



## IL-12A p35 (M-19): sc-9350

### BACKGROUND

Interleukin-12 (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

- Gubler, U., et al. 1991. Coexpression of two distinct genes is required to generate secreted bioactive cytotoxic lymphocyte maturation factor. *Proc. Natl. Acad. Sci. USA* 88: 4143-4147.
- 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.
- Davis, S., et al. 1993. LIFR  $\beta$  and gp130 as heterodimerizing signal transducers of the tripartite CNTF receptor. *Science* 260: 1805-1808.
- 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.
- 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.
- 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.
- Kang, K., et al. 1996. IL-12 synthesis by human Langerhans cells. *J. Immunol.* 156: 1402-1407.

### CHROMOSOMAL LOCATION

Genetic locus: Il12a (mouse) mapping to 3 E1.

### SOURCE

IL-12A p35 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of IL-12A p35 of mouse origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9350 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

IL-12A p35 (M-19) is recommended for detection of IL-12A p35 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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-12A p35 siRNA (m): sc-39639, IL-12A p35 shRNA Plasmid (m): sc-39639-SH and IL-12A p35 shRNA (m) Lentiviral Particles: sc-39639-V.

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

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

- Mogga, S.J., et al. 2003. *In situ* expression of CD40, CD40L (CD154), IL-12, TNF $\alpha$ , IFN- $\gamma$  and TGF $\beta$ 1 in murine lungs during slowly progressive primary tuberculosis. *Scand. J. Immunol.* 58: 327-334.
- Hino, A., et al. 2004. Pathological role of large intestinal IL-12p40 for the induction of Th2-type allergic diarrhea. *Am. J. Pathol.* 164: 1327-1335.
- Wang, X., et al. 2006. Disruption of interleukin-18, but not interleukin-1, increases vulnerability to preterm delivery and fetal mortality after intra-uterine inflammation. *Am. J. Pathol.* 169: 967-976.

### STORAGE

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

### 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) or our catalog for detailed protocols and support products.