

## DESCRIPTION

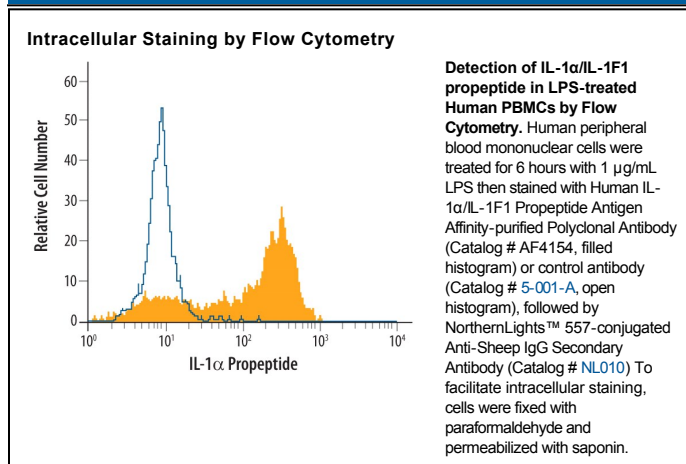
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-1 $\alpha$ /IL-1F1 propeptide in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 1% cross-reactivity with mature recombinant human IL-1 $\alpha$ /IL-1F1 is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human IL-1 $\alpha$ /IL-1F1 Ala2-Arg112 Accession # P01583
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m filtered solution in PBS.

## 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>Western Blot</b>	0.1 $\mu$ g/mL	Recombinant Human IL-1 $\alpha$ /IL-1F1 (Catalog # 200-LA)
<b>Intracellular Staining by Flow Cytometry</b>	2.5 $\mu$ g/10 <sup>6</sup> cells	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## DATA



## 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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <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.