Bovine IL-4 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2469

DESCRIPTION

Species Reactivity	Bovine
Specificity	Detects bovine IL-4 in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant porcine IL-4 is observed, less than 5% cross-reactivity with recombinant human IL-4, recombinant feline IL-4, and recombinant canine IL-4 is observed, and less than 1% cross-reactivity with recombinant mouse IL-4, recombinant rat IL-4, and recombinant rhesus macaque IL-4 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant bovine IL-4 His25-Cys135 Accession # P30367
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

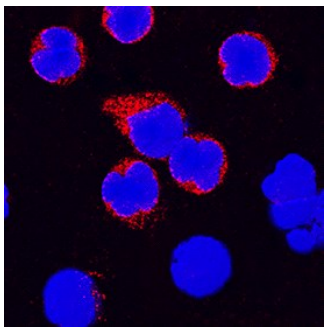
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Bovine IL-4 (Catalog # 2469-BL)
Immunocytochemistry	10-20 µg/mL	See Below

DATA

Immunocytochemistry



IL-4 in Bovine PBMCs. IL-4 was detected in immersion fixed bovine peripheral blood mononuclear cells (PBMCs) treated with Calcium Ionomycin and PMA using Goat Anti-Bovine IL-4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2469) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Interleukin-4 (IL-4), also known as B cell-stimulatory factor-1, is a monomeric, approximately 13 kDa-18 kDa Th2 cytokine that shows pleiotropic effects during immune responses (1-3). It is a glycosylated polypeptide that contains three intrachain disulfide bridges and adopts a bundled four α-helix structure (4). Bovine IL-4 is synthesized with a 24 amino acid (aa) signal sequence. Alternate splicing generates two additional isoforms with internal deletions (5). Mature bovine IL-4 shares 60%, 91%, 93%, 78%, 55%, 39%, and 41% aa sequence identity with equine, goat, ovine, porcine, human, mouse, and rat IL-4, respectively. IL-4 exerts its effects through two receptor complexes (6, 7). The type I receptor, which is expressed on hematopoietic cells, is a heterodimer of the ligand binding IL-4 Rα and the common γ chain (a shared subunit of the receptors for IL-2, -7, -9, -15, and -21). The type II receptor on nonhematopoietic cells consists of IL-4 Rα and IL-13 Rα1. The type II receptor also transduces IL-13 mediated signals. IL-4 is primarily expressed by Th2-biased $CD4^+$ T cells, mast cells, basophils, and eosinophils (1, 2). It promotes cell proliferation, survival, and immunoglobulin class switch to IgE in B cells, acquisition of the Th2 phenotype by naïve $CD4^+$ T cells, priming and chemotaxis of mast cells, eosinophils, and basophils, and the proliferation and activation of epithelial cells (8-11). IL-4 plays a dominant role in the development of allergic inflammation and asthma (10, 12).

References:

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