Alexa Fluor® 594 (sc-390482 AF594) or Alexa Fluor® 647 (sc-390482 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390482 AF680) or Alexa Fluor® 790 (sc-390482 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390482 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

IL-27 (C-8) is recommended for detection of IL-27 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-27 siRNA (m): sc-72185, IL-27 shRNA Plasmid (m): sc-72185-SH and IL-27 shRNA (m) Lentiviral Particles: sc-72185-V.

Molecular Weight of IL-27: 27 kDa.

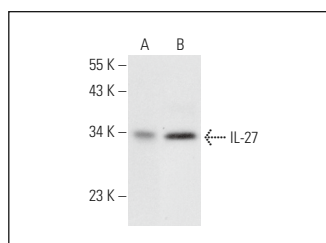
Positive Controls: RAW 264.7 + heat shock cell lysate: sc-24764 or RAW 264.7 + PMA whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



IL-27 (C-8): sc-390482. Western blot analysis of IL-27 expression in PMA treated RAW 264.7 (A) and heat shocked RAW 264.7 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Dong, Z., et al. 2015. IL-27 alleviates the bleomycin-induced pulmonary fibrosis by regulating the Th17 cell differentiation. *BMC Pulm. Med.* 15: 13.
2. Wang, X., et al. 2022. Exosomes from adipose-derived mesenchymal stem cells alleviate sepsis-induced lung injury in mice by inhibiting the secretion of IL-27 in macrophages. *Cell Death Discov.* 8: 18.
3. Zhou, W.J., et al. 2022. Fructose-1,6-bisphosphate prevents pregnancy loss by inducing decidual COX-2⁺ macrophage differentiation. *Sci. Adv.* 8: eabj2488.

RESEARCH USE

For research use only, not for use in diagnostic procedures.