Equine IL-1β/IL-1F2 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3340

DESCRIPTION

Species Reactivity	Equine
Specificity	Detects equine IL-1β/IL-1F2 in direct ELISAs and Western blots. In direct ELISAs, approximately 100% cross-reactivity with recombinant canine IL-1β, recombinant feline IL-1β, and recombinant human IL-1β is observed, 40% cross-reactivity with recombinant porcine IL-1β, recombinant mouse IL-1β, and recombinant rat IL-1β is observed, and 10% cross-reactivity with recombinant cotton rat IL-1β and is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant equine IL−1β/IL−1F2 Ala116-Ala268 (Glu179Gly, Met188Thr, Thr194Ile, Ser245Lys, Arg256Gln) Accession # Q28386
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.

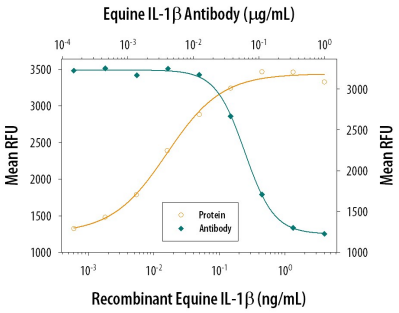
APPLICATIONS

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 Equine IL−1β/IL−1F2 (Catalog # 3340-EL)
Immunocytochemistry	5-15 µg/mL	Immersion fixed equine peripheral blood mononuclear cells
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 0.05-0.25 µg/mL in the presence of 100 pg/mL Recombinant Equine IL−1β/IL−1F2 and 1.25 µg/mL concanavalin A.	

DATA

Neutralization



Cell Proliferation Induced by IL-1β/IL-1F2 and Neutralization by Equine IL-1β/IL-1F2 Antibody.
Recombinant Equine IL-1β/IL-1F2 (Catalog # 3340-EL) stimulates proliferation in the D10.G4.1 mouse helper T cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Equine IL-1β/IL-1F2 (100 pg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Equine IL-1β/IL-1F2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3340). The ND_{50} is typically 0.05-0.25 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 27% amino acid (aa) identity in equine. 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 equine IL-1β cDNA encodes a 268 aa precursor. A 115 aa propeptide is cleaved intracellularly by the cysteine protease IL-1β-converting enzyme (Caspase-1/ICE) to generate the active cytokine (5-7). An alternatively spliced form of equine IL-1β has a deletion which encompasses the Caspase-1 cleavage site and potentially results in a membrane-associated form (8). The 17 kDa mature equine IL-1β shares 65%-75% aa sequence identity with canine, cotton rat, feline, human, mouse, porcine, rat, and rhesus IL-1β.

References:

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