IL-1 beta (Pro-form) Monoclonal Antibody (NJTEN3), APC-eFluor 780, 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), APC-eFluor 780, eBioscience™
Class	Monoclonal
Type	Antibody
Clone	NJTEN3
Conjugate	APC-eFluor® 780
Form	Liquid
Concentration	0.2 mg/mL
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2
Contains	0.09% sodium azide
Storage conditions	4° C, store in dark, DO NOT FREEZE!
RRID	AB_2573996

Applications	Tested Dilution	Publications
Flow Cytometry (Flow)	0.125 µg/test	11 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 followed by flow cytometric analysis.

Applications Tested: This NJTEN3 antibody has been tested by intracellular staining and flow cytometric analysis of stimulated

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 0.125 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.

APC-eFluor® 780 emits at 780 nm and is excited with the Red laser (633 nm). Please make sure that your instrument is capable of detecting this fluorochome.

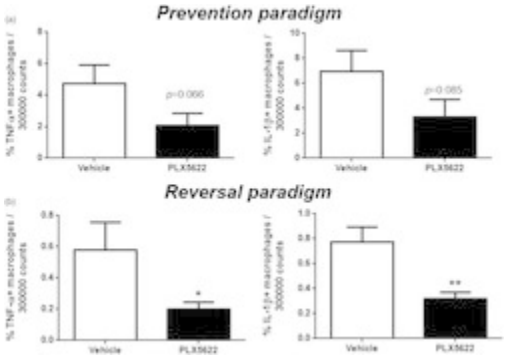
Light sensitivity: This tandem dye is sensitive to photo-induced oxidation. Please protect this vial and stained samples from light.

Fixation: Samples can be stored in IC Fixation Buffer (cat. 00-8222) (100 µL of cell sample + 100 µL of IC Fixation Buffer) or 1-step Fix/Lyse Solution (cat. 00-5333) for up to 3 days in the dark at 4°C with minimal impact on brightness and FRET efficiency /compensation. Some generalizations regarding fluorophore performance after fixation can be made, but clone specific performance should be determined empirically.

Excitation: 633-647 nm; Emission: 780 nm; Laser: Red Laser.

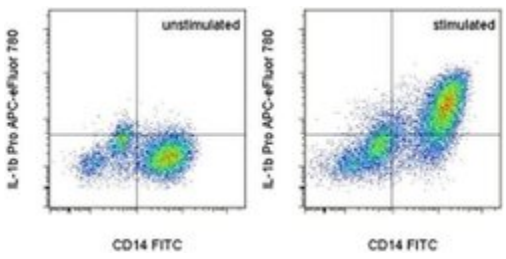
Filtration: 0.2 µm post-manufacturing filtered.

Advanced Verification Data



IL-1 beta (Pro-form) Antibody (47-7114-82)
Figure 3. The effect of CSF1R inhibition on macrophage cytokine expression in injured peripheral nerves. Nerve macrophages were first identified by CD45 and CD11b expression by flow cytometry analysis. They were further examined with intracellular staining to detect TNF-alpha or IL-1beta expression. (a) In the prevention paradigm, both TNF-alpha (p = 0.066) and IL-1beta (p = 0.085) expressing macrophages were partially reduced with CSF1R inhibition. (b) In the reversal paradigm, both TNF-alpha and IL-1beta expressing macrophages were sharply decreased (* p < 0.05, ** p < 0.01) with CSF1R inhibition (n = 3-6/group). Cell treatment validation info.

Product Images For IL-1 beta (Pro-form) Monoclonal Antibody (NJTEN3), APC-eFluor 780, eBioscience™



IL-1 beta (Pro-form) Antibody (47-7114-82) in Flow
Mouse thioglycolate-elicited peritoneal macrophages were unstimulated (left) or stimulated for 5 hours with LPS (right) in the presence of Protein Transport Inhibitor Cocktail (Product # 00-4980-03). Cells were then surface stained with Anti-Mouse CD14 FITC (Product # 11-0141-82) followed by fixation and permeabilization with the Intracellular Fixation & Permeabilization Buffer Set (88-8824), and intracellular staining with 0.06 µg of Anti-Mouse IL-1 beta Pro-form APC-eFluor® 780. Total viable cells, as determined by Fixable Viability Dye eFluor® 450 (Product # 65-0863-14), were used for analysis.

View more figures on thermofisher.com

11 References

Flow Cytometry (11)

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 # 47-7114-82) in Flow Cytometry"

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

Species
Not Applicable

Dilution
Not Cited

Year
2021

Immunity

Osteopontin Expression Identifies a Subset of Recruited Macrophages Distinct from Kupffer Cells in the Fatty Liver.

"47-7114 was used in Flow cytometry/Cell sorting to highlight considerable heterogeneity within the macrophage pool and suggest a need for more specific macrophage targeting strategies in metabolic-associated fatty liver disease (MAFLD)."

Authors: Remmerie A,Martens L,Thoné T,Castoldi A,Seurinck R,Pavie B,Roels J,Vanneste B,De Prijck S, Vanhockerhout M,Binte Abdul Latib M,Devisscher L,Hoorens A,Bonnardel J,Vandamme N,Kremer A,Borghgraef P,Van Vlierberghe H,Lippens S,Pearce E,Saeys Y,Scott CL

Species
Mouse

Dilution
Not Cited

Year
2020

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