

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                                                      |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                                                |
| <b>Specificity</b>        | Detects human IL-1 $\alpha$ /IL-1F1 in ELISAs and Western blots. In sandwich immunoassays, less than 0.05% cross-reactivity with recombinant mouse IL-1 $\alpha$ , recombinant porcine IL-1 $\alpha$ , recombinant rat IL-1 $\alpha$ , recombinant human (rh) IL-1 sRI, and rhIL-1 sRII is observed. |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                                                  |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                                            |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human IL-1 $\alpha$ /IL-1F1 (R&D Systems, Catalog # 200-LA)<br>Ser113-Ala271<br>Accession # Q53QF9                                                                                                                                                               |
| <b>Formulation</b>        | Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.                                                                                                                                                                      |

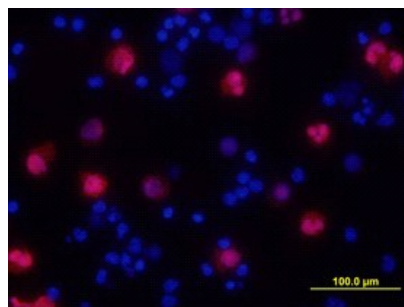
## APPLICATIONS

**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.

|                                                                  | <b>Recommended Concentration</b> | <b>Sample</b>                                                        |
|------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------|
| <b>Western Blot</b>                                              | 0.1 $\mu$ g/mL                   | Recombinant Human IL-1 $\alpha$ /IL-1F1 (Catalog # 200-LA)           |
| <b>Immunocytochemistry</b>                                       | 5-15 $\mu$ g/mL                  | See Below                                                            |
| <b>Human IL-1<math>\alpha</math>/IL-1F1 Sandwich Immunoassay</b> |                                  | <b>Reagent</b>                                                       |
| <b>ELISA Capture</b>                                             | 2-8 $\mu$ g/mL                   | Human IL-1 $\alpha$ /IL-1F1 Antibody (Catalog # MAB200)              |
| <b>ELISA Capture</b>                                             | 2-8 $\mu$ g/mL                   | Human IL-1 $\alpha$ /IL-1F1 Antibody (Catalog # MAB200R)             |
| <b>ELISA Detection</b>                                           | 0.1-0.4 $\mu$ g/mL               | Human IL-1 $\alpha$ /IL-1F1 Biotinylated Antibody (Catalog # BAF200) |
| <b>Standard</b>                                                  |                                  | Recombinant Human IL-1 $\alpha$ /IL-1F1 (Catalog # 200-LA)           |

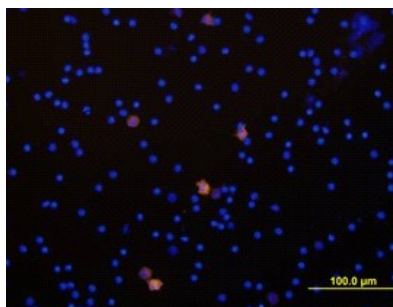
## DATA

### Immunocytochemistry



**IL-1 $\alpha$ /IL-1F1 in Human PBMCs.** IL-1 $\alpha$ /IL-1F1 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) stimulated with LPS and monensin using Human IL-1 $\alpha$ /IL-1F1 Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF200) at 10  $\mu$ g/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). View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

### Immunocytochemistry



**IL-1 $\alpha$ /IL-1F1 in Human PBMCs.** IL-1 $\alpha$ /IL-1F1 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) stimulated with LPS and monensin using Human IL-1 $\alpha$ /IL-1F1 Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF200) at 10  $\mu$ g/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Streptavidin (yellow; Catalog # NL999) and counterstained with DAPI (blue). View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

## PREPARATION AND STORAGE

|                                |                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reconstitution</b>          | Reconstitute at 0.2 mg/mL in sterile PBS.                                                                                                                                                                                                                                                                                                                       |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.                                                                                                                                                                                                                                         |
| <b>Stability &amp; Storage</b> | <p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

## BACKGROUND

Interleukin 1 (IL-1) is a name that designates two proteins, IL-1 $\alpha$  and IL-1 $\beta$ , which are the products of distinct genes, but which show approximately 25% amino acid sequence identity and which recognize the same cell surface receptors. Although IL-1 production is generally considered to be a consequence of inflammation, recent evidence suggests that IL-1 is also temporarily upregulated during bone formation and the menstrual cycle and can be induced in response to nervous system stimulation. In response to classic stimuli produced by inflammatory agents, infections or microbial endotoxins, a dramatic increase in the production of IL-1 by macrophages and various other cells is seen. Cells in particular known to produce IL-1 include osteoblasts, monocytes, macrophages, keratinocytes, Kupffer cells, hepatocytes, thymic and salivary gland epithelium, Schwann cells, fibroblasts, and glia (oligodendroglia, astrocytes, and microglia).

IL-1 $\alpha$  and IL-1 $\beta$  are both synthesized as 31 kDa precursors that are subsequently cleaved into proteins with molecular weights of approximately 17,000 Da. Neither precursor contains a typical hydrophobic signal peptide sequence and most of the precursor form of IL-1 $\alpha$  remains in the cytosol of cells, although there is evidence for a membrane-bound form of the precursor form of IL-1 $\alpha$ . The IL-1 $\alpha$  precursor reportedly shows full biological activity in the EL-4 assay. Among various species, the amino acid sequence of mature IL-1 $\alpha$  is conserved 60% to 70% and human IL-1 has been found to be biologically active on murine cell lines. Both forms of IL-1 bind to the same receptors, designated type I and type II. Evidence suggests that only the type I receptor is capable of signal transduction and that the type II receptor may function as a decoy, binding IL-1 and thus preventing binding of IL-1 to the type I receptor.