Canine IL-1β/IL-1F2 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3747

DESCRIPTION

Species Reactivity	Canine
Specificity	Detects canine IL-1β in direct ELISAs and Western blots. In direct ELISAs, approximately 40% cross-reactivity with recombinant feline IL-1β is observed, less than 10% cross-reactivity with recombinant human IL-1β, recombinant rhesus macaque IL-1β, recombinant equine IL-1β, and recombinant porcine IL-1β is observed, less than 5% cross-reactivity with recombinant mouse (rm) IL-1β, recombinant rat IL-1β, and recombinant cotton rat (rcr) IL-1β is observed, and less than 1% cross-reactivity with rcrIL-1α, rmIL-1ra, and recombinant canine IL-18 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant canine IL-1β/IL-1F2 Ala114-Ser265 Accession # ABB73214
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.

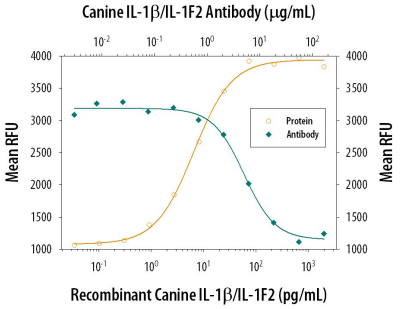
APPLICATIONS

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 Canine IL−1β/IL−1F2 (Catalog # 3747-CL)
Intracellular Staining by Flow Cytometry	2.5 µg/10^6 cells	Canine peripheral blood mononuclear cells treated with LPS, fixed with paraformaldehyde, and permeabilized with saponin
Neutralization	Measured by its ability to neutralize IL−1β/IL−1F2-induced proliferation in the D10.G4.1 mouse helper T cell line. Symons, J.A. *et al.* (1987) in Lymphokines and Interferons, a Practical Approach. Clemens, M.J. *et al.* (eds): IRL Press. 272. The Neutralization Dose (ND_{50}) is typically 2-10 µg/mL in the presence of 20 pg/mL Recombinant Canine IL−1β/IL−1F2 and 1.25 µg/mL concanavalin A.	

DATA

Neutralization



Cell Proliferation Induced by IL-1β/IL-1F2 and Neutralization by Canine IL− 1β/IL− 1F2 Antibody.

Recombinant Canine IL-1β/IL-1F2 (Catalog # 3747-CL) stimulates proliferation in the the D10.G4.1 mouse helper T cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Canine IL-1β/IL-1F2 (20 pg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Canine IL-1β/IL-1F2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3747). The ND_{50} is typically 2−10 µg/mL in the presence of concanavalin A (1.25 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

IL-1 is a name that designates two pleiotropic cytokines, IL-1α (IL-1F1) and IL-1β (IL-1F2), which are the products of distinct genes. IL-1α and IL-1β are structurally related polypeptides that share approximately 22% amino acid (aa) identity in dog. Both proteins are produced by a wide variety of cells in response to inflammatory agents, infections, or microbial endotoxins. While IL-1α and IL-1β are regulated independently, they bind to the same receptor and exert identical biological effects. IL-1 RI binds directly to IL-1α or IL-1β and then associates with IL-1 R accessory protein (IL-1 R3/IL-1 R AcP) to form a high-affinity receptor complex that is competent for signal transduction. IL-1 RII has high affinity for IL-1β but functions as a decoy receptor and negative regulator of IL-1β activity. IL-1ra functions as a competitive antagonist by preventing IL-1α and IL-1β from interacting with IL-1 RI (1 - 4). The canine IL-1β cDNA encodes a 266 aa precursor. A 114 aa propeptide is cleaved intracellularly by the cysteine protease IL-1β-converting enzyme (Caspase-1/ICE) to generate the active cytokine (5, 6). The 17 kDa mature canine IL-1β shares 68-78% aa sequence identity with cotton rat, equine, feline, human, mouse, porcine, rat, and rhesus macaque IL-1β.

References:

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4. Isoda, K. and F. Ohsuzu (2006) J. Atheroscler. Thromb. **13**:21.
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