abcam

ab305225

Anti-IL-6 antibody [EPR27288-18]

Recombinant | RabMAb | 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	EPR27288-18
Purification technique	Affinity purification Protein A
Concentration	0.51 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Not recommended

Species	Human, Rat, Mouse
Dilution info	-
Notes	-

IHC-P

Not recommended

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

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

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

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-

Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Target data

See full target information Il6

Function

Cytokine with a wide variety of biological functions in immunity, tissue regeneration, and metabolism (Probable). Binds to IL6R, then the complex associates to the signaling subunit IL6ST/gp130 to trigger the intracellular IL6-signaling pathway (PubMed:8910279). The interaction with the membrane-bound IL6R and IL6ST stimulates 'classic signaling', whereas the binding of IL6 and soluble IL6R to IL6ST stimulates 'trans-signaling'. Alternatively, 'cluster signaling' occurs when membrane-bound IL6:IL6R complexes on transmitter cells activate IL6ST receptors on neighboring receiver cells (PubMed:27893700). IL6 is a potent inducer of the acute phase response. Rapid production of IL6 contributes to host defense during infection and tissue injury, but excessive IL6 synthesis is involved in disease pathology. In the innate immune response, is synthesized by myeloid cells, such as macrophages and dendritic cells, upon recognition of pathogens through toll-like receptors (TLRs) at the site of infection or tissue injury. In the adaptive immune response, is required for the differentiation of B-cells into immunoglolin-secreting cells (Probable). Plays a major role in the differentiation of CD4(+) T cell subsets. Essential factor for the development of T follicular helper (Tfh) cells that are required for the induction of germinal-center formation. Together with IL21, controls the early generation of Tfh cells and are critical for an effective antibody response to acute viral infection (PubMed:23045607). Required to drive naive CD4(+) T cells to the Th17 lineage, through 'cluster signaling' by dendritic cells (PubMed:16990136, PubMed:27893700). Also required for proliferation of myeloma cells and the survival of plasmablast cells (Probable). Acts as an essential factor in bone homeostasis and on vessels directly or indirectly by induction of VEGF, resulting in increased angiogenesis activity and vascular permeability. Induces, through 'trans-signaling' and synergistically with IL1B and

TNF, the production of VEGF (PubMed:17075861). Involved in metabolic controls, is discharged into the bloodstream after muscle contraction increasing lipolysis and improving insulin resistance (PubMed:11786910). 'Trans-signaling' in central nervous system regulates energy and glucose homeostasis (PubMed:28402851). Mediates, through GLP-1, crosstalk between insulin-sensitive tissues, intestinal L cells and pancreatic islets to adapt to changes in insulin demand (PubMed:11113088). Also acts as a myokine (By similarity). Plays a protective role during liver injury, being required for maintenance of tissue regeneration (PubMed:11113088, PubMed:8910279). Also has a pivotal role in iron metabolism by regulating HAMP/hepcidin expression upon inflammation or bacterial infection (PubMed:15124018). Through activation of IL6ST-YAP-NOTCH pathway, induces inflammation-induced epithelial regeneration (By similarity).

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

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Interleukin-6 (IL-6) a cytokine also known as IFN-beta2 plays a significant role in immune response and inflammation. The IL-6 protein has a molecular weight of approximately 20-26 kDa. Expression of IL-6 occurs in various cell types including T cells macrophages and fibroblasts. Researchers often measure IL-6 levels in biological samples using IL-6 ELISA kits an essential tool for studying this protein's function and presence in experimental and clinical settings.
Biological function summary	IL-6 influences immune regulation and acts as part of the acute phase response. It stimulates the production of acute-phase proteins and supports the differentiation of B cells into antibody-producing cells. IL-6 is not known to be part of a larger complex acting primarily as a single entity in signal transduction. Moreover IL-6 impacts the metabolism of iron and bone homeostasis showing its multifunctional nature.
Pathways	IL-6 forms an integral part of several signaling routes particularly the JAK-STAT pathway. In this context IL-6 interacts with signal transducer proteins like STAT3 to transmit signals from the cell surface to the nucleus affecting gene expression. Another important pathway is the MAPK pathway through which IL-6 influences cell proliferation and survival. These interactions reflect IL-6's diverse effects in cellular processes.
Associated diseases and disorders	IL-6's association with rheumatoid arthritis and multiple myeloma emphasizes its role in chronic inflammation and cancer. In rheumatoid arthritis IL-6 contributes to inflammation and joint damage often together with TNF-alpha highlighting a potential target for anti-inflammatory therapies. In multiple myeloma IL-6 supports the survival and proliferation of cancerous plasma cells highlighting its importance in cancer progression and possible treatment targets.

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

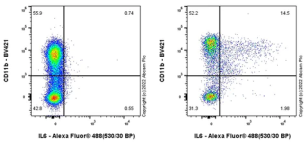
We do not recommend this combination. It is not covered by our product promise.

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.

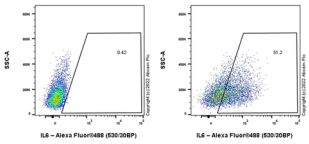
Full details and terms and conditions can be found here:
Terms & Conditions.

3 product images



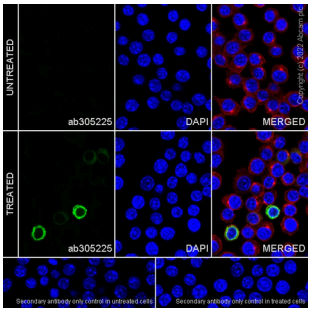
Flow Cytometry (Intracellular) - Anti-IL-6 antibody [EPR27288-18] (ab305225)

Flow cytometric analysis of 2% paraformaldehyde fixed 0.1% Tween-20 permeabilized Mouse bone marrow treated with 100ng/ml LPS for 4 hours, then add 1ug/ml BFA for another 3 hours (Right) / Untreated control (Left) cells labelling Interleukin-6 with ab305225 at 1/500 dilution (0.1ug)/ Right and Left (Red) compared with a isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Cells were stained with anti-CD11b conjugated to BV421. Fixed with 2% PFA for 10 min followed by intracellularly staining with rabbit IgG or ab305225.



Flow Cytometry (Intracellular) - Anti-IL-6 antibody [EPR27288-18] (ab305225)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized RAW264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) treated with 100ng/ml LPS for 4 hours and add 1ug/ml BFA for another 3 hours (Right) / Untreated control (Left) cells labelling Interleukin-6 with ab305225 at 1/500 dilution (0.1ug)/ Right and Left (Red) compared with a isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-IL-6 antibody [EPR27288-18] (ab305225)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Raw 264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) cells labelling Interleukin-6 with ab305225 at 1/50 dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in RAW264.7 cells treated with LPS (100 ng/ml) for 6 h, then treated with BFA (300 ng/ml) for 3 h. The 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 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 dilution.

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