

IL-27 (LB-L22): sc-134367

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.
3. Lucas, S., et al. 2003. IL-27 regulates IL-12 responsiveness of naive CD4⁺ T cells through Stat1-dependent and -independent mechanisms. *Proc. Natl. Acad. Sci. USA* 100: 15047-15052.
4. Villarino, A.V., et al. 2004. Understanding the pro- and anti-inflammatory properties of IL-27. *J. Immunol.* 173: 715-720.
5. Goldberg, R., et al. 2004. Suppression of ongoing adjuvant-induced arthritis by neutralizing the function of the p28 subunit of IL-27. *J. Immunol.* 173: 1171-1178.
6. Yoshimoto, T., et al. 2004. Induction of IgG_{2a} class switching in B cells by IL-27. *J. Immunol.* 173: 2479-2485.
7. Artis, D., et al. 2004. The IL-27 receptor (WSX-1) is an inhibitor of innate and adaptive elements of type 2 immunity. *J. Immunol.* 173: 5626-5634.
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CHROMOSOMAL LOCATION

Genetic locus: IL27 (human) mapping to 16p11.2; IL27 (mouse) mapping to 7 F3.

SOURCE

IL-27 (LB-L22) is a mouse monoclonal antibody raised against recombinant IL-27 protein of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 (LB-L22) is recommended for detection of IL-27 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-27 siRNA (h): sc-72184, IL-27 siRNA (m): sc-72185, IL-27 shRNA Plasmid (h): sc-72184-SH, IL-27 shRNA Plasmid (m): sc-72185-SH, IL-27 shRNA (h) Lentiviral Particles: sc-72184-V and IL-27 shRNA (m) Lentiviral Particles: sc-72185-V.

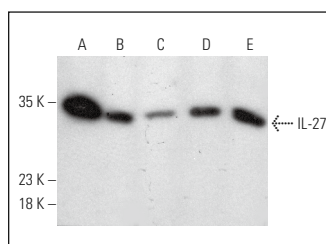
Molecular Weight of IL-27: 27 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or Jurkat whole cell lysate: sc-2204.

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).

DATA



IL-27 (LB-L22): sc-134367. Western blot analysis of IL-27 expression in HeLa (A), Jurkat (B), MM-142 (C), NIH/3T3 (D) and RAW 264.7 (E) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.