

IL-12R β 2 (E-20): sc-18648

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 19p13.2 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

- 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 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.

CHROMOSOMAL LOCATION

Genetic locus: IL12RB2 (human) mapping to 1p31.3.

SOURCE

IL-12R β 2 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IL-12R β 2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18648 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

IL-12R β 2 (E-20) is recommended for detection of IL-12R β 2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

IL-12R β 2 (E-20) is also recommended for detection of IL-12R β 2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for IL-12R β 2 siRNA (h): sc-40033, IL-12R β 2 shRNA Plasmid (h): sc-40033-SH and IL-12R β 2 shRNA (h) Lentiviral Particles: sc-40033-V.

Molecular Weight of IL-12R β 2: 130 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Airoldi, I., et al. 2008. Constitutive expression of IL-12R β 2 on human multiple myeloma cells delineates a novel therapeutic target. *Blood* 112: 750-759.
- Hewagama, A., et al. 2009. Stronger inflammatory/cytotoxic T-cell response in women identified by microarray analysis. *Genes Immun.* 10: 509-516.
- Airoldi, I., et al. 2009. IL-12 can target human lung adenocarcinoma cells and normal bronchial epithelial cells surrounding tumor lesions. *PLoS ONE* 4: e6119.
- Ferretti, E., et al. 2010. Direct inhibition of human acute myeloid leukemia cell growth by IL-12. *Immunol. Lett.* 133: 99-105.
- Ferretti, E., et al. 2012. Absence of IL-12R β 2 in CD33⁺CD38⁺ pediatric acute myeloid leukemia cells favours progression in NOD/SCID/IL2R γ C-deficient mice. *Leukemia* 26: 225-235.

RESEARCH USE

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


 MONOS
 Satisfaction
 Guaranteed

Try **IL-12R β 2 (2H6): sc-293379**, our highly recommended monoclonal alternative to IL-12R β 2 (E-20).