SANTA CRUZ BIOTECHNOLOGY, INC.

IL-4 (M-19): sc-1261

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, TNFβ 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 IgG_4 secretion by B cells, but suppress the production of IgM, IgA, IgG_1, IgG_2 and IgG_3. 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.

CHROMOSOMAL LOCATION

Genetic locus: Il4 (human) mapping to 5q31.1; Il4 (mouse) mapping to 11 B1.3.

SOURCE

IL-4 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of IL-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1261 P, (100 µg 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.

RESEARCH USE

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

APPLICATIONS

IL-4 (M-19) is recommended for detection of IL-4 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, 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).

IL-4 (M-19) is also recommended for detection of IL-4 in additional species, including equine.

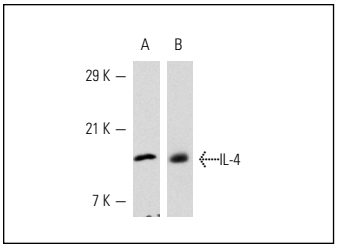
Suitable for use as control antibody for IL-4 siRNA (h): sc-39623, IL-4 siRNA (m): sc-39624, IL-4 shRNA Plasmid (h): sc-39623-SH, IL-4 shRNA Plasmid (m): sc-39624-SH, IL-4 shRNA (h) Lentiviral Particles: sc-39623-V and IL-4 shRNA (m) Lentiviral Particles: sc-39624-V.

Molecular Weight of IL-4: 18 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Western blot analysis of mouse recombinant IL-4 (**A**,**B**). Antibodies tested include IL-4 (C-19): sc-1260 (**A**) and IL-4 (M-19): sc-1261 (**B**).

SELECT PRODUCT CITATIONS

1. Wang, H.H., et al. 2003. Patterns of CD4/CD8 T-cell ratio in dialysis effluents predict the long-term outcome of peritonitis in patients undergoing peritoneal dialysis. Nephrol. Dial. Transplant. 18: 1181-1189.
2. Hocke, A.C., et al. 2006. Regulation of interleukin IL-4, IL-13, IL-10, and their downstream components in lipopolysaccharide-exposed rat lungs. Comparison of the constitutive expression between rats and humans. Cytokine 33: 199-211.
3. Kotłowska-Kmiec, A., et al. 2009. *Helicobacter pylori* increases expression of proapoptotic markers Fas and FasL on CD4 lymphocytes in children. Acta Biochim. Pol. 56: 433-438.

PROTOCOLS

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