# IL-1 beta (Pro-form) Monoclonal Antibody (NJTEN3), PE, eBioscience™

| Product Details | |
|---|---|
| Size | 100 µg |
| Species Reactivity | Mouse |
| Published Species | Mouse, Human |
| Host/Isotype | Rat / IgG1, kappa |
| Recommended Isotype Control | Rat IgG1 kappa Isotype Control (eBRG1), PE, eBioscience™ |
| Class | Monoclonal |
| Type | Antibody |
| Clone | NJTEN3 |
| Conjugate | PE |
| Form | Liquid |
| Concentration | 0.2 mg/mL |
| Purification | Affinity chromatography |
| Storage buffer | PBS, pH 7.2, with 0.1% gelatin |
| Contains | 0.09% sodium azide |
| Storage conditions | 4° C, store in dark, DO NOT FREEZE! |
| RRID | AB_10732630 |

| Applications | Tested Dilution | Publications |
|---|---|---|
| Flow Cytometry (Flow) | 0.06 µg/test | 17 Publications |

### Product Specific Information

Description: This NJTEN3 monoclonal antibody reacts with the pro-form of mouse IL-1 beta, which is a proinflammatory cytokine expressed by monocytes, macrophages, and dendritic cells. It is synthesized in response to inflammatory stimuli as a 31 kDa inactive pro-form that accumulates in the cytosol. Cleavage of pro-IL-1 beta into the active 17 kDa protein requires the activation of inflammasomes, which are multi-protein complexes that respond to pathogens, stress conditions, and other danger signals. Inflammasome activation triggers the processing of the caspase-1 precursor into its active form, which in turn cleaves pro-IL-1 beta. IL-1 beta lacks a signal sequence peptide for classical ER/Golgi pathway and is instead secreted alongside caspase-1 via an alternate and incompletely understood mechanism. IL-1 beta signals via the IL-1RI, which is shared with IL-1 alpha. These cytokines play important roles in innate host defense by triggering the production of other proinflammatory cytokines in target cells and initiating acute-phase responses. Their activity can be moderated by IL-1 Receptor Antagonist (IL-1RA), a protein produced by many cell types that blocks receptor binding through competitive inhibition. Elevated levels of IL-1 beta have been associated with many chronic inflammatory conditions, giving IL-RA or IL-1 beta neutralizing antibodies potential therapeutical value.The NJTEN3 antibody recognizes only the pro-form of mouse IL-1 beta and does not see the active (cleaved) form.

Applications Reported: This NJTEN3 antibody has been reported for use in intracellular staining and flow cytometric analysis.

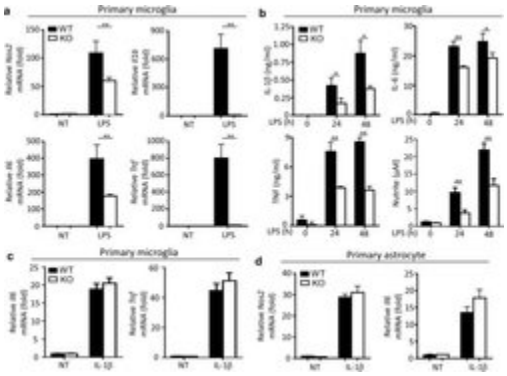
Applications Tested: This NJTEN3 antibody has been tested by intracellular staining and flow cytometric analysis of mouse thioglycolate-elicited peritoneal macrophages using the Intracellular Fixation & Permeabilization Buffer Set (cat. 88-8824) and

protocol. Please refer to Best Protocols: Protocol A: Two step protocol for (cytoplasmic) intracellular proteins. This can be used at less than or equal to 0.06 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

Excitation: 488-561 nm; Emission: 578 nm; Laser: Blue Laser, Green Laser, Yellow-Green Laser.

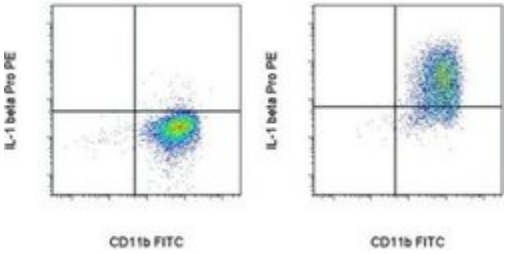
Filtration: 0.2 µm post-manufacturing filtered.

## Advanced Verification Data



**IL-1 beta (Pro-form) Antibody (12-7114-82)**
Figure 3 Open in a separate window Local s.c. treatment with 1,25(OH) 2 D at the proinflammatory stage suppressed M1 macrophage differentiation but augmented M2 macrophage differentiation at fracture sites. ( A ) B6 mice received femoral fracture surgery (Fx). Immediately after the fracture surgery, the animals received one of the following daily s.c. treatments (Tx) at fracture sites: a) vehicle control (VC), b) 100 ng/kg/mouse 1,25 (OH) 2 D (VD ), or c) 1,000 ng/kg/mouse 1,25(OH) 2 D (VD). Additionally, a group of normal healthy mice was included as a control (intact bones). At days 1, 4, and 7 after the treatments, intact and fractured bones were collected, and cells were isolated as described in Methods. The cells were then analyzed by FACS. ( B ) Gating strategy shows that the cells are gated on viable CD11b + /F4/80 + macrophages for the FACS analysis. ( C ) Representative FACS plots show the expression of IL-1beta (left panel) and IL-12 (right panel) in CD11b + F4/80 + macrophages at day 1 after the treatments. ( D ) Cumulative data of the mean fluorescent intensities (MFIs) of IL-1beta (upper panels) and IL-12 (lower panels) expressions in CD11b + F4/80 + macrophages at day 1. ( E ) Cumulative data of the percent of IL-1beta hi and IL-12 hi cells among CD11b + F4/80 + macrophages at day 1. * P < 0.05, ** P < 0.01, *** P < 0.001, **** P < 0.0001, ANOVA test, n = 3. ( F ) B6 mice were subjected to fracture surgery and, immediately after the fracture surgery, received a Cell treatment validation info.

### Product Images For IL-1 beta (Pro-form) Monoclonal Antibody (NJTEN3), PE, eBioscience™




**IL-1 beta (Pro-form) Antibody (12-7114-82) in Flow**
In vitro-cultured mouse monocytes unstimulated (left) or stimulated with LPS (right), in the presence of Protein Transport Inhibitor Cocktail (Product # 00-4980-03), stained with Anti-Mouse CD11b FITC (Product # 11-0112-41) and 0.03 µg of Anti-Mouse IL-1 beta Pro-form PE. Total viable cells were used for analysis.

### View more figures on thermofisher.com

## 17 References

### Flow Cytometry (17)

**Cellular and molecular gastroenterology and hepatology**

#### Interleukin-1 Suppresses Gastrin via Primary Cilia and Induces Antral Hyperplasia.

"Published figure using IL-1 beta (Pro-form) monoclonal antibody (Product # 12-7114-82) in Flow Cytometry"

Authors: Ding L,Sontz EA,Saqui-Salces M,Merchant JL

**Species**
Not Applicable

**Dilution**
Not Cited

**Year**
2021

**Journal of neuroinflammation**

#### Hippocampal interleukin-33 mediates neuroinflammation-induced cognitive impairments.

"12-7114 was used in Flow cytometry/Cell sorting to investigate the role of Interleukin (IL)-33 in immunoregulatory mechanisms in the brain."

Authors: Reverchon F,de Concini V,Larrigaldie V,Benmerzoug S,Briault S,Togbé D,Ryffel B,Quesniaux VFJ,Menuet A

**Species**
Mouse
Not Applicable

**Dilution**
1:20
Not Cited

**Year**
2020

View more Flow references on thermofisher.com

### More applications with references on thermofisher.com