

| DESCRIPTION               |   |
|---------------------------|---|
| <b>Species Reactivity</b> | Human   |
| <b>Specificity</b>        | Detects human IL-1 $\beta$ /IL-1F2 in Western blots. Shows less than 5% cross-reactivity with recombinant mouse (rm) IL-1 $\beta$ /IL-1F2 and recombinant porcine IL-1 $\beta$ /IL-1F2 and no cross-reactivity with recombinant rat (rr) IL-1 $\beta$ /IL-1F2, rmlL-1 $\alpha$ , recombinant human IL-1 $\alpha$ , rmlL-1 $\alpha$ , or rrlL-1 $\alpha$ . |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # 8516  |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant  |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human IL-1 $\beta$ /IL-1F2<br>Ala117-Ser269<br>Accession # P01584   |
| <b>Conjugate</b>          | Fluorescein<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm (FITC)  |
| <b>Formulation</b>        | Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.                                    |

| APPLICATIONS   |                                  |               |
|--|----------------------------------|---------------|
| <b>Please Note:</b> Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website. |                                  |               |
|  | <b>Recommended Concentration</b> | <b>Sample</b> |
| <b>Intracellular Staining by Flow Cytometry</b>  | 10 $\mu$ L/10 <sup>6</sup> cells | See Below     |

| DATA |  |
|------|--|
|      | <p><b>Intracellular Staining by Flow Cytometry</b></p> <p><b>Detection of IL-1<math>\beta</math>/IL-1F2 in Human Blood Monocytes by Flow Cytometry.</b> Human peripheral blood monocytes treated with LPS were stained with (A) Mouse Anti-Human IL-1<math>\beta</math>/IL-1F2 Fluorescein-conjugated Monoclonal Antibody (Catalog # IC201F) and Mouse Anti-Human CD14 PE-conjugated Monoclonal Antibody (Catalog # FAB3832P). Excess Recombinant Human IL-1<math>\beta</math>/IL-1F2 (Catalog # 201-LB) inhibits IC201F staining (B). Quadrant markers were set based on control antibody staining (Catalog # IC002F). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005). View our protocol for <a href="#">Staining Intracellular Molecules</a>.</p> |

| PREPARATION AND STORAGE        |  |
|--------------------------------|--|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.                                  |
| <b>Stability &amp; Storage</b> | <b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</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 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-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 human IL-1 $\beta$  cDNA encodes a 269 aa precursor. A 116 aa propeptide is cleaved intracellularly by the cysteine protease IL-1 $\beta$ -converting enzyme (Caspase-1/ICE) to generate the active cytokine (5-7). The 17 kDa mature human IL-1 $\beta$  shares 96% aa sequence identity with rhesus and 67-78% with canine, cotton rat, equine, feline, mouse, porcine, and rat IL-1 $\beta$ .

#### References:

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6. Auron, P.E. *et al.* (1984) *Proc. Natl. Acad. Sci. USA* **81**:7907.
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