abcam

ab222101

Anti-IL-6R antibody [EPR22628-236]

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	EPR22628-236
Purification technique	Affinity purification Protein A
Concentration	0.479 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/50
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information IL6R

Function Part of the receptor for interleukin 6. Binds to IL6 with low affinity, but does not transduce a signal (PubMed:28265003). Signal activation necessitate an association with IL6ST. Activation leads to the regulation of the immune response, acute-phase reactions and hematopoiesis (PubMed:30995492, PubMed:31235509).

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 (Probable). Isoform 1. 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 (By similarity). Isoform 2. Soluble form of IL6 receptor (sIL6R) that acts as an agonist of IL6 activity (PubMed:21990364). 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 (PubMed:21990364). In complex with IL6, is required for induction of VEGF production (PubMed:12794819). Plays a protective role during liver injury, being required for maintenance of tissue regeneration (By similarity). 'Trans-signaling' in central nervous system regulates energy and glucose homeostasis (By similarity). Soluble interleukin-6 receptor subunit alpha. Soluble form of IL6 receptor (sIL6R) that acts as an agonist of IL6 activity (PubMed:21990364). 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 (PubMed:21990364). In complex with IL6, is required for induction of VEGF production (PubMed:12794819). Plays a protective role during liver injury, being required for maintenance of tissue regeneration (By similarity). 'Trans-signaling' in central nervous system regulates energy and glucose homeostasis (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	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.

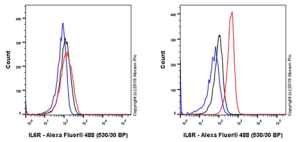
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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3 product images

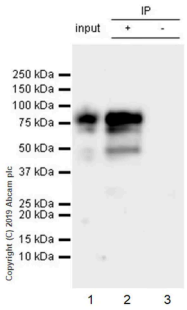


Flow Cytometry - Anti-IL-6R antibody [EPR22628-236] (ab222101)

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

Flow cytometric analysis of K562 (human chronic myelogenous leukemia cell line from bone marrow) (Left) and U937 (human histiocytic lymphoma cell line) (Right) cells labeling IL-6R with ab222101 at 1/50 (red) compared with Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG Fc (Alexa Fluor® 488) preadsorbed (ab150097), at 1/5000 dilution was used as the secondary antibody.
Negative control: K562 (PMID: 8300137)

Gated on viable cells.



Immunoprecipitation - Anti-IL-6R antibody [EPR22628-236] (ab222101)

IL-6R was immunoprecipitated from 0.35 mg of U266B1 (human multiple myeloma B lymphocyte cell line) whole cell lysate with ab222101 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab222101 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used as the secondary antibody at 1/5000 dilution.
Lane 1: U266B1 whole cell lysate 10 µg (Input).
Lane 2: ab222101 IP in U266B1 whole cell lysate.
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab222101 in U266B1 whole cell lysate.

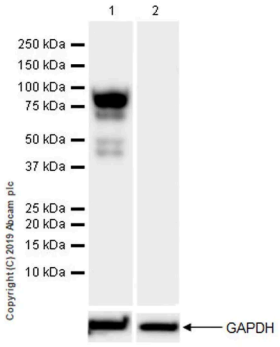
Blocking and dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 15 seconds.

The molecular weight observed is consistent with what has been described in the literature (PMID: 28276471; PMID: 28060820).

Bands between 40-70KD are likely to be cleaved forms (PMID: 28060820).
All lanes:
Immunoprecipitation - Anti-IL-6R antibody [EPR22628-236] (ab222101)

Predicted band size: 52 kDa

Observed band size: 50 kDa, 70 kDa, 80 kDa



Western blot - Anti-IL-6R antibody [EPR22628-236] (ab222101)

IL-6R Western blot staining using rabbit Anti-IL-6R antibody

The molecular weight observed is consistent with what has been described in the literature (PMID: 28276471, 28060820).
Bands between 40-70KD are likely to be cleaved forms (PMID: 28060820).

Negative control: K-562 (PMID: 8300137)

All lanes:
Western blot - Anti-IL-6R antibody [EPR22628-236] (ab222101) at 1/1000 dilution

Lane 1:
U266B1 (human multiple myeloma b lymphocyte) whole cell lysate at 40 µg

Lane 2:
K-562 (human chronic myelogenous leukemia lymphoblast) whole cell lysate at 40 µg

Secondary

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

Predicted band size: 52 kDa

Observed band size: 40 kDa, 50 kDa, 70 kDa, 80 kDa

Exposure time: 48s

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