

## IL-12A p35/p70 (B-T21): sc-65323

### BACKGROUND

Interleukin-12, or IL-12, also known as natural killer cell stimulatory factor (NKSF) and cytotoxic lymphocyte maturation factor (CLMF), is a pleiotropic cytokine that affects both natural killer (NK) cells and T lymphocytes. IL-12 is a heterodimer of subunit IL-12A p35 and subunit IL-12B p40, that is secreted by a wide variety of antigen presenting cells (APCs), including phagocytes, B cells and Langerhans cells. It is involved in mediating many aspects of antiviral immunity. In addition to stimulating T helper cell development, IL-12 is a potent inducer of interferon- $\gamma$  (IFN- $\gamma$ ) production by T cells and NK cells. Increased IL-12 production is a consequence of EBV, CMV, LCMV or HSV infection. While it is unclear what separate effects can be attributed to each IL-12 subunit, evidence suggests IL-12A p35 is the biologically active component responsible for signal transduction via the IL-12 receptor.

### REFERENCES

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2. Chizzonite, R., et al. 1991. IL-12: monoclonal antibodies specific for the 40 kDa subunit block receptor binding and biologic activity on activated human lymphoblasts. *J. Immunol.* 147: 1548-1556.
3. Davis, S., et al. 1993. LIFR $\beta$  and gp130 as heterodimerizing signal transducers of the tripartite CNTF receptor. *Science* 260: 1805-1808.
4. Kanangat, S., et al. 1996. Herpes simplex virus type 1-mediated upregulation of IL-12 (p40) mRNA expression. Implications in immunopathogenesis and protection. *J. Immunol.* 156: 1110-1116.
5. Orange, J.S., et al. 1996. An absolute and restricted requirement for IL-12 in natural killer cell IFN- $\gamma$  production and antiviral defense. Studies of natural killer and T cell responses in contrasting viral infections. *J. Immunol.* 156: 1138-1142.
6. Kang, K., et al. 1996. IL-12 synthesis by human Langerhans cells. *J. Immunol.* 156: 1402-1407.
7. Ma, X., et al. 1996. The interleukin-12 p40 gene promoter is primed by interferon- $\gamma$  in monocytic cells. *J. Exp. Med.* 183: 147-157.

### CHROMOSOMAL LOCATION

Genetic locus: IL12A (human) mapping to 3q25.33.

### SOURCE

IL-12A p35/p70 (B-T21) is a mouse monoclonal antibody raised against recombinant IL-12 of human origin.

### PRODUCT

Each vial contains 100  $\mu$ g IgG $_1$  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-12A p35/p70 (B-T21) is recommended for detection of IL-12A p35/p70 of human origin by flow cytometry (1  $\mu$ g per  $1 \times 10^6$  cells).

Suitable for use as control antibody for IL-12A p35 siRNA (h): sc-39638, IL-12A p35 shRNA Plasmid (h): sc-39638-SH and IL-12A p35 shRNA (h) Lentiviral Particles: sc-39638-V.

Molecular Weight of IL-12A p35 monomer: 35 kDa.

Molecular Weight of IL-12 heterodimer: 75 kDa.

### RESEARCH USE

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

### PROTOCOLS

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