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IL-12R β 1 (A-10): sc-166776

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 of allergic disorders and asthma.

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.
- 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 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.

CHROMOSOMAL LOCATION

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

SOURCE

IL-12R β 1 (A-10) is a mouse monoclonal antibody raised against amino acids 1-300 of IL-12R β 1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG γ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-12R β 1 (A-10) is available conjugated to agarose (sc-166776 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166776 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166776 PE), fluorescein (sc-166776 FITC), Alexa Fluor[®] 488 (sc-166776 AF488), Alexa Fluor[®] 546 (sc-166776 AF546), Alexa Fluor[®] 594 (sc-166776 AF594) or Alexa Fluor[®] 647 (sc-166776 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-166776 AF680) or Alexa Fluor[®] 790 (sc-166776 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

IL-12R β 1 (A-10) is recommended for detection of IL-12R β 1 of 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 shRNA Plasmid (h): sc-35649-SH and IL-12R β 1 shRNA (h) Lentiviral Particles: sc-35649-V.

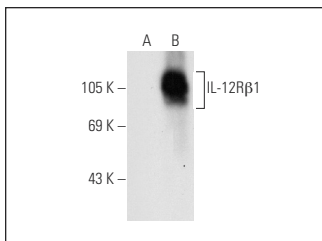
Molecular Weight of IL-12R β 1: 100 kDa.

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

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 A/G PLUS-Agarose: sc-2003 (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 (A-10): sc-166776. Western blot analysis of IL-12R β 1 expression in non-transfected: sc-117752 (A) and human IL-12R β 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.