

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-1 β /IL-1F2 in Western blots. Shows less than 5% cross-reactivity with recombinant mouse (rm) IL-1 β and rIL-1 β and no cross-reactivity with rIL-1 β , rIL-1 α , rhIL-1ra, rIL-1ra, or rIL-1 α .
Source	Monoclonal Mouse IgG ₁ Clone # 8516
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human IL-1 β /IL-1F2 aa 117-269 Accession # P01584
Endotoxin Level	<0.10 EU per 1 μ g of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μ m filtered solution in PBS.

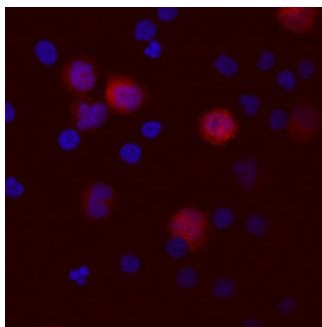
APPLICATIONS

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
Western Blot	1 μ g/mL	Recombinant Human IL-1 β /IL-1F2 (Catalog # 201-LB)
Immunocytochemistry	8-25 μ g/mL	See Below
Intracellular Staining by Flow Cytometry	2.5 μ g/10 ⁶ cells	Human peripheral blood mononuclear cells treated with LPS, fixed with paraformaldehyde, and permeabilized with saponin
Neutralization	Measured by its ability to neutralize IL-1 β /IL-1F2-induced proliferation in the D10.G4.1 mouse helper T cell line. Symons, J.A. <i>et al.</i> (1987) in <i>Lymphokines and Interferons, a Practical Approach</i> . Clemens, M.J. <i>et al.</i> (eds): IRL Press. 272. The Neutralization Dose (ND ₅₀) is typically 0.001-0.003 μ g/mL in the presence of 50 μ g/mL Recombinant Human IL-1 β /IL-1F2 and 1.25 μ g/mL concanavalin A.	

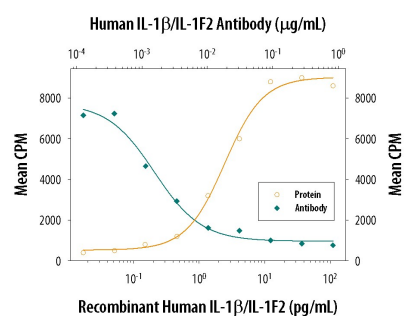
DATA

Immunocytochemistry



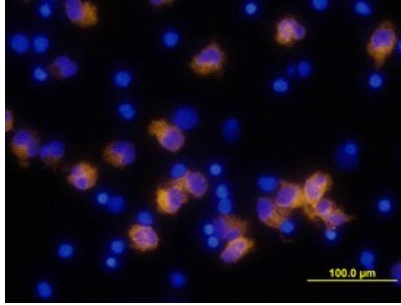
IL-1 β /IL-1F2 in Human PBMCs. IL-1 β /IL-1F2 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) using Human IL-1 β /IL-1F2 Monoclonal Antibody (Catalog # MAB201) at 10 μ g/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

Neutralization



Cell Proliferation Induced by IL-1 β /IL-1 F 2 and Neutralization by Human IL-1 β /IL-1 F 2 Antibody. Recombinant Human IL-1 β /IL-1 F 2 (Catalog # 201-LB) stimulates proliferation in the the D10.G4.1 mouse helper T cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human IL-1 β /IL-1F2 (50 μ g/mL) is neutralized (green line) by increasing concentrations of Human IL-1 β /IL-1F2 Monoclonal Antibody (Catalog # MAB201). The ND₅₀ is typically 0.001-0.003 μ g/mL in the presence of concanavalin A (1.25 μ g/mL).

Immunocytochemistry



IL-1 β /IL-1F2 in Human PBMCs. IL-1 β /IL-1F2 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) treated with LPS and monensin using Human IL-1 β /IL-1F2 Monoclonal Antibody (Catalog # MAB201) at 10 μ g/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (yellow; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

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. <ul style="list-style-type: none"> • 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-1 α (IL-1F1) and IL-1 β (IL-1F2), which are the products of distinct genes. IL-1 α and IL-1 β 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 α and IL-1 β are regulated independently, they bind to the same receptor and exert identical biological effects. IL-1 RI binds directly to IL-1 α or IL-1 β 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 β but functions as a decoy receptor and negative regulator of IL-1 β activity. IL-1ra functions as a competitive antagonist by preventing IL-1 α and IL-1 β from interacting with IL-1 RI (1 - 4). The human IL-1 β cDNA encodes a 269 aa precursor. A 116 aa propeptide is cleaved intracellularly by the cysteine protease IL-1 β -converting enzyme (Caspase-1/ICE) to generate the active cytokine (5-7). The 17 kDa mature human IL-1 β shares 96% aa sequence identity with rhesus and 67-78% with canine, cotton rat, equine, feline, mouse, porcine, and rat IL-1 β .

References:

1. Allan, S.M. *et al.* (2005) *Nat. Rev. Immunol.* **5**:629.
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3. Kornman, K.S. (2006) *Am. J. Clin. Nutr.* **83**:475S.
4. Isoda, K. and F. Ohsuzu (2006) *J. Atheroscler. Thromb.* **13**:21.
5. March, C.J. *et al.* (1985) *Nature* **315**:641.
6. Auron, P.E. *et al.* (1984) *Proc. Natl. Acad. Sci. USA* **81**:7907.
7. Martinon, F. and J. Tschopp (2007) *Cell Death Differ.* **14**:10.