

# IL-12R $\beta$ 1 (E-6): sc-166805

## BACKGROUND

IL-12, a heterodimeric cytokine composed of two disulfide-bonded glycoprotein subunits, p35 and p40, has pleiotropic activities including stimulation of the proliferation of activated T and NK cells, induction of IFN- $\gamma$  production by PBMcs, enhancement of the lytic activity of NK/LAK cells and promotion of T helper (Th) 1 cell responses. The T cell response to IL-12 is mediated through two receptor proteins, designated IL-12R $\beta$ 1 and IL-12R $\beta$ 2. The genes encoding human IL-12R $\beta$ 1 and IL-12R $\beta$ 2 map to chromosomes 19p13.11 and 1p31.3, respectively. Increased IL-12R $\beta$ 2 expression is crucial in regulating Th1 differentiation, whereas IL-12R $\beta$ 1 expression is less restricted. Inhibition of IL-12 activity may provide treatment for diseases associated with pathologic Th1 responses, such as multiple sclerosis or Crohn's disease, while administration of recombinant IL-12 may aid in the treatment for allergic disorders and asthma.

## REFERENCES

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- Yamamoto, K., et al. 1997. Assignment of IL12RB1 and IL12RB2, interleukin-12 receptor  $\beta$  1 and  $\beta$  2 chains, to human chromosome 19 band p13.1 and chromosome 1 band p31.2, respectively, by *in situ* hybridization. *Cytogenet. Cell Genet.* 77: 257-258.
- Kawashima, T., et al. 1998. Interleukin-12 induces tyrosine phosphorylation of an 85 kDa protein associated with the interleukin-12 receptor  $\beta$  1 subunit. *Cell. Immunol.* 186: 39-44.
- Gately, M.K., et al. 1998. The interleukin-12/interleukin-12-receptor system: role in normal and pathologic immune responses. *Annu. Rev. Immunol.* 16: 495-521.
- Parrello, T., et al. 2000. Upregulation of the IL-12 receptor  $\beta$  2 chain in Crohn's disease. *J. Immunol.* 165: 7234-7239.

## CHROMOSOMAL LOCATION

Genetic locus: IL12RB1 (human) mapping to 19p13.11; Il12rb1 (mouse) mapping to 8 B3.3.

## SOURCE

IL-12R $\beta$ 1 (E-6) is a mouse monoclonal antibody raised against amino acids 1-300 of IL-12R $\beta$ 1 of human origin.

## RESEARCH USE

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

## 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.

## APPLICATIONS

IL-12R $\beta$ 1 (E-6) is recommended for detection of IL-12R $\beta$ 1 of mouse, rat and 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-12R $\beta$ 1 siRNA (h): sc-35649, IL-12R $\beta$ 1 siRNA (m): sc-35650, IL-12R $\beta$ 1 shRNA Plasmid (h): sc-35649-SH, IL-12R $\beta$ 1 shRNA Plasmid (m): sc-35650-SH, IL-12R $\beta$ 1 shRNA (h) Lentiviral Particles: sc-35649-V and IL-12R $\beta$ 1 shRNA (m) Lentiviral Particles: sc-35650-V.

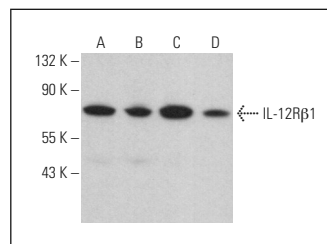
Molecular Weight of IL-12R $\beta$ 1: 100 kDa.

Positive Controls: IL-12R $\beta$ 1 (h4): 293T Lysate: sc-177380, CCRF-CEM cell lysate: sc-2225 or CCRF-HSB-2 cell lysate: sc-2265.

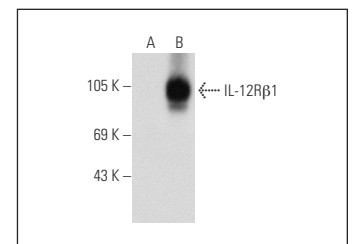
## RECOMMENDED SUPPORT REAGENTS

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-12R $\beta$ 1 (E-6): sc-166805. Western blot analysis of IL-12R $\beta$ 1 expression in CCRF-CEM (A), CCRF-HSB-2 (B), K-562 (C) and TK-1 (D) whole cell lysates.



IL-12R $\beta$ 1 (E-6): sc-166805. Western blot analysis of IL-12R $\beta$ 1 expression in non-transfected: sc-117752 (A) and human IL-12R $\beta$ 1 transfected: sc-177380 (B) 293T whole cell lysates.

## 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.