DESCRIPTION
Species Reactivity Human
Specificity Detects human IL-1β/IL-1F2 in ELISAs and Western blots. In direct ELISAs, 100% cross-reactivity with recombinant rhesus monkey is observed, and approximately 50% cross-reactivity with recombinant mouse IL-1β, recombinant rat IL-1β, recombinant canine IL-1β, recombinant equine IL-1β, recombinant feline IL-1β, and approximately 20% cross-reactivity with recombinant porcine IL-1β and recombinant cotton rat IL-1β is observed.
Source Polyclonal Goat IgG
Purification Protein A or G purified
Immunogen E. coli-derived recombinant human IL-1β/IL-1F2
Ail117-Ser269
Accession # NP_000567
Endotoxin Level <0.10 EU per 1 µg of the antibody by the LAL method.
Formulation Lyophilized from a 0.2 µg/mL 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
Sample
Western Blot 1 µg/mL See Below
Immunocytochemistry 5-15 µg/mL See Below
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 0.05-0.1 µg/mL in the presence of 50 µg/mL Recombinant Human IL-1β/IL-1F2 and 1.25 µg/mL concanavalin A.

DATA
Western Blot
Detection of Human and Mouse IL-1β/IL-1F2 by Western Blot. Western blot shows lattes of THP-1 human acute monocytic leukemia cell line untreated (−) or treated (+) with PMA and LPS and RAW 264.7 mouse monocyte/macrophage cell line untreated (−) or treated (+) with LPS. P/VDF membrane was probed with 1 µg/ml of Goat Anti-Human IL-1β/IL-1F2 Polyclonal Antibody (Catalog # AB-201-NA) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # NL001). 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.

Immunocytochemistry
IL-1β/IL-1F2 in Human Peripheral Blood Mononuclear Cells. IL-1β/IL-1F2 was detected in immersion fixed human peripheral blood mononuclear cells using Goat Anti-Human IL-1β/IL-1F2 Polyclonal Antibody (Catalog # AB-201-NA) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to cytoplasmic. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Cell Proliferation Induced by IL-1β/IL-1F2 and Neutralization by Human IL-1β/IL-1F2 Antibody. Recombinant Human IL-1β/IL-1F2 (Catalog # 201-LB) stimulates proliferation in the THP-1 human helper T cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human IL-1β/IL-1F2 (50 pg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-1β/IL-1F2 Polyclonal Antibody (Catalog # AB-201-NA). The ND50 is typically 0.05-0.1 µg/mL in the presence of concanavalin A (1.25 µg/mL).

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**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), which are the products of distinct genes. IL-1α and IL-1β are structurally related polypeptides that share approximately 21% amino acid (aa) identity in human. 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-1RI 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-1RII 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-1RI (1-4). The human IL-1β cDNA encodes a 269 aa precursor. A 116 aa propeptide is cleaved intracellularly by the cysteine protease IL-1β-converting enzyme (Caspase-1/ICE) to generate the active cytokine (5-7). The 17 kDa mature human IL-1β shares 96% aa sequence identity with rhesus and 67-78% with canine, cotton rat, equine, feline, mouse, porcine, and rat IL-1β.

**References:**


**PRODUCT SPECIFIC NOTICES**

This product is covered by one or more of the following U.S. patents: 4,766,069, 5,510,462, 5,681,933, 4,762,914, 5,474,899, 5,789,185, 5,484,887, 5,122,459, 5,001,057, 5,077,219, 5,286,847.