Feline IL-2 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1890

DESCRIPTION

Species Reactivity	Feline
Specificity	Detects feline IL-2 in ELISAs and Western blots. In sandwich immunoassays, approximately 3% cross-reactivity with recombinant canine IL-2 is observed, approximately 1% cross reactivity with recombinant human IL-2 and recombinant porcine IL-2 is observed, and less than 0.2% cross-reactivity with recombinant mouse IL-2, recombinant equine IL-2, recombinant bovine IL-2, recombinant rat IL-2, and recombinant cotton rat IL-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant feline IL-2 Ala21-Thr154 (Cys146Ser) Accession # Q07885
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 as a 0.2 µm filtered solution in PBS.

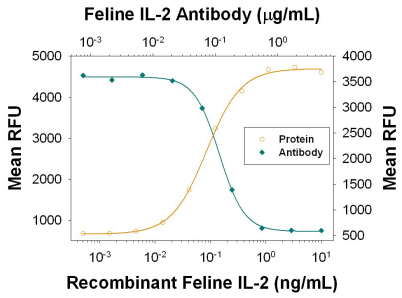
APPLICATIONS

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-2 (Cys146Ser) (Catalog # 1890-FL)
Immunocytochemistry	5-15 µg/mL	See Below
Feline IL-2 Sandwich Immunoassay		**Reagent**
ELISA Capture	0.2-0.8 µg/mL	Feline IL-2 Antibody (Catalog # AF1890)
ELISA Detection	0.1-0.4 µg/mL	Feline IL-2 Biotinylated Antibody (Catalog # BAF1890)
Standard		Recombinant Feline IL-2 (Cys146Ser) (Catalog # 1890-FL)
Neutralization	Measured by its ability to neutralize IL-2-induced proliferation in the CTLL-2 mouse cytotoxic T cell line. Gearing, A. J. H. and C. B. Bird (1987) in Lymphokines and Interferons, A Practical Approach. Clemens, M. J. *et al.* (eds): IRL Press. 276. The Neutralization Dose (ND_{50}) is typically 0.03-0.15 µg/mL in the presence of 0.2 ng/mL Recombinant Feline IL-2 (Cys146Ser).	

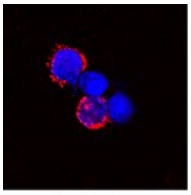
DATA

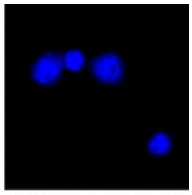
Neutralization



Cell Proliferation Induced by IL-2 and Neutralization by Feline IL-2 Antibody. Recombinant Feline IL-2 (Cys146Ser) (Catalog # 1890-FL) induces cell proliferation in the CTLL-2 mouse cytotoxic T cell line in a dose-dependent manner (orange line), as measured by Resazurin (Catalog # AR002). Proliferation elicited by Recombinant Feline IL-2 (Cys146Ser) (0.2 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Feline IL-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1890). The ND_{50} is typically 0.03-0.15 µg/mL.

Immunocytochemistry


Treated


Untreated (control)

IL-2 in Feline PBMCs. IL-2 was detected in immersion fixed feline peripheral blood mononuclear cells (PBMCs) stimulated with PMA and calcium ionomycin using Goat Anti-Feline IL-2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1890) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) 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-2 (IL-2) is a secreted, single chain α-helical polypeptide that has potent stimulatory activity for antigen-activated T cells. The feline IL-2 gene encodes a 154 amino acid (aa) precursor protein with a 20 aa signal peptide plus a 134 aa mature segment. There are suggestions that the mature protein may be O-glycosylated. At the aa sequence level, mature feline IL-2 is 78%, 82%, 60%, 64%, 62%, 75%, 62%, and 76% identical to mature human, canine, mouse, rat, cotton rat, porcine, goat, and equine IL-2, respectively. Mammalian cells known to express IL-2 include $CD4^+$ and $CD8^+$ T cells, visceral smooth muscle cells, eosinophils, γδ T cells, B cells and dendritic cells. The biological activity of IL-2 is mediated by IL-2 receptor complexes consisting of three distinct subunits (α, β, γ) in two combinations. The high-affinity signaling IL-2 receptor complex is a heterotrimer of the IL-2 receptor α, β, γ subunits. The intermediate signaling complex is a heterodimer of the IL-2 Rβ and γ subunits. The non-ligand binding γ subunit, referred to as the common γ subunit (γ_c), is also a subunit of the receptor complexes of IL-4, IL-7, IL-9 and IL-15. Functionally, IL-2 is best known for its autocrine and paracrine activity on T cells. On naïve $CD8^+$ T cells, high IL-2 levels can induce cell proliferation with a bias towards cytotoxicity. In the presence of low levels of IL-2, $CD8^+$ T cells preferentially undergo apoptosis with a bias towards cytokine secretion. IL-2 also seems to play a central role in the expansion and maintenance of $CD4^+$ $CD25^+$ regulatory T cells. This indicates IL-2 may be a key cytokine in the natural suppression of autoimmunity (1-9).

References:

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