abcam

ab315084

Anti-IL-1 beta antibody [EPR24895-116]

Anti-IL-1 beta antibody [EPR24895-116] (ab315084) is a rabbit monoclonal antibody detecting IL-1 beta in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency

Lab Essentials | Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR24895-116
Purification technique	Affinity purification Protein A
Concentration	0.549 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Not recommended

Species	Transfected cell line
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500 - 1/8000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/500 - 1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Transfected cell line
Dilution info	1/8000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Transfected cell line
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

Species	Mouse, Rat

Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Transfected cell line
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Rat, Human, Transfected cell line
Dilution info	-
Notes	-

Target data

See full target information IL1B

Function	Potent pro-inflammatory cytokine (PubMed:10653850, PubMed:12794819, PubMed:28331908, PubMed:3920526). Initially discovered as the major endogenous pyrogen, induces prostaglandin synthesis, neutrophil influx and activation, T-cell activation and cytokine production, B-cell activation and antibody production, and fibroblast proliferation and collagen production (PubMed:3920526). Promotes Th17 differentiation of T-cells. Synergizes with IL12/interleukin-12 to induce IFNG synthesis from T-helper 1 (Th1) cells (PubMed:10653850). Plays a role in angiogenesis by inducing VEGF production synergistically with TNF and IL6 (PubMed:12794819). Involved in transduction of inflammation downstream of pyroptosis: its mature form is specifically released in the extracellular milieu by passing through the gasdermin-D (GSDMD) pore (PubMed:33377178, PubMed:33883744). Acts as a sensor of S.pyogenes infection in skin: cleaved and activated by pyogenes SpeB protease, leading to an inflammatory response that prevents bacterial growth during invasive skin infection (PubMed:28331908).

Storage

Shipped at conditions	Conditional Ambient

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-IL-1 beta antibody [EPR24895-116] (ab315084) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of IL-1 beta?
Anti-IL-1 beta [EPR24895-116] (ab315084) specifically detects a band for IL-1 beta (UniProt: P01584) at a molecular weight of 30kDa.

Specificity confirmed
The specificity of Anti-IL-1 beta antibody [EPR24895-116] (ab315084) has been confirmed by Western blot testing in IL1B Knockout THP-1 cell line, ab273762.

Other related products
We have a range of other formats of antibody clone [EPR24895-116] also available for your convenience: ab315084, Carrier free - ab315085

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

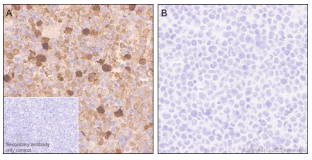
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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12 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

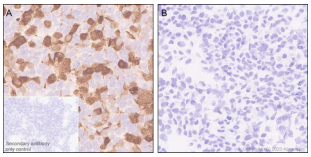
Immunohistochemical analysis of paraffin-embedded (A) THP-1 (human monocytic leukemia monocyte) cells treated first with 80 nM TPA for overnight, then replaced with 100 ng/ml LPS for 3 hours, 300 ng/ml BFA was then added for additional 3 hours cell pellet. (B) Untreated THP-1 cell pellet. tissue labeling IL-1 beta with ab315084 at 1/8000 (0.063 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on (A) THP-1 treated first with 80 nM TPA for overnight, then replaced with 100 ng/ml LPS for 3 hours, 300 ng/ml BFA was then added for additional 3 hours cell pellet, negative staining on (B) untreated THP-1 cell pellet.The section was incubated with ab315084 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

IL-1 beta Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-IL-1 beta antibody

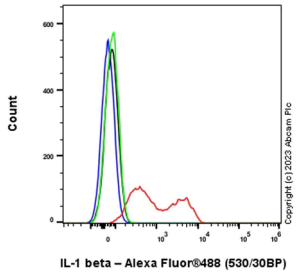
Immunohistochemical analysis of paraffin-embedded (A) HEK-293T (human epithelial cell line from embryonic kidney) transfected with a IL1B expression vector containing a Myc-His tag. (B) HEK-293T transfected with empty vector containing a Myc-His tag. tissue labeling IL-1 beta with ab315084 at 1/8000 (0.063 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on (A) HEK-293T (human epithelial cell line from embryonic kidney) transfected with a IL1B expression vector containing a Myc-His tag, negative staining on (B) HEK-293T transfected with empty vector containing a Myc-His tag. The section was incubated with ab315084 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

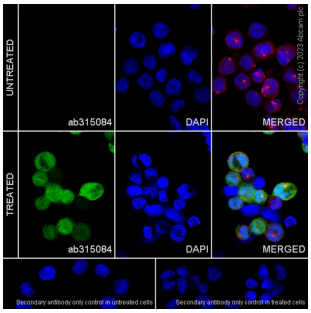
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Flow Cytometry (Intracellular) - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized THP-1 (human monocytic leukemia monocyte) treated with 80nM TPA overnight and then treated with 100ng/ml LPS for 6h and 300ng/ml BFA for 3h (Red) / Untreated THP-1 (Green) cells labelling IL-1 beta with ab315084 at 1/500 dilution (0.1 ug)/Red and Green compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



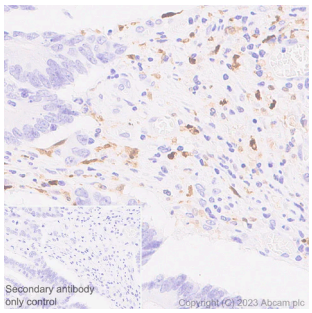
Immunocytochemistry/ Immunofluorescence - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized THP-1 (human monocytic leukemia monocyte) cells labelling IL-1 beta with ab315084 at 1/50 (10.14 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green).

Confocal image showing cytoplasmic and nuclear staining in THP-1 cells treated with TPA (80 nM) for 16 h, then LPS (100 ng/ml) for 3 h with BFA (300 ng/ml) for the last 3 h.Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



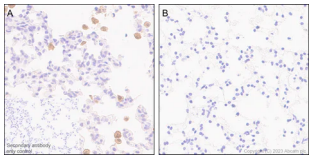
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

Immunohistochemical analysis of paraffin-embedded Human colon carcinoma tissue labeling IL-1 beta with ab315084 at 1/500 (1.014 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on immune cells of human colon carcinoma (PMID: 29803656). The section was incubated with ab315084 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



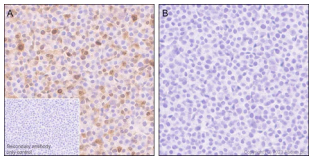
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

Immunohistochemical analysis of paraffin-embedded (A) Rat lung treated with LPS (1ug/ml for 16 hours) and BFA(1ug/ml for 16 hours). (B) Untreated rat lung. tissue labeling IL-1 beta with ab315084 at 1/500 (1.014 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on immune cells of (A) rat lung treated with LPS (1ug/ml for 16 hours) and BFA(1ug/ml for 16 hours), negative staining on (B) Untreated rat lung. The section was incubated with ab315084 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



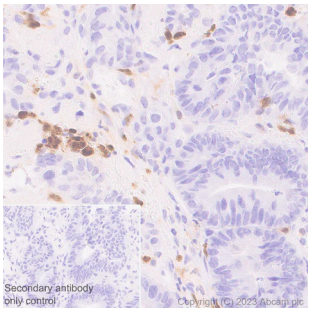
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

Immunohistochemical analysis of paraffin-embedded (A) RAW 264.7 (mouse leukemia cells of monocyte macrophage) cells treated with 100ng/ml LPS for 4+3 hours, 1µg/ml BFA was then added for additional 3 hours cell pellet. (B) Untreated RAW 264.7 cell pellet. tissue labeling IL-1 beta with ab315084 at 1/500 (1.014 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on (A) RAW 264.7 cells treated with 100ng/ml LPS for 4+3 hours, 1µg/ml BFA was then added for additional 3 hours cell pellet, negative staining on (B) Untreated RAW 264.7 cell pellet. The section was incubated with ab315084 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



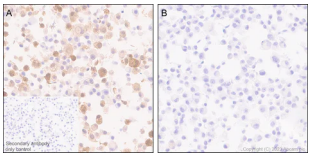
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

Immunohistochemical analysis of paraffin-embedded Mouse colon carcinoma tissue labeling IL-1 beta with ab315084 at 1/500 (1.014 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on immune cells of mouse colon carcinoma (PMID: 26292622). The section was incubated with ab315084 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



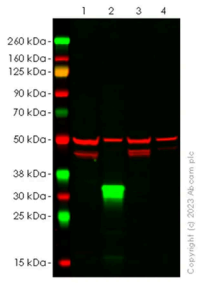
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

Immunohistochemical analysis of paraffin-embedded (A) NR8383 (rat alveolar macrophages) cells treated with 100ng/ml LPS for 4+3 hours, 1 ug/ml BFA was then added for additional 3 hours cell pellet. (B) Untreated NR8383 cell pellet. tissue labeling IL-1 beta with ab315084 at 1/2000 (0.254 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on (A) NR8383 cells treated with 100ng/ml LPS for 4+3 hours, 1 ug/ml BFA was then added for additional 3 hours cell pellet, negative staining on (B) Untreated NR8383 cell pellet. The section was incubated with ab315084 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Western blot - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

IL-1 beta Western blot staining using rabbit Anti-IL-1 beta antibody

Blocking and diluting buffer and concentration: Intercept® (TBS) Blocking Buffer diluted with an equal volume of TBS.

The samples were run on a Bis-Tris gel under reducing conditions.

Western blot: Anti-IL-1 beta antibody (ab315084) staining at 1/1000 dilution, shown in green; Mouse anti-alpha Tubulin antibody [DM1A] (ab7291) loading control staining at 1/20, 000 dilution, shown in red.

In Western blot, ab315084 was shown to bind specifically to IL-1 beta. Target of interest was observed at 34, 17 kDa in Wild-type THP-1 treated first with 80 nM TPA for overnight, then replaced with 100 ng/ml LPS for 3 hours, 300 ng/ml BFA was then added for additional 3 hours, whole cell lysate (lane 2) with no signal observed at this size in IL-1 beta knockout THP-1 treated first with 80 nM TPA for overnight, then replaced with 100 ng/ml LPS for 3 hours, 300 ng/ml BFA was then added for additional 3 hours cell line ab273762 (knockout cell lysate ab275508) (lane 4). To generate this image, samples were first run on an SDS-PAGE gel then transferred onto an immobilon-FL PVDF membrane. Membranes were blocked in a fluorescent western blot (TBS-based) blocking solution before incubation with primary antibodies overnight at 4 °C. Blots were washed in TBS-T, incubated with secondary antibodies Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution for 1 h at room temperature, washed again then imaged.
All lanes:
Western blot - Anti-IL-1 beta antibody [EPR24895-116] (ab315084) at 1/1000 dilution

Lane 1:
Untreated Wild-type THP-1 (human monocytic leukemia monocyte) whole cell lysate at 20 µg

Lane 2:
Wild-type THP-1 treated first with 80 nM TPA for overnight, then replaced with /ml LPS for 3 hours, 300 ng/ml BFA was then added for additional 3 hours, whole cell lysate at 20 µg

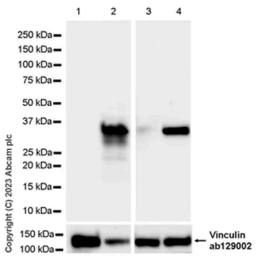
Lane 3:
Untreated IL-1 beta knockout THP-1 whole cell lysate at 20 µg

Lane 4:
IL-1 beta knockout THP-1 treated first with 80 nM TPA for overnight, then replaced with /ml LPS for 3 hours, 300 ng/ml BFA was then added for additional 3 hours, whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG H&L (800CW) and Goat Anti-Mouse IgG H&L (680RD) at 1/20000 dilution

Observed band size: 34 kDa, 17 kDa



Western blot - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

IL-1 beta Western blot staining using rabbit Anti-IL-1 beta antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-Vinculin antibody [EPR8185] (ab129002) staining at 1/10000 dilution.

Exposure time: Lanes 1-2: 1 second; Lanes 3-4: 6 seconds.

All lanes:
Western blot - Anti-IL-1 beta antibody [EPR24895-116] (ab315084) at 1/1000 dilution

Lane 1:
Untreated THP-1 (human monocytic leukemia monocyte) whole cell lysate at 20 µg

Lane 2:
THP-1 treated first with 80 nM TPA for overnight, then replaced with /ml LPS for 3 hours, 300 ng/ml BFA was then added for additional 3 hours, whole cell lysate at 20 µg

Lane 3:
Untreated RAW 264.7 (mouse abelson murine leukemia virus-induced tumor macrophage) whole cell lysate at 20 µg

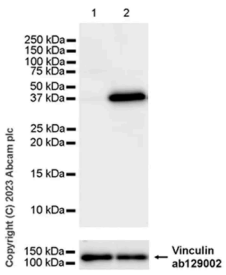
Lane 4:

RAW 264.7 treated with /ml LPS for 4 hours, 1/ml BFA was then added for additional 3 hours, whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 34 kDa



Western blot - Anti-IL-1 beta antibody [EPR24895-116] (ab315084)

IL-1 beta Western blot staining using rabbit Anti-IL-1 beta antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-Vinculin antibody [EPR8185] (ab129002) staining at 1/10000 dilution.

All lanes:
Western blot - Anti-IL-1 beta antibody [EPR24895-116] (ab315084) at 1/1000 dilution

Lane 1:
Untreated NR8383 (rat alveolar macrophage) whole cell lysate at 20 µg

Lane 2:
NR8383 treated with 100 ng/ml LPS for 4 hours, 1 µg/ml BFA was then added for additional 3 hours, whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 34 kDa

Exposure time: 6s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.