

DESCRIPTION

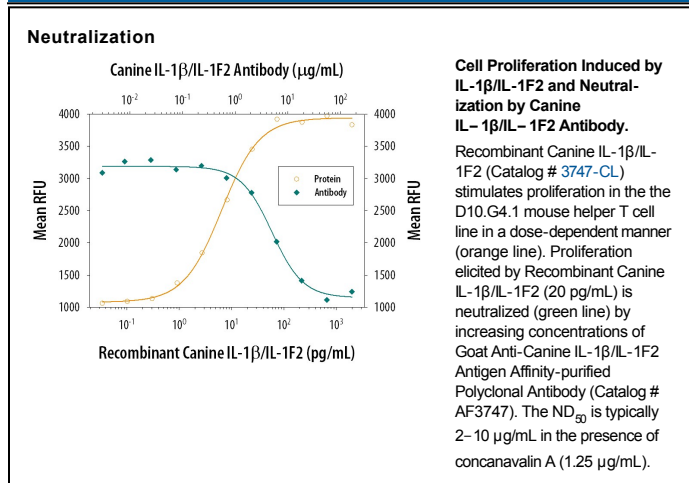
Species Reactivity	Canine
Specificity	Detects canine IL-1 β in direct ELISAs and Western blots. In direct ELISAs, approximately 40% cross-reactivity with recombinant feline IL-1 β is observed, less than 10% cross-reactivity with recombinant human IL-1 β , recombinant rhesus macaque IL-1 β , recombinant equine IL-1 β , and recombinant porcine IL-1 β is observed, less than 5% cross-reactivity with recombinant mouse (rm) IL-1 β , recombinant rat IL-1 β , and recombinant cotton rat (rcr) IL-1 β is observed, and less than 1% cross-reactivity with rcrIL-1 α , rmIL-1 α , and recombinant canine IL-18 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant canine IL-1 β /IL-1F2 Ala114-Ser265 Accession # ABB73214
Endotoxin Level	<0.10 EU per 1 μ g of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μ m 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 μ g/mL	Recombinant Canine IL-1 β /IL-1F2 (Catalog # 3747-CL)
Intracellular Staining by Flow Cytometry	2.5 μ g/10 ⁶ cells	Canine peripheral blood mononuclear cells treated with LPS, fixed with paraformaldehyde, and permeabilized with saponin
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Neutralization	Measured by its ability to neutralize IL-1 β /IL-1F2-induced proliferation in the D10.G4.1 mouse helper T cell line. Symons, J.A. <i>et al.</i> (1987) in <i>Lymphokines and Interferons, a Practical Approach</i> . Clemens, M.J. <i>et al.</i> (eds): IRL Press. 272. The Neutralization Dose (ND ₅₀) is typically 2-10 μ g/mL in the presence of 20 μ g/mL Recombinant Canine IL-1 β /IL-1F2 and 1.25 μ g/mL concanavalin A.	

DATA



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. <ul style="list-style-type: none"> • 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.

BACKGROUND

IL-1 is a name that designates two pleiotropic cytokines, IL-1 α (IL-1F1) and IL-1 β (IL-1F2), which are the products of distinct genes. IL-1 α and IL-1 β 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-1 α and IL-1 β are regulated independently, they bind to the same receptor and exert identical biological effects. IL-1 RI binds directly to IL-1 α or IL-1 β 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-1 β but functions as a decoy receptor and negative regulator of IL-1 β activity. IL-1ra functions as a competitive antagonist by preventing IL-1 α and IL-1 β from interacting with IL-1 RI (1 - 4). The canine IL-1 β cDNA encodes a 266 aa precursor. A 114 aa propeptide is cleaved intracellularly by the cysteine protease IL-1 β -converting enzyme (Caspase-1/ICE) to generate the active cytokine (5, 6). The 17 kDa mature canine IL-1 β shares 68-78% aa sequence identity with cotton rat, equine, feline, human, mouse, porcine, rat, and rhesus macaque IL-1 β .

References:

1. Allan, S.M. *et al.* (2005) *Nat. Rev. Immunol.* **5**:629.
2. Boraschi, D. and A. Tagliabue (2006) *Vitam. Horm.* **74**:229.
3. Kornman, K.S. (2006) *Am. J. Clin. Nutr.* **83**:475S.
4. Isoda, K. and F. Ohsuzu (2006) *J. Atheroscler. Thromb.* **13**:21.
5. Accession # NP_001033060.
6. Martinon, F. and J. Tschopp (2007) *Cell Death Differ.* **14**:10.