Feline IL-4 Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF984

DESCRIPTION

Species Reactivity	Feline
Specificity	Detects feline IL-4 in direct ELISAs and Western blots. In direct ELISAs, approximately 15% cross-reactivity with recombinant canine IL-4, recombinant cotton rat IL-4, recombinant human IL-4, recombinant mouse IL-4, recombinant porcine IL-4, and recombinant rat IL-4 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant feline IL-4 Gln24-His133 Accession # P55030
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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 either lyophilized or as a 0.2 µm filtered solution in PBS.

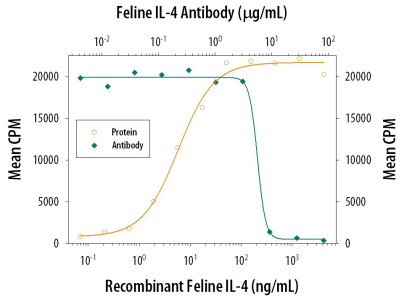
APPLICATIONS

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 Feline IL-4 (Catalog # 984-FL)
Neutralization	Measured by its ability to neutralize IL-4-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. *et al.* (1989) J. Cell Physiol. **140**:323. The Neutralization Dose (ND_{50}) is typically 2-8 µg/mL in the presence of 100 ng/mL Recombinant Feline IL-4.	

DATA

Neutralization



Cell Proliferation Induced by IL-4 and Neutralization by Feline IL-4 Antibody. Recombinant Feline IL-4 (Catalog # 984-FL) stimulates proliferation in the TF-1 human erythroleukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Feline IL-4 (100 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Feline IL-4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF984). The ND_{50} is typically 2-8 µg/mL.

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 13-18 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). Feline IL-4 is synthesized with a 24 amino acid (aa) signal sequence. Mature feline IL-4 shares 81%, 64%, 49%, 40%, and 40% aa sequence identity with canine, bovine, human, mouse, and rat IL-4, respectively. Human IL-4 is active on feline dendritic cells (5). 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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