SANTA CRUZ BIOTECHNOLOGY, INC.

IL-12Rβ1 (A-10): sc-166776

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-12Rβ1 and IL-12Rβ2. The genes encoding human IL-12Rβ1 and IL-12Rβ2 map to chromosomes 19p13.11 and 1p31.3, respectively. Increased IL-12Rβ2 expression is crucial in regulating Th1 differentiation, whereas IL-12Rβ1 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

1. 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.
2. 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.
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 β1 and β2 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-12Rβ1 (A-10) is a mouse monoclonal antibody raised against amino acids 1-300 of IL-12Rβ1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-12Rβ1 (A-10) is available conjugated to agarose (sc-166776 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166776 HRP), 200 µg/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 µg/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 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

IL-12Rβ1 (A-10) is recommended for detection of IL-12Rβ1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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-12Rβ1 siRNA (h): sc-35649, IL-12Rβ1 shRNA Plasmid (h): sc-35649-SH and IL-12Rβ1 shRNA (h) Lentiviral Particles: sc-35649-V.

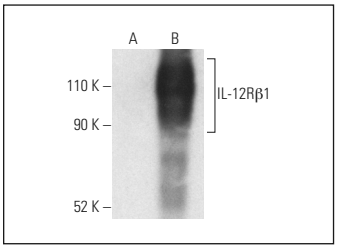
Molecular Weight of IL-12Rβ1: 100 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, CCRF-HSB-2 cell lysate: sc-2265 or IL-12Rβ1 (h4): 293T Lysate: sc-177380.

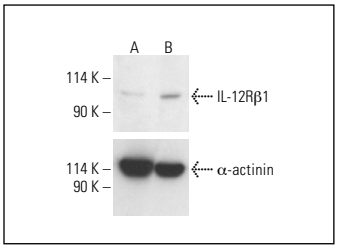
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-12Rβ1 (A-10): sc-166776. Western blot analysis of IL-12Rβ1 expression in non-transfected: sc-117752 (**A**) and human IL-12Rβ1 transfected: sc-177380 (**B**) 293T whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



IL-12Rβ1 (A-10): sc-166776. Western blot analysis of IL-12Rβ1 expression in untreated (**A**) and chemically-treated (**B**) K-562 whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409. α-actinin (H-2): sc-17829 used as loading control. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.

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.