

## IL-21R (G-6): sc-515062

### BACKGROUND

The IL-21 receptor (also designated IL-21R, NILR or novel interleukin receptor) is a type I cytokine receptor that forms a complex with the cytokine receptor  $\gamma$  chain,  $\gamma_c$ , and mediates IL-21 signaling. IL-21R is present on the surface of natural killer, B and T cell populations with high levels in spleen and thymus. IL-21 and IL-21R influence lymphoid proliferation and early lymphoid development in the transition between innate and adaptive immunity. Tumor necrosis factor (TNF) upregulates IL-21R, and combinations of TNF and IL-21 can have synergistic effects on myeloma cell proliferation through pathways involving phosphorylation of JAK1, Stat3, and Erk1/2. The human IL-21R gene maps to chromosome 16p12.1 and encodes a 538 amino acid protein that is closely related to human IL2RB and shares 62% sequence identity to mouse IL21r.

### REFERENCES

1. Parrish-Novak, J., et al. 2000. Interleukin 21 and its receptor are involved in NK cell expansion and regulation of lymphocyte function. *Nature* 408: 57-63.
2. Asao, H., et al. 2001. Cutting edge: the common  $\gamma$ -chain is an indispensable subunit of the IL-21 receptor complex. *J. Immunol.* 167: 1-5.
3. Vosshenrich, C.A. and Di Santo, J.P. 2001. Cytokines: IL-21 joins the  $\gamma_c$ -dependent network? *Curr. Biol.* 11: R175-R177.
4. Habib, T., et al. 2002. The common  $\gamma$  chain ( $\gamma_c$ ) is a required signaling component of the IL-21 receptor and supports IL-21-induced cell proliferation via JAK3. *Biochemistry* 41: 8725-8731.
5. Kasaian, M.T., et al. 2002. IL-21 limits NK cell responses and promotes antigen-specific T cell activation: a mediator of the transition from innate to adaptive immunity. *Immunity* 16: 559-569.
6. Ueda, C., et al. 2002. The gene for interleukin-21 receptor is the partner of BCL6 in t(3;16)(q27;p11), which is recurrently observed in diffuse large B-cell lymphoma. *Oncogene* 21: 368-376.
7. Brenne, A.T., et al. 2002. Interleukin-21 is a growth and survival factor for human myeloma cells. *Blood* 99: 3756-3762.

### CHROMOSOMAL LOCATION

Genetic locus: IL21R (human) mapping to 16p12.1.

### SOURCE

IL-21R (G-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 34-58 within an extracellular domain of IL-21R of human origin.

### STORAGE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

### PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515062 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

### APPLICATIONS

IL-21R (G-6) is recommended for detection of IL-21R of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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-21R siRNA (h): sc-40053, IL-21R shRNA Plasmid (h): sc-40053-SH and IL-21R shRNA (h) Lentiviral Particles: sc-40053-V.

Molecular Weight (predicted) of IL-21R: 59 kDa.

Molecular Weight (observed) of unglycosylated IL-21R: 58 kDa.

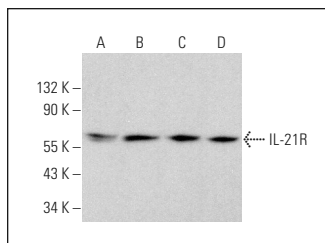
Molecular Weight (observed) of glycosylated IL-21R: 68-100 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or Raji whole cell lysate: sc-364236.

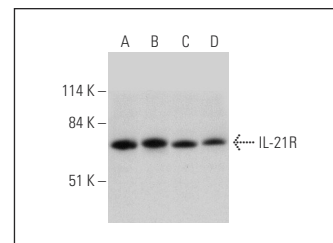
### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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-21R (G-6): sc-515062. Western blot analysis of IL-21R expression in Raji (A), Jurkat (B), K-562 (C) and Hep G2 (D) whole cell lysates.



IL-21R (G-6): sc-515062. Western blot analysis of IL-21R expression in Jurkat (A), K-562 (B), Raji (C) and A2058 (D) whole cell lysates.

### RESEARCH USE

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