

## DESCRIPTION

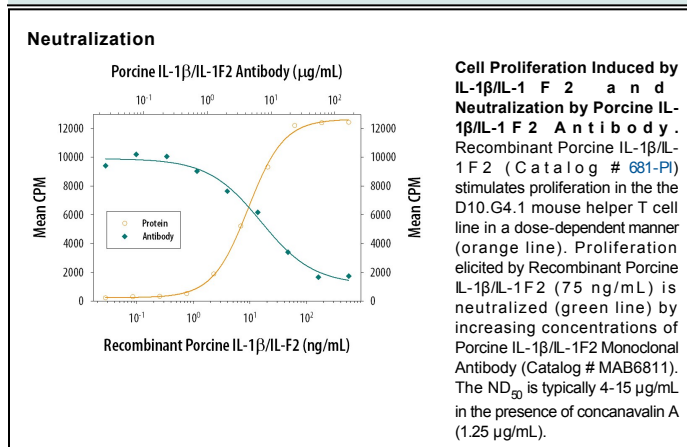
<b>Species Reactivity</b>	Porcine
<b>Specificity</b>	Detects porcine IL-1 $\beta$ in direct ELISAs and Western blots. In Western blots, 100% cross-reactivity with recombinant human (rh) IL-1 $\beta$ and recombinant mouse (rm) IL-1 $\beta$ is observed and no cross-reactivity with rhIL-1 $\alpha$ , rmIL-1 $\alpha$ , recombinant porcine IL-1 $\alpha$ or recombinant rat IL-1 $\alpha$ is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 77724
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant porcine IL-1 $\beta$ /IL-1F2 Ala115-Pro267 Accession # P26889.
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu$ g of the antibody by the LAL method.
<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>Western Blot</b>	1 $\mu$ g/mL	Recombinant Porcine IL-1 $\beta$ /IL-1F2 (Catalog # 681-PI)
<b>Porcine IL-1<math>\beta</math>/IL-1F2 Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 $\mu$ g/mL	Porcine IL-1 $\beta$ /IL-1F2 Antibody (Catalog # MAB6811)
<b>ELISA Detection</b>	0.1-0.4 $\mu$ g/mL	Porcine IL-1 $\beta$ /IL-1F2 Biotinylated Antibody (Catalog # BAF681)
<b>Standard</b>		Recombinant Porcine IL-1 $\beta$ /IL-1F2 (Catalog # 681-PI)
<b>Neutralization</b>	Measured by its ability to neutralize IL-1 $\beta$ /IL-1F2-induced proliferation in the D10.G4.1 mouse helper T cell line. The Neutralization Dose (ND <sub>50</sub> ) is typically 4-15 $\mu$ g/mL in the presence of 75 ng/mL Recombinant Porcine IL-1 $\beta$ /IL-1F2 and 1.25 $\mu$ g/mL concanavalin A.	

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<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 porcine. 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 porcine IL-1 $\beta$  cDNA encodes a 267 aa precursor. A 114 aa propeptide is cleaved intracellularly by the cysteine protease IL-1 $\beta$ -converting enzyme (Caspase-1/ICE) to generate the active cytokine (5, 6). The 17 kDa mature porcine IL-1 $\beta$  shares 63-70% aa sequence identity with canine, cotton rat, equine, feline, human, mouse, rat, and rhesus macaque IL-1 $\beta$ .

## 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. Huether, M. *et al.* (1993) *Gene* **129**:285.
6. Martinon, F. and J. Tschopp (2007) *Cell Death Differ.* **14**:10.