abcam

ab280358

Anti-IFNGR1 antibody [EPR24127-89] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR24127-89
Purification technique	Affinity purification Protein A
Concentration	0.993 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse
Dilution info	-

Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Target data

See full target information Ifngr1

Function

Receptor subunit for interferon gamma/INFG that plays crucial roles in antimicrobial, antiviral, and antitumor responses by activating effector immune cells and enhancing antigen presentation (, PubMed:20926559, PubMed:27286456). Associates with transmembrane accessory factor IFNGR2 to form a functional receptor (PubMed:2137461, PubMed:2530216, PubMed:2530582, PubMed:2531896, PubMed:2532365). Upon ligand binding, the intracellular domain of IFNGR1 opens out to allow association of downstream signaling components JAK1 and JAK2. In turn, activated JAK1 phosphorylates IFNGR1 to form a docking site for STAT1. Subsequent phosphorylation of STAT1 leads to its dimerization, translocation to the nucleus, and stimulation of target gene transcription (PubMed:19889125). STAT3 can also be activated in a similar manner although activation seems weaker (PubMed:15284232). IFNGR1 intracellular domain phosphorylation also provides a docking site for SOCS1 that regulates the JAK-STAT pathway by competing with STAT1 binding to IFNGR1 (PubMed:15522878).

Storage

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

Notes

ab280358 is the carrier-free version of ab280353.

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	The IFNGR1 protein also known as Interferon Gamma Receptor 1 is an integral component of the cell surface receptor for interferon-gamma (IFN-γ). It possesses a mass of approximately 53 kDa. IFNGR1 is expressed in various cell types including immune cells such as T cells and macrophages and is also present in other cell lines like HEK 293. This receptor binds to its specific ligand IFN-γ initiating a series of intracellular events that are essential for immune response modulation.

Biological function summary	IFNGR1 functions as part of the interferon-gamma receptor complex working alongside the IFNGR2 subunit. This interaction with IFNGR2 is important for the receptor to properly transmit signals inside the cell. The binding of interferon-gamma to this receptor complex activates the JAK-STAT signaling pathway promoting the transcription of genes that enhance the antimicrobial activity of immune cells and regulate cellular immunity.
Pathways	The IFNGR1 protein plays an important role in the JAK-STAT signaling pathway which is critical for mediating responses to interferon-gamma. Upon activation by IFN-γ IFNGR1 recruits JAK kinases leading to the phosphorylation of STAT1 a significant transcription factor. STAT1 then dimerizes and translocates to the nucleus where it induces the expression of genes involved in immune defense and inflammation. This process is vital for the body's ability to handle infections and other immunological challenges.
Associated diseases and disorders	IFNGR1 is associated with susceptibility to infections and certain immune-related disorders. Mutations or deficiencies in IFNGR1 can lead to Mendelian Susceptibility to Mycobacterial Disease (MSMD) where individuals show increased vulnerability to mycobacterial infections. Additionally improper signaling through IFNGR1 is linked to chronic granulomatous disease which can involve defective functioning of the NADPH oxidase complex. Understanding IFNGR1's function and interactions is important for exploring new therapeutic strategies for these disorders.

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

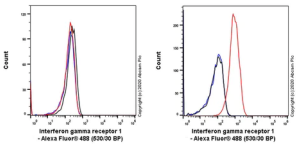
We do not recommend this combination. It is not covered by our product promise.

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.

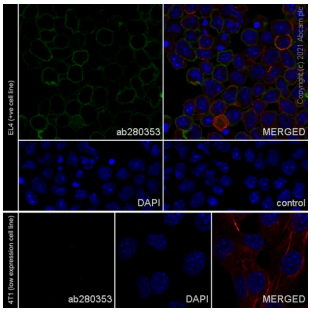
6 product images



Flow Cytometry - Anti-IFNGR1 antibody [EPR24127-89] - BSA and Azide free (ab280358)

IFNGR1 Flow Cytometry staining using rabbit Anti-IFNGR1 antibody

This data was developed using ab280353, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4T1 (mouse mammary gland carcinoma epithelial cell, left)/ EL4 (mouse lymphoma T lymphocyte, right) cells labelling IFNGR1 with ab280353 at 1/500 dilution (Red) 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, ab150077) at 1/2000 dilution was used as the secondary antibody. Low expression: 4T1(PMID:12154047) Gated on viable cells.

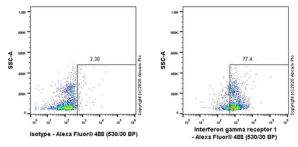


Immunocytochemistry/ Immunofluorescence - Anti-IFNGR1 antibody [EPR24127-89] - BSA and Azide free (ab280358)

IFNGR1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-IFNGR1 antibody

This data was developed using ab280353, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized EL4 cells labelling IFNGR1 with ab280353 at 1/50 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing membranous staining in EL4 cell line. Low expression control:4T1 (PMID: 12154047) is observed. 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).

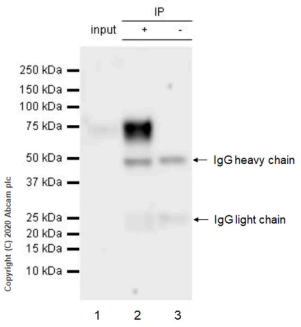
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.



Flow Cytometry - Anti-IFNGR1 antibody [EPR24127-89] - BSA and Azide free (ab280358)

IFNGR1 Flow Cytometry staining using rabbit Anti-IFNGR1 antibody

This data was developed using ab280353, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of Mouse blood cells cells labelling IFNGR1 with ab280353 at 1/500 dilution (Right) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Left). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells.



Immunoprecipitation - Anti-IFNGR1 antibody [EPR24127-89] - BSA and Azide free (ab280358)

This data was developed using ab280353, the same antibody clone in a different buffer formulation.
IFNGR1 was immunoprecipitated from 0.35 mg EL4 (mouse lymphoma T lymphocyte), whole cell lysate 10 ug with ab280353 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab280353 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: EL4 (mouse lymphoma T lymphocyte), whole cell lysate 10 ug

Lane 2: ab280353 IP in EL4 whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab280353 in EL4 whole cell lysate

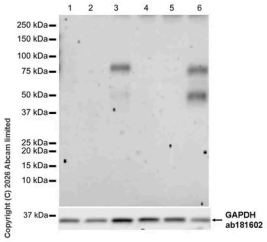
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 15 seconds

All lanes:
Immunoprecipitation - Anti-IFNGR1 antibody [EPR24127-89] (ab280353)

Predicted band size: 54 kDa

Observed band size: 70-95 kDa



Western blot - Anti-IFNGR1 antibody [EPR24127-89] - BSA and Azide free (ab280358)

IFNGR1 Western blot staining using rabbit Anti-IFNGR1 antibody

This data was developed using ab280353, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602).

The tissue samples were kindly provided by GemPharmatech. C57BL/6JGpt wildtype mice and IFNGR1-KO homozygous mice (Strain ID : T012667).

All lanes:
Western blot - Anti-IFNGR1 antibody [EPR24127-89] (ab280353) at 1/1000 dilution

Lane 1:
Untreated IFNGR1 KO mouse lung tissue whole lysate at 20 µg

Lane 2:
IFNGR1 KO mouse lung tissue treated with 1µg/mL for 16 hours whole lysate at 20 µg

Lane 3:
Mouse lung tissue treated with 1µg/mL for 16 hours whole lysate at 20 µg

Lane 4:
Untreated IFNGR1 KO mouse spleen tissue whole lysate at 20 µg

Lane 5:
IFNGR1 KO mouse spleen tissue treated with 1µg/mL for 16 hours whole lysate at 20 µg

Lane 6:

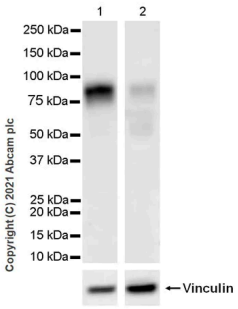
Mouse spleen tissue treated with 1µg/mL for 16 hours whole lysate at 20 µg

Secondary

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

Observed band size: 80 kDa, 36 kDa

Exposure time: 180s



Western blot - Anti-IFNGR1 antibody [EPR24127-89] - BSA and Azide free (ab280358)

This data was developed using ab280353, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST

Low expression: 4T1(PMID:12154047)

Exposure time: 74 seconds

All lanes:
Western blot - Anti-IFNGR1 antibody [EPR24127-89] (ab280353) at 1/1000 dilution

Lane 1:
EL4 (mouse lymphoma T lymphocyte), whole cell lysate at 20 µg

Lane 2:
4T1 (mouse mammary gland carcinoma epithelial cell), whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 54 kDa

Observed band size: 70-95 kDa

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