

IL-12R β 1 (DU-1): sc-13511

BACKGROUND

IL-12, a heterodimeric cytokine composed of two disulfide-bonded glycoprotein subunits, p35 and p40, has pleiotrophic 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 1p31.2, 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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- 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 β 1 and IL12R β 2, 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.
- 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.
- 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. Up-regulation of the IL-12 receptor β 2 chain in Crohn's disease. *J. Immunol.* 165: 7234-7239.

CHROMOSOMAL LOCATION

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

SOURCE

IL-12R β 1 (DU-1) is a rat monoclonal antibody raised against IL-12 receptor 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 IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-12R β 1 (DU-1) is available conjugated to either phycoerythrin (sc-13511 PE) or fluorescein (sc-13511 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

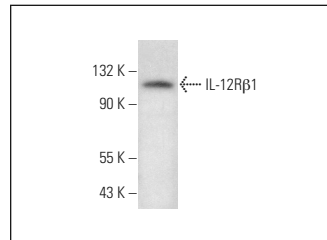
IL-12R β 1 (DU-1) is recommended for detection of IL-12R β 1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

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.

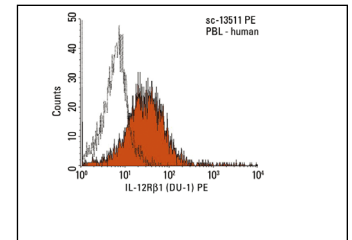
Molecular Weight of IL-12R β 1: 100 kDa.

Positive Controls: U266 whole cell lysate: sc-364800.

DATA



IL-12R β 1 (DU-1): sc-13511. Western blot analysis of IL-12R β 1 expression in U266 whole cell lysate.



IL-12R β 1 (DU-1) PE: sc-113511 PE. FCM analysis of human peripheral blood leukocytes. Black line histogram represents the isotype control, normal mouse IgG_{2a}-PE: sc-2872.

SELECT PRODUCT CITATIONS

- van de Vosse, E., et al. 2009. Antisense-mediated exon skipping to correct IL-12R β 1 deficiency in T cells. *Blood* 113: 4548-4555.

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.