

## DESCRIPTION

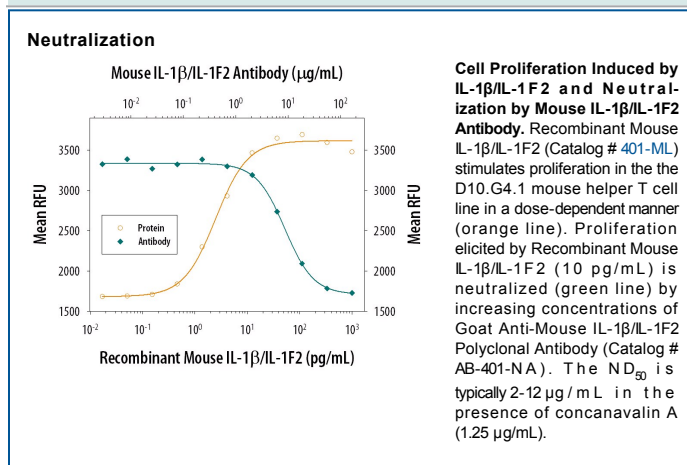
<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse IL-1 $\beta$ /IL-1F2 in direct ELISAs and Western blots. In direct ELISAs, approximately 40% cross-reactivity with recombinant cotton rat IL-1 $\beta$ and recombinant rhesus monkey IL-1 $\beta$ is observed, approximately 15% cross-reactivity with recombinant rat IL-1 $\beta$ and recombinant rabbit IL-1 $\beta$ is observed, and less than 10% cross-reactivity with recombinant canine IL-1 $\beta$ , recombinant equine IL-1 $\beta$ , recombinant guinea pig IL-1 $\beta$ , recombinant porcine IL-1 $\beta$ , recombinant feline IL-1 $\beta$ , and recombinant human IL-1 $\beta$ is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Protein A or G purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant mouse IL-1 $\beta$ /IL-1F2 Val118-Ser269 Accession # P10749
<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.

## 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 $\mu$ g/mL	Recombinant Mouse IL-1 $\beta$ /IL-1F2 (Catalog # 401-ML)
<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 [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 <sub>50</sub> ) is typically 2-12 $\mu$ g/mL in the presence of 10 pg/mL Recombinant Mouse IL-1 $\beta$ /IL-1F2 and 1.25 $\mu$ g/mL concanavalin A.

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 1 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.
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <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 17% amino acid (aa) identity in mouse. 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 mouse IL-1 $\beta$  cDNA encodes a 269 aa precursor. A 117 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 mouse IL-1 $\beta$  shares 90% aa sequence identity with cotton rat and rat and 65-78% identity with canine, equine, feline, human, porcine, and rhesus macaque IL-1 $\beta$ .

## References:

1. Allan, S.M. *et al.* (2005) *Nat. Rev. Immunol.* **5**:629.
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4. Isoda, K. and F. Ohsuzu (2006) *J. Atheroscler. Thromb.* **13**:21.
5. Gray, P.W. *et al.* (1986) *J. Immunol.* **137**:3644.
6. Martinon, F. and J. Tschopp (2007) *Cell Death Differ.* **14**:10.