DESCRIPTION

Species Reactivity: Mouse

Specificity: Detects mouse IL-1β/IL-1F2 in direct ELISAs and Western blots. In direct ELISAs, approximately 40% cross-reactivity with recombinant cotton rat IL-1β and recombinant rhesus monkey IL-1β is observed, approximately 15% cross-reactivity with recombinant rat IL-1β and recombinant rabbit IL-1β is observed, and less than 10% cross-reactivity with recombinant canine IL-1β, recombinant equine IL-1β, recombinant guinea pig IL-1β, recombinant porcine IL-1β, recombinant feline IL-1β, and recombinant human IL-1β is observed.

Source: Polyclonal Goat IgG

Purification: Protein A or G purified

Immunogen: E. coli-derived recombinant mouse IL-1β/IL-1F2 Val118-Ser269

Accession #: P10749

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.

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

<table>
<thead>
<tr>
<th>Sample</th>
<th>Western Blot</th>
<th>Simple Western</th>
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<tbody>
<tr>
<td>1 µg/mL</td>
<td>See Below</td>
<td>50 µg/mL</td>
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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 (ND50) is typically 2-12 µg/mL in the presence of 10 pg/mL Recombinant Mouse IL-1β/IL-1F2 and 1.25 µg/mL concanavalin A.

DATA

Cell Proliferation Induced by IL-1β/IL-1F2 and Neutralization by Mouse IL-1β/IL-1F2 Antibody. Recombinant Mouse IL-1β/IL-1F2 (Catalog # 401-ML) stimulates proliferation in the the D10.G4.1 mouse helper T cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse IL-1β/IL-1F2 (10 pg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse IL-1β/IL-1F2 Polyclonal Antibody (Catalog # AB-401-NA). The ND50 is typically 2-12 µg/mL in the presence of concanavalin A (1.25 µg/mL).

Detection of Human and Mouse IL-1β/IL-1F2 by Western Blot. Western blot shows lysates of THP-1 human acute monocytic leukemia cell line untreated (-) or treated (+) with 200 nM PMA for 24 hours and 10 µg/mL LPS for 4 hours and RAW 264.7 mouse monocytic/macrophage cell line untreated (-) or treated (+) with 10 µg/mL LPS for 24 hours. PVDF membrane was probed with 1 µg/mL of Goat Anti-Mouse IL-1β/IL-1F2 Polyclonal Antibody (Catalog # AB-401-NA) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for IL-1β/IL-1F2 at approximately 35 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Detection of Mouse IL-1β/IL-1F2 by Simple Western®. Simple Western lane view shows lysates of RAW 264.7 mouse monocytic/macrophage cell line untreated (-) or treated (+) with 10 µg/mL LPS for 24 hours, loaded at 0.5 mg/mL. A specific band was detected for IL-1β/IL-1F2 at approximately 40 kDa (as indicated) using 50 µg/mL of Goat Anti-Mouse IL-1β/IL-1F2 Polyclonal Antibody (Catalog # AB-401-NA). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.
**PREPARATION AND STORAGE**

**Reconstitution**
Reconstitute at 1 mg/mL in sterile PBS.

**Shipping**
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**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.

**BACKGROUND**

IL-1 is a name that designates two pleiotropic cytokines, IL-1α (IL-1F1) and IL-1β (IL-1F2, IL1B), which are the products of distinct genes. IL-1α and IL-1β 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-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. Intracellular cleavage of the IL-1 beta precursor by Caspase-1/ICE is a key step in the inflammatory response. The 17 kDa molecular weight mature mouse IL-1β shares 90% aa sequence identity with cotton rat and rat and 67%-78% with canine, equine, feline, human, porcine, and rhesus macaque IL-1β. IL-1β functions in a central role in immune and inflammatory responses, bone remodeling, fever, carbohydrate metabolism, and GH/IGF-I physiology. IL-1 beta dysregulation is implicated in many pathological conditions including sepsis, rheumatoid arthritis, inflammatory bowel disease, acute and chronic myelogenous leukemia, insulin-dependent diabetes mellitus, atherosclerosis, neuronal injury, and aging-related diseases.