abcam

ab2105

Anti-IL-1 beta antibody

Anti-IL-1 beta antibody (ab2105) is a rabbit polyclonal antibody detecting IL-1 beta in **Western Blot, Flow Cytometry, IP, IHC-P, IHC-Fr, ICC/IF, ELISA, Neut, FuncS**. Suitable for **Human**.

- Over 190 publications
- Trusted since 2000

Lab Essentials

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 Constituents: 0.88% Sodium chloride, 0.424% Potassium phosphate solution
Form	Liquid
Clonality	Polyclonal
Immunogen	Recombinant Full Length Protein corresponding to Human IL1B. Database link P01584
Purification technique	Ion exchange chromatography DEAE-C
Specificity	In general, this antibody also detects primate IL-1 beta in the same formats using similar dilutions. The antiserum does not recognize human IL-1 alpha. In ELISA formats and other immunoreactive assays, this antibody will recognize 10% of the non-denatured (native) precursor 31,000 MW IL-1 beta containing samples but will primarily detect all of the 17,000 MW mature molecule. However, in immunoblot analysis of natural cell products or human body fluids, the usual procedure of hearing the sample in SDS with or without reducing agents will facilitate denaturing of the 31,000 MW IL- 1 beta precursor molecule. Denatured 31,000 precursor IL-1 beta will be recognized by this antibody but often migrates as a 35,000 MW band. This is due to the unfolding of the denatured precursor IL-1 beta exposing epitopes not exposed in the natural state. In immunoblots, depending on the number of cells, the antibody detects the 17,000 MW band in supernatants as well as a 35,000 MW band representing the 31,000 MW IL-1 beta precursor in lysates.

Concentration	1.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	This is an IgG preparation of whole rabbit serum purified by DEAE fractionation.

Reactivity data

IP

Expected

Species	Human
Dilution info	-
Notes	1/400 - 1/800 (pre-clearing with a non-specific rabbit IgG is helpful to reduce background).

Predicted

Species	Primates
Dilution info	-
Notes	-

Flow Cyt

Expected

Species	Human
Dilution info	-
Notes	F(c) domain of rabbit IgG may interact with cells non-specifically! ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Primates
Dilution info	-
Notes	-

ELISA

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Primates
Dilution info	-
Notes	-

WB

Expected

Species	Human
Dilution info	-
Notes	1/1000 - 1/2000 (antigen - supernatants or lysates of 2 x 106 endotoxin-stimulated human PBMC. Denatured 31kDa precursor IL-1beta will be recognized, but often migrates as a 35 kDa band).

Predicted

Species	Primates
Dilution info	-
Notes	-

IHC-FoFr

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Primates
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Primates
Dilution info	-
Notes	-

RIA

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Primates
Dilution info	-
Notes	-

FuncS

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Primates
Dilution info	-
Notes	-

FuncS (Neut/Block)

Expected

Species	Human
Dilution info	-
Notes	Neutralization of IL-1beta activity in bioassays 1/100 (>4 hours incubation, normal rabbit IgG as negative control). ab2105 does not neutralize the biological activity of murine, rat or rabbit IL1 beta.

Predicted

Species	Primates
Dilution info	-
Notes	-

ICC/IF

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Primates

Dilution info	-
Notes	-

IHC-Fr

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Primates
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	Blue Ice

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 (ab2105) is a rabbit polyclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunohistochemistry (IHC-Fr), Immunocytochemistry/immunofluorescence (ICC/IF), ELISA, Neutralising, Functional Studies in Human samples.

What is the molecular weight of IL-1 beta?
Anti-IL-1 beta (ab2105) specifically detects a band for IL-1 beta (UniProt: P01584) at a molecular weight of 30kDa.

Trusted by the scientific community
Anti-IL-1 beta (ab2105) was first used in a scientific publication in 2000 and has been cited over 190 times in peer-reviewed journals.

Reviewed by scientists
Anti-IL-1 beta (ab2105) has over 20 independent reviews from customers.

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

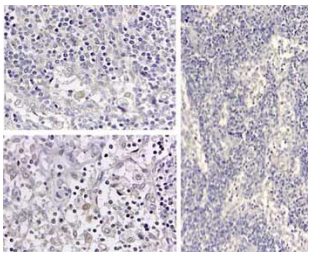
We do not recommend this combination. It is not covered by our product promise.

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.

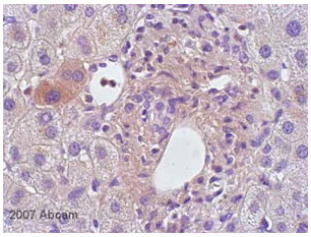
3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-1 beta antibody (ab2105)

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

Immunohistochemical analysis of Formalin-fixed paraffin-embedded human medullary lymph node sections labeling IL-1 beta with ab2105. Peroxidase goat anti-rabbit at 1/10,000 was used as the secondary antibody.



This image is courtesy of a customer review submitted by Miss Silke Vorwald

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-1 beta antibody (ab2105)

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

ab2105 at 1/20 staining human liver tissue sections by IHC-P. The cells were paraformaldehyde fixed and a heat mediated antigen retrieval step was performed. The tissue was incubated with the tissue overnight at room temperature. A biotinylated donkey anti-rabbit IgG was used as the secondary antibody and this was detected using streptavidin HRP.

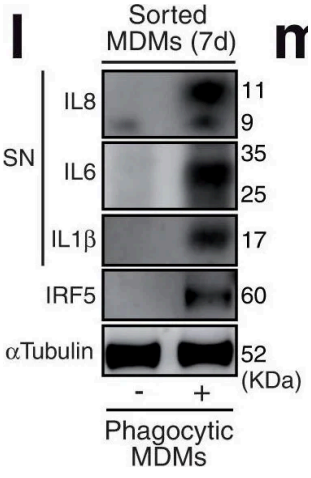


Image collected and cropped by CiteAb under a CC-BY license from the publication

Western blot - Anti-IL-1 beta antibody (ab2105)

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

Western Blotting using Anti-IL-1 beta antibody, ab2105. Publication image from Allouch, A. et al., 2022, Nat Commun, 36347876. Legend direct from paper.

Tumor cell phagocytosis triggers the proinflammatory activation of macrophages.a Schematic representation of the coculture of CMFDA-labeled MDMs with CMTMR-labeled malignant hematologic cells. b Confocal micrograph of MDMs and Jurkat cells after 8 h of coculture. c, d Percentage of phagocytosis of leukemia cells or PBLs (c) or CD34+ AML cells (d) in control (Co.)- or ZVAD (100 µM)-treated cocultures. e FACS dot plot of Phago+ MDMs or Phago- MDMs sorted after 2 h of coculture with MOLT4 cells. f, g Confocal micrographs and percentages of CMTMR+CMFDA+ MDMs at 2 h (**p = 0.0079) (f, g) and 96 h (h, i) after Phago+ MDMs and Phago- MDMs sorting. j–n Phago+ MDMs were analyzed in comparison to Phago- MDMs to characterize modulated genes by a microarray (**p = 0.0022, *p = 0.0152) (j), CD163 membrane expression by FACS (**p = 0.0039) (k), and IRF5 expression by western blot (WB) analysis (l) and the supernatant (SN) was evaluated for indicated proinflammatory cytokines by WB analysis (l) or for IFNγ by a cytokine microarray (*p = 0.0286) (m) or ELISA (***p = 0.0008) (n) at 96 h (j, k, m) and 7 d (l, n) after FACS sorting. o, p Transwell coculture model of Phago+ MDMs and Phago- MDMs at 2 h after FACS sorting (o), and iNOS expression identified by WB analysis of Phago- MDMs cocultured in the bottom chambers for

15 d (p). In b, l, p and e, f, h, the data are representative of n = 3 and n = 5 donors. In c, n, d, and g, i, the data are presented as the mean±SEM from n = 3, n = 6, and n = 5 donors. In d, the CD34+ cells were from n = 4 AML patients. In j, box plots show centre line as median, box limits as upper and lower quartiles, and whiskers as a minimum to maximum values, from n = 3 donors. In k and m, the data are donor matched from n = 9 and n = 4 donors. Exact p-values are indicated and determined with two- (g) or one-tailed (m) unpaired Mann-Whitney test, the Kolmogorov–Smirnov test (j), a two-tailed paired Wilcoxon test (k), and a two-tailed unpaired t test (n). Source data are provided as a Source Data file.

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