abcam

ab319048

Anti-IL-6R antibody [EPR28685-68] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR28685-68
Purification technique	Affinity purification Protein A
Concentration	1.003 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	-

Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Human
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

Target data

See full target information Il6ra

Function

Part of the receptor for interleukin 6. Binds to IL6 with low affinity, but does not transduce a signal. Signal activation necessitate an association with IL6ST. Activation leads to the regulation of the immune response, acute-phase reactions and hematopoiesis. The interaction with membrane-bound IL6R and IL6ST stimulates 'classic signaling', the restricted expression of the IL6R limits classic IL6 signaling to only a few tissues such as the liver and some cells of the immune system. 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. Interleukin-6 receptor subunit alpha. Signaling via the membrane-bound IL6R is mostly regenerative and anti-inflammatory (Probable). Drives naive CD4(+) T cells to the Th17 lineage, through 'cluster signaling' by dendritic cells (PubMed:27893700). Soluble interleukin-6 receptor subunit alpha. Soluble form of IL6 receptor (sIL6R) that acts as an agonist of IL6 activity (PubMed:11113088). The

IL6:sIL6R complex (hyper-IL6) binds to IL6ST/gp130 on cell surfaces and induces signaling also on cells that do not express membrane-bound IL6R in a process called IL6 'trans-signaling'. sIL6R is causative for the pro-inflammatory properties of IL6 and an important player in the development of chronic inflammatory diseases (By similarity). In complex with IL6, is required for induction of VEGF production (By similarity). Plays a protective role during liver injury, being required for maintenance of tissue regeneration (PubMed:11113088). 'Trans-signaling' in central nervous system regulates energy and glucose homeostasis (PubMed:28402851).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab319048 is the carrier-free version of ab319047.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	IL-6R also known as the IL-6 receptor or IL-6R protein is a transmembrane protein with an approximate mass of 80-90 kDa. This receptor is found on the surface of various cells including hepatocytes leukocytes and immune cells like T-cells and macrophages. IL-6R binds to interleukin-6 (IL-6) a cytokine and plays an important role in immune response regulation. The receptor exists in both membrane-bound and soluble forms each contributing to diverse signaling events.
Biological function summary	IL-6 receptor function involves mediating the effects of IL-6 through its interaction with glycoprotein 130 (gp130) forming a signaling complex. This complex initiates intracellular pathways that lead to gene expression changes necessary for immune responses inflammation and hematopoiesis. When IL-6 binds IL-6R the complex formation with gp130 triggers downstream signaling that impacts cell growth differentiation and survival.
Pathways	IL-6R is central to the JAK/STAT signaling pathway one of the two main pathways activated by IL-6 signaling. It's also involved in the MAPK cascade contributing to cellular responses such as proliferation and differentiation. Through these pathways IL-6R interacts with other proteins like JAK kinases and STAT transcription factors coordinating cellular responses to external signals.
Associated diseases and disorders	IL-6R is associated with inflammatory diseases such as rheumatoid arthritis and certain cancers. In rheumatoid arthritis overexpression of IL-6R leads to persistent inflammation and joint damage. In cancer IL-6/IL-6R signaling promotes tumorigenesis and cancer cell survival through interactions with proteins like STAT3. Understanding these connections aids in developing therapeutic interventions targeting IL-6R in various pathological conditions.

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

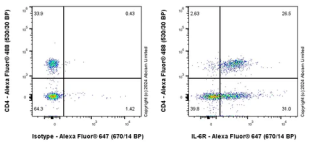
We do not recommend this combination. It is not covered by our product promise.

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



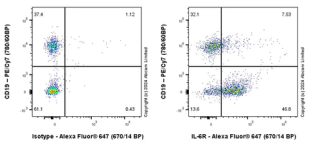
Flow Cytometry - Anti-IL-6R antibody [EPR28685-68] - BSA and Azide free (ab319048)

This data was developed using ab319047, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Mouse PBMC cells labelling IL-6R with ab319047 at 1/50 dilution (1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

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

Gated on viable cells.
Cells were co-stained with anti mouse CD4 conjugated to Alexa Fluor® 488.



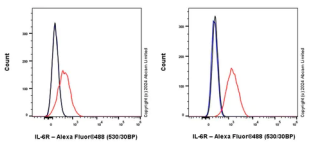
Flow Cytometry - Anti-IL-6R antibody [EPR28685-68] - BSA and Azide free (ab319048)

This data was developed using ab319047, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Mouse PBMC cells labelling IL-6R with ab319047 at 1/50 dilution (1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

Goat anti-Rabbit IgG (Alexa Fluor® 647, ab150083) at 1/5000 dilution was used as the secondary antibody.

Gated on viable cells.
Cells were co-stained with anti mouse CD19 conjugated to PE/Cy7.



Flow Cytometry - Anti-IL-6R antibody [EPR28685-68] - BSA and Azide free (ab319048)

IL-6R Flow Cytometry staining using rabbit Anti-IL-6R antibody

This data was developed using ab319047, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of RAW 264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) (Right) / WEHI-231 (mouse B cell lymphoma B lymphocyte) (Left) cells labelling IL-6R

with ab319047 at 1/50 dilution (1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

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

Gated on viable cells.
Low expression: WEHI-231.

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