

## DESCRIPTION

<b>Species Reactivity</b>	Equine
<b>Specificity</b>	Detects equine IL-1 $\beta$ /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, rmIL-1Ra, rmIL-18, or rmIL-36 beta is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 608714
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant equine IL-1 $\beta$ /IL-1F2 Ala116-Ala268 Accession # Q28286
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m filtered solution in PBS.

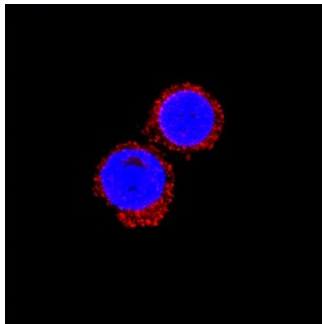
## APPLICATIONS

**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
<b>Immunocytochemistry</b>	20-30 $\mu$ g/mL	See Below

## DATA

### Immunocytochemistry



**IL-1 $\beta$ /IL-1F2 in Equine PBMCs.** IL-1 $\beta$ /IL-1F2 was detected in immersion fixed equine peripheral blood mononuclear cells (PBMCs) using Mouse Anti-Equine IL-1 $\beta$ /IL-1F2 Monoclonal Antibody (Catalog # MAB33401) at 25  $\mu$ g/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) 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

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.5 mg/mL.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

IL-1 is a name that designates two pleiotropic cytokines, IL-1 $\alpha$  (IL-1F1) and IL-1 $\beta$  (IL-1F2), which are the products of distinct genes. IL-1 $\alpha$  and IL-1 $\beta$  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 $\alpha$  and IL-1 $\beta$  are regulated independently, they bind to the same receptor and exert identical biological effects. IL-1 RI binds directly to IL-1 $\alpha$  or IL-1 $\beta$  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 $\beta$  but functions as a decoy receptor and negative regulator of IL-1 $\beta$  activity. IL-1ra functions as a competitive antagonist by preventing IL-1 $\alpha$  and IL-1 $\beta$  from interacting with IL-1 RI (1-4). The equine IL-1 $\beta$  cDNA encodes a 268 aa precursor. A 115 aa propeptide is cleaved intracellularly by the cysteine protease IL-1 $\beta$ -converting enzyme (Caspase-1/ICE) to generate the active cytokine (5-7). An alternatively spliced form of equine IL-1 $\beta$  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 $\beta$  shares 65%-75% aa sequence identity with canine, cotton rat, feline, human, mouse, porcine, rat, and rhesus IL-1 $\beta$ .

## References:

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5. Kato, H. *et al.* (1997) *Vet. Immunol. Immunopathol.* **48**:221.
6. Howard, R.D. *et al.* (1998) *Am. J. Vet. Res.* **59**:704.
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8. Kato, H. *et al.* (1996) *Gene* **177**:11.