

DESCRIPTION

Species Reactivity	Equine
Specificity	Detects equine IL-1 β /IL-1F2 in direct ELISAs. In direct ELISAs, 100% cross-reactivity with recombinant canine, guinea pig, mouse, rat, and porcine IL-1 beta is observed and 10-50% cross-reactivity with recombinant feline, human, rabbit, and rhesus IL-1 beta is observed. Approximately 20% cross-reactivity with recombinant mouse (rm) IL-36 alpha and no cross-reactivity with recombinant human (rh) IL-36 alpha, rhIL-36 gamma, rhIL-1F10, rhIL-36Ra, rmlL-1Ra, rmlL-18, or rmlL-36 beta is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 608714
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant equine IL-1 β /IL-1F2 Ala116-Ala268 Accession # Q28286
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
Immunocytochemistry	8-25 μ g/mL	Immersion fixed equine peripheral blood mononuclear cells (PBMCs)

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
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 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-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 equine IL-1 β cDNA encodes a 268 aa precursor. A 115 aa propeptide is cleaved intracellularly by the cysteine protease IL-1 β -converting enzyme (Caspase-1/ICE) to generate the active cytokine (5-7). An alternatively spliced form of equine IL-1 β 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-1 β shares 65%-75% aa sequence identity with canine, cotton rat, feline, human, mouse, porcine, rat, and rhesus IL-1 β .

References:

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8. Kato, H. *et al.* (1996) *Gene* **177**:11.