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IL-4 (HIL44): sc-13555

BACKGROUND

Interleukin-4 (IL-4), also designated B cell stimulatory factor-1, is a glycosylated cytokine secreted by activated T lymphocytes, basophils and mast cells. The secreted IL-4 protein promotes the growth and differentiation of cells that participate in immune defense by favoring such events as the expansion of the Th2 lineage relative to Th1 cells. These T helper cell subsets are defined by their pattern of cytokine secretion: Th1 cells secrete IL-2, TNF β and IFN- γ , while Th2 cells secrete IL-4, IL-5 and IL-10. Another key immunological function of IL-4 is to induce immunoglobulin class switching. IL-4 has been shown to induce the production of IgE and enhance IgG₄ secretion by B cells, but suppress the production of IgM, IgA, IgG₁, IgG₂ and IgG₃. It has been determined that Stat6 is rapidly tyrosine phosphorylated following stimulation of IL-3 or IL-4, but is not detectably phosphorylated following stimulation with IL-2, IL-12 or erythropoietin.

REFERENCES

1. Yokota, T., et al. 1986. Isolation and characterization of a human interleukin cDNA clone, homologous to mouse B-cell stimulatory factor 1, that expresses B cell- and T cell-stimulating activities. *Proc. Natl. Acad. Sci. USA* 83: 5894-5898.
2. Grabstein, K., et al. 1986. Purification to homogeneity of B cell stimulating factor. A molecule that stimulates proliferation of multiple lymphokine-dependent cell lines. *J. Exper. Med.* 163: 1405-1414.
3. Kamogawa, Y., et al. 1993. The relationship of IL-4- and IFN γ -producing T cells studied by lineage ablation of IL-4-producing cells. *Cell* 75: 985-995.
4. Kopf, M., et al. 1993. Disruption of the murine IL-4 gene blocks Th2 cytokine responses. *Nature* 362: 245-248.
5. Kotowicz, K., et al. 1993. Human immunoglobulin class and IgG subclass regulation: dual action of interleukin-4. *Eur. J. Immunol.* 23: 2250-2256.

CHROMOSOMAL LOCATION

Genetic locus: IL4 (human) mapping to 5q31.1.

SOURCE

IL-4 (HIL44) is a mouse monoclonal antibody raised against full length IL-4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-4 (HIL44) is available conjugated to agarose (sc-13555 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13555 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13555 PE), fluorescein (sc-13555 FITC), Alexa Fluor[®] 488 (sc-13555 AF488), Alexa Fluor[®] 546 (sc-13555 AF546), Alexa Fluor[®] 594 (sc-13555 AF594) or Alexa Fluor[®] 647 (sc-13555 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-13555 AF680) or Alexa Fluor[®] 790 (sc-13555 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

IL-4 (HIL44) is recommended for detection of IL-4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

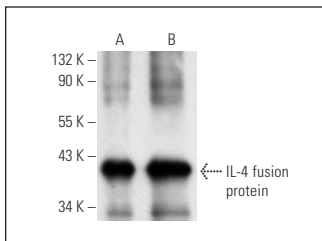
Suitable for use as control antibody for IL-4 siRNA (h): sc-39623, IL-4 shRNA Plasmid (h): sc-39623-SH and IL-4 shRNA (h) Lentiviral Particles: sc-39623-V.

Molecular Weight of IL-4: 18 kDa.

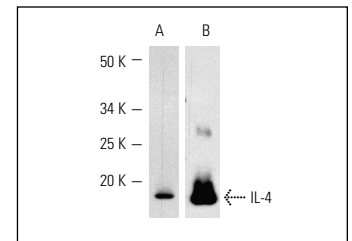
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



IL-4 (HIL44): sc-13555. Western blot analysis of human recombinant IL-4 fusion protein (A,B).



Western blot analysis of human recombinant IL-4. Antibodies tested include: IL-4 (HIL41): sc-12723 (A) and IL-4 (HIL44): sc-13555 (B).

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.