



Genorise[®] Sheep Interleukin 4 (IL-4) Polyclonal Antibody

Antigen-Affinity Purified Anti-Sheep interleukin 4 (IL-4) Rabbit Antibody

Catalog Number: GR105090

Background

Interleukin-4, abbreviated IL-4, is a cytokine that is expressed in a variety of tissues including lymphocytes and leukocytes, is a key regulator in humoral and adaptive immunity and has many biological roles, including the stimulation of activated B-cell and T-cell proliferation, and the differentiation of CD4⁺ T-cells into Th2 cells. IL-4 induces differentiation of naive helper T cells (Th0 cells) to Th2 cells. Upon activation by IL-4, Th2 cells subsequently produce additional IL-4. The cell that initially produces IL-4, thus inducing Th0 differentiation, has not been identified, but recent studies suggest that basophils may be the effector cell.^[1] It is closely related and has functions similar to Interleukin 13.

Like IL-13, Interleukin 4 (IL-4) is critical for responses to parasitic helminthes.^[2] IL-4 up-regulates MHC class II production and decreases the production of Th1 cells, macrophages, IFN-gamma, and dendritic cell IL-12. Tissue macrophages play an important role in chronic inflammation and wound repair. The presence of IL-4 in extravascular tissues promotes alternative activation of macrophages into M2 cells and inhibits classical activation of macrophages into M1 cells. An increase in repair macrophages (M2) is coupled with secretion of IL-10 and TGF- β that result in a diminution of pathological inflammation. This cytokine was co-discovered by Maureen Howard and William Paul^[3] and by Dr. Ellen Vitetta and her research group in 1982. The nucleotide sequence for human IL-4 was isolated four years later confirming its similarity to a mouse protein called B-cell stimulatory factor-1 (BCSF-1).^[4]

References

1. Sokol, C.L., et al. (2008) *Nat Immunol* **9** (3): 310–318.
2. Liang, H-E, et al. (2012) *Nature Immunology*, 13: 58–66.
3. Howard M, Paul WE (1982). *Lymphokine Res.* **1** (1): 1–4.
4. Yokota T et al. (1986). *Proc. Natl. Acad. Sci. U.S.A.* **83** (16): 5894–8.



Sheep Interleukin 4 (IL-4) Polyclonal Antibody

Antigen Affinity-Purified Anti-Sheep interleukin 4 (IL-4) Rabbit Antibody

Catalog Number: GR105090

Description

Species reactivity: Sheep

Specificity: Detects sheep interleukin 4 (IL-4) in direct or indirect ELISAs and Western blots.

Source: Polyclonal rabbit IgG

Purification: Antigen Affinity purified

Immunogen: *E. coli* derived recombinant sheep interleukin 4 (IL-4), His25-Cys135, and Accession # NP_001009313.2.

Endotoxin Level: <0.10 EU per 1 µg of the antibody by the LAL method.

Formulation: lyophilized from a solution containing PBS and trehalose (100 µg/ml).

Application

Reconstitution: reconstitute at 0.2 mg/ml in sterile PBS

Recommended concentration:

Western blot: >0.1 µg/ml

Immunocytochemistry: 5-15 µg/ml

ELISA: 0.2-0.8 µg/ml

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months at -20°C.
- 1 month after reconstitution at 4 °C, from date of receipt.
- 6 months after reconstitution at -20°C to -70°C from date of receipt.

23/09/2014

FOR RESEARCH USE ONLY.

NOT FOR USE IN SHEEPS.