Human IL-1β/IL-1F2 Antibody
Recombinant Monoclonal Mouse IgG, Clone # 2805R
Catalog Number: MAB601R

DESCRIPTION
Species Reactivity: Human
Specificity: Detects human IL-1β/IL-1F2 in sandwich ELISAs and Western blots. In sandwich ELISAs, less than 4% cross-reactivity with recombinant rat (r) IL-1β and less than 0.1% with recombinant porcine (p) IL-1β, recombinant human IL-1α, rIL-1α, mIL-1β, recombinant mouse (m) IL-1α, and mIL-1β is observed.
Source: Recombinant Monoclonal Mouse IgG, Clone # 2805R
Purification: Protein A or G purified from cell culture supernatant
Immunogen: E. coli-derived recombinant human IL-1β/IL-1F2
Endotoxin Level: <0.10 EU per 1 μg of the antibody by the LAL method.
Formulation: Lyophilized from a 0.2 μl 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.

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Recommended Concentration</th>
<th>Sample</th>
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<tbody>
<tr>
<td>Western Blot</td>
<td>1 μg/mL</td>
<td>See Below</td>
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<tr>
<td>Immunocytochemistry</td>
<td>8-25 μg/mL</td>
<td>See Below</td>
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<tr>
<td>Simple Western</td>
<td>10 μg/mL</td>
<td>See Below</td>
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**Human IL-1β/IL-1F2 Sandwich Immunoassay**

- **ELISA Capture**: 2-8 μg/mL
  - Human IL-1β/IL-1F2 Antibody (Catalog # MAB601R)
- **ELISA Detection**: 0.1-0.4 μg/mL
  - Human IL-1β/IL-1F2 Biotinylated Antibody (Catalog # BA018)
- **Reagent**: Recombinant Human IL-1β/IL-1F2 (Catalog # 201-LB)

Neutralization: Measured by its ability to neutralize IL-1β/IL-1F2-induced proliferation in the D10.G4.1 mouse helper T cell line. The Neutralization Dose (ND50) is typically 50-200 ng/mL in the presence of 50 pg/mL Recombinant Human IL-1β/IL-1F2.

DATA

**Western Blot**

Detection of Human IL-1β/IL-1F2 by Western Blot: Western blot shows lysates of THP-1 human acute monocytic leukemia cell lines untreated (-) or treated (+) with 200 nM PMA for 24 hours and 10 μg/mL LPS for 3 hours. PVDF membrane was probed with 1 μg/mL of Mouse Anti-Human IL-1β/IL-1F2 Monoclonal Antibody (Catalog # MAB601R) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). Specific bands were detected for IL-1β/IL-1F2 at approximately 37 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**Immunocytochemistry**

IL-1β/IL-1F2 in Human PBMCs. IL-1β/IL-1F2 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) treated with 1 μg/mL LPS and 3 μM MPM24 for 24 hours using Mouse Anti-Human IL-1β/IL-1F2 Monoclonal Antibody (Catalog # MAB601R) at 10 μg/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.

**Neutralization**

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 the D10.G4.1 mouse helper T cell line in a dose-dependent manner (orange line) as measured by Resazurin (Catalog # AR026). Proliferation elicited by Recombinant Human IL-1β/IL-1F2 (50 pg/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human IL-1β/IL-1F2 Monoclonal Antibody (Catalog # MAB601R). The ND50 is typically 50-200 ng/mL.
**PREPARATION AND STORAGE**

**Reconstitution**  
Reconstitute at 0.5 mg/mL in sterile PBS.

**Shipping**  
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.*

**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-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 (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:**