

#### 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 $\beta$ and rIL-1 $\beta$ and no cross-reactivity with rrIL-1 $\beta$ , rmlL-1 $\alpha$ , rhIL-1ra, rmlL-1ra, or rIL-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 aa 117-269 Accession # P01584
<b>Conjugate</b>	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *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

**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
<b>Intracellular Staining by Flow Cytometry</b>	0.25-1 $\mu$ g/10 <sup>6</sup> cells	Human peripheral blood mononuclear cells treated with LPS, fixed with paraformaldehyde, and permeabilized with saponin

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