

IL-12R β 1 (B-7): sc-365395

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- γ 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 β 1 and IL-12R β 2. The genes encoding human IL-12R β 1 and IL-12R β 2 map to chromosomes 19p13.11 and 1p31.3, respectively. Increased IL-12R β 2 expression is crucial in regulating Th1 differentiation, whereas IL-12R β 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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2. 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.
3. 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.
4. Yamamoto, K., et al. 1997. Assignment of IL12RB1 and IL12RB2, interleukin-12 receptor β 1 and β 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.
5. 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.
6. Kawashima, T., et al. 1998. Interleukin-12 induces tyrosine phosphorylation of an 85 kDa protein associated with the interleukin-12 receptor β 1 subunit. *Cell. Immunol.* 186: 39-44.

CHROMOSOMAL LOCATION

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

SOURCE

IL-12R β 1 (B-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 631-657 at the C-terminus of IL-12R β 1 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.

PRODUCT

Each vial contains 200 μ g IgM 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-365395 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

IL-12R β 1 (B-7) is recommended for detection of IL-12R β 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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 β 1 siRNA (h): sc-35649, IL-12R β 1 siRNA (m): sc-35650, IL-12R β 1 shRNA Plasmid (h): sc-35649-SH, IL-12R β 1 shRNA Plasmid (m): sc-35650-SH, IL-12R β 1 shRNA (h) Lentiviral Particles: sc-35649-V and IL-12R β 1 shRNA (m) Lentiviral Particles: sc-35650-V.

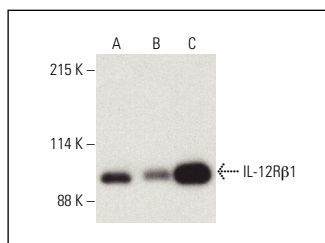
Molecular Weight of IL-12R β 1: 100 kDa.

Positive Controls: CCRF-HSB-2 cell lysate: sc-2265, WEHI-231 whole cell lysate: sc-2213 or BYDP whole cell lysate: sc-364368.

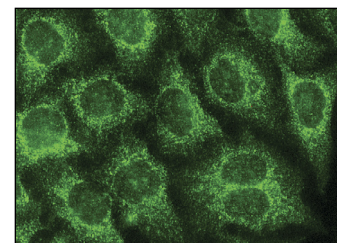
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 β 1 (B-7): sc-365395. Western blot analysis of IL-12R β 1 expression in TK-1 (A), BW5147 (B) and BYDP (C) whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-516102.



IL-12R β 1 (B-7): sc-365395. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

RESEARCH USE

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