

# IL-12R $\beta$ 1 (H-300): sc-25479

## 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 of allergic disorders and asthma.

## REFERENCES

- Gubler, U., et al. 1991. Co-expression of two distinct genes is required to generate secreted bioactive cytotoxic lymphocyte maturation factor. *Proc. Natl. Acad. Sci. USA* 88: 4143-4147.
- Wolf, S.F., et al. 1991. Cloning of cDNA for natural killer cell stimulatory factor, a heterodimeric cytokine with multiple biologic effects on T and natural killer cells. *J. Immunol.* 146: 3074-3081.
- Manetti, R.P., et al. 1993. Natural killer cell stimulatory factor interleukin-12 [IL-12] induces T helper type 1 (Th1)-specific immune responses and inhibits the development of IL-4-producing Th cells. *J. Exp. Med.* 177: 1199-1204.
- Yamamoto, K., et al. 1997. Assignment of IL-12R $\beta$ 1 and IL12R $\beta$ 2, 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.

## CHROMOSOMAL LOCATION

Genetic locus: IL12RB1 (human) mapping to 19p13.11.

## SOURCE

IL-12R $\beta$ 1 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 of IL-12R $\beta$ 1 of human origin.

## PRODUCT

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

## RESEARCH USE

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

## APPLICATIONS

IL-12R $\beta$ 1 (H-300) is recommended for detection of IL-12R $\beta$ 1 of human origin by Western Blotting (starting dilution 1:200, 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 shRNA Plasmid (h): sc-35649-SH and IL-12R $\beta$ 1 shRNA (h) Lentiviral Particles: sc-35649-V.

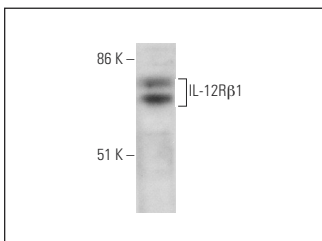
Molecular Weight of IL-12R $\beta$ 1: 70-75 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, CCRF-CEM cell lysate: sc-2225 or CCRF-HSB-2 cell lysate: sc-2265.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## DATA



IL-12R $\beta$ 1 (H-300): sc-25479. Western blot analysis of IL-12R $\beta$ 1 expression in K-562 whole cell lysate.

## STORAGE

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



Try **IL-12R $\beta$ 1 (B-7): sc-365395** or **IL-12R $\beta$ 1 (E-6): sc-166805**, our highly recommended monoclonal alternatives to IL-12R $\beta$ 1 (H-300).