abcam

ab243895

Anti-IRF1 antibody [BLR039F]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.8 - 8.6 Preservative: 0.09% Sodium azide Constituents: 98% Borate buffered saline, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human IRF1 aa 250-300. The exact immunogen used to generate this antibody is proprietary information. Database link P10914
Clone number	BLR039F
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Recombinant antibody was purified from cell culture supernatant.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

ICC

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	Use 20µl/mg lysate.

Flow Cyt

Tested

Species	Human
Dilution info	1 µL for 10^6 Cells
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Target data

See full target information IRF1

Function Transcriptional regulator which displays a remarkable functional diversity in the regulation of cellular responses (PubMed:15226432, PubMed:15509808, PubMed:17516545, PubMed:17942705, PubMed:18497060, PubMed:19404407,

PubMed:19851330, PubMed:22367195, PubMed:32385160). Regulates transcription of IFN and IFN-inducible genes, host response to viral and bacterial infections, regulation of many genes expressed during hematopoiesis, inflammation, immune responses and cell proliferation and differentiation, regulation of the cell cycle and induction of growth arrest and programmed cell death following DNA damage (PubMed:15226432, PubMed:15509808, PubMed:17516545, PubMed:17942705, PubMed:18497060, PubMed:19404407, PubMed:19851330, PubMed:22367195, PubMed:7687740). Stimulates both innate and acquired immune responses through the activation of specific target genes and can act as a transcriptional activator and repressor regulating target genes by binding to an interferon-stimulated response element (ISRE) in their promoters (PubMed:15226432, PubMed:15509808, PubMed:17516545, PubMed:17942705, PubMed:18497060, PubMed:19404407, PubMed:19851330, PubMed:21389130, PubMed:22367195). Has an essentail role in IFNG-dependent immunity to mycobacteria (PubMed:36736301). Competes with the transcriptional repressor ZBED2 for binding to a common consensus sequence in gene promoters (PubMed:32385160). Its target genes for transcriptional activation activity include: genes involved in anti-viral response, such as IFN-alpha/beta, RIGI, TNFSF10/TRAIL, ZBP1, OAS1/2, PIAS1/GBP, EIF2AK2/PKR and RSAD2/viperin; antibacterial response, such as GBP2, GBP5 and NOS2/INOS; anti-proliferative response, such as p53/TP53, LOX and CDKN1A; apoptosis, such as BBC3/PUMA, CASP1, CASP7 and CASP8; immune response, such as IL7, IL12A/B and IL15, PTGS2/COX2 and CYBB; DNA damage responses and DNA repair, such as POLQ/POLH; MHC class I expression, such as TAP1, PSMB9/LMP2, PSME1/PA28A, PSME2/PA28B and B2M and MHC class II expression, such as CIITA; metabolic enzymes, such as ACOD1/IRG1 (PubMed:15226432, PubMed:15509808, PubMed:17516545, PubMed:17942705, PubMed:18497060, PubMed:19404407, PubMed:19851330, PubMed:22367195). Represses genes involved in anti-proliferative response, such as BIRC5/survivin, CCNB1, CCNE1, CDK1, CDK2 and CDK4 and in immune response, such as FOXP3, IL4, ANXA2 and TLR4 (PubMed:18641303, PubMed:22200613). Stimulates p53/TP53-dependent transcription through enhanced recruitment of EP300 leading to increased acetylation of p53/TP53 (PubMed:15509808, PubMed:18084608). Plays an important role in immune response directly affecting NK maturation and activity, macrophage production of IL12, Th1 development and maturation of CD8+ T-cells (PubMed:11244049, PubMed:11846971, PubMed:11846974, PubMed:16932750). Also implicated in the differentiation and maturation of dendritic cells and in the suppression of regulatory T (Treg) cells development (PubMed:11244049, PubMed:11846971, PubMed:11846974, PubMed:16932750). Acts as a tumor suppressor and plays a role not only in antagonism of tumor cell growth but also in stimulating an immune response against tumor cells (PubMed:20049431).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

REACH authorisation
Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

This product is sold under License from Bethyl Laboratories, Inc.

Supplementary info

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

Activity summary	IRF1 also known as Interferon Regulatory Factor 1 is a transcription factor playing an important role in the regulation of interferon genes. This protein has a molecular weight of approximately 37 kDa. IRF1 is most commonly expressed in the nucleus but can be found elsewhere in the cell depending on the context. It operates by binding specific DNA sequences and influencing the transcription of genes involved in immune response.
Biological function summary	IRF1 influences cell growth arrest apoptosis and immune responses. It acts as an important regulator in the transcription of interferon-alpha and beta genes. IRF1 functions independently and is not generally part of a larger complex although it interacts with other transcription factors to modulate gene expression.
Pathways	IRF1 plays a significant role in both the type I interferon signaling pathway and the NF-kB pathway. These pathways are essential in the body's response to viral infections and inflammation. IRF1 interacts with proteins like STAT1 and NF-kB to initiate and regulate these immune responses effectively coordinating cellular reactions to external stress signals.
Associated diseases and disorders	IRF1 has associations with cancer and autoimmune diseases. In several cancer types such as gastric cancer IRF1 expression levels can affect tumor suppression and progression. IRF1 also interacts with proteins like P53 in the context of cancer highlighting its role in immune and apoptotic pathways. In autoimmune conditions like multiple sclerosis altered IRF1 activity can impact disease severity and progression often through its interactions with other immune mediators.

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

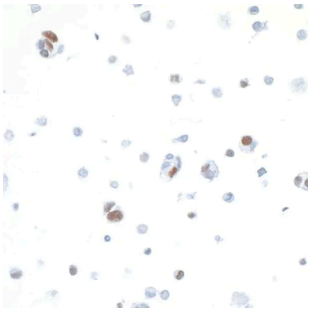
We do not recommend this combination. It is not covered by our product promise.

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.

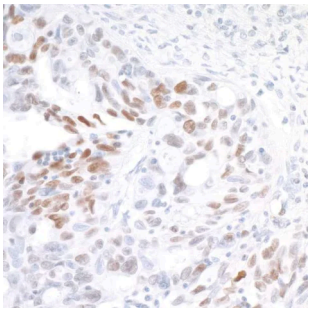
5 product images



Immunocytochemistry - Anti-IRF1 antibody [BLR039F] (ab243895)

IRF1 Immunocytochemistry staining using rabbit Anti-IRF1 antibody

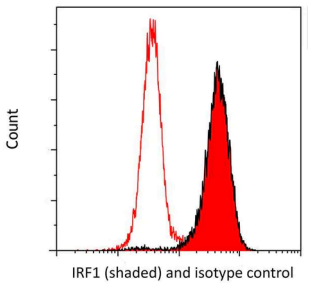
Formalin-fixed, paraffin-embedded OVCAR-8 cells labeling IRF1 using ab243895 at 1/250 dilution in ICC analysis. A HRP-conjugated goat-anti rabbit IgG was used as the secondary. DAB staining.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IRF1 antibody [BLR039F] (ab243895)

IRF1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-IRF1 antibody

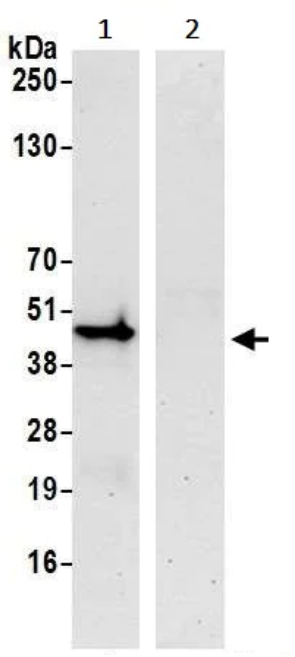
Formalin-fixed, paraffin-embedded human ovarian carcinoma tissue stained for IRF1 using ab243895 at 1/250 dilution in immunohistochemical analysis. A HRP-conjugated goat anti-rabbit antibody was used as the secondary. DAB staining.



Flow Cytometry - Anti-IRF1 antibody [BLR039F] (ab243895)

IRF1 Flow Cytometry staining using rabbit Anti-IRF1 antibody

Flow cytometric analysis of 4% formaldehyde and permeabilized with 90% methanol MOLT-4 (Human lymphoblastic leukemia cell line) cells labelling IRF1 with ab243895 at 1µl/10^6 cells (Red shaded) compared with a Isotype control (unshaded). DyLight® 650-conjugated goat anti-rabbit IgG was used as the secondary antibody.



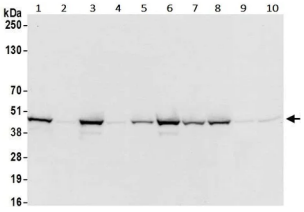
Immunoprecipitation - Anti-IRF1 antibody [BLR039F] (ab243895)

IRF1 was immunoprecipitated from 1.0 mg Jurkat (human T cell leukemia cell line from peripheral blood) whole cell lysate with ab243895 at 20 µl per reaction. Western blot was performed on the immunoprecipitate using ab243895 at 1/1000 dilution. Lane 1: ab243895 IP in Jurkat whole cell lysate.
Lane 2: Control IgG in Jurkat whole cell lysate.

Detection: Chemiluminescence with an exposure time of 30 seconds.

All lanes:
Immunoprecipitation - Anti-IRF1 antibody [BLR039F] (ab243895)

Predicted band size: 36 kDa



Western blot - Anti-IRF1 antibody [BLR039F] (ab243895)

IRF1 Western blot staining using rabbit Anti-IRF1 antibody

Western blot analysis using ab243895 at 1/1000 dilution.
Lane 1: Jurkat whole cell lysate (50 µg).

Lane 2: HepG2 whole cell lysate (50 µg).

Lane 3: HeLA (+ IFN-gamma) whole cell lysate (50 µg).

Lane 4: HeLa whole cell lysate (50 µg).

Lane 5: SR whole cell lysate (50 µg).

Lane 6: MOLT-4 whole cell lysate (50 µg).

Lane 7: RPMI 8226 whole cell lysate (50 µg).

Lane 8: KG-1 whole cell lysate (50 µg).

Lane 9: A549 whole cell lysate (50 µg).

Lane 10: MCF7 whole cell lysate (50 µg).

A HRP-conjugated goat anti-rabbit IgG antibody was used as the secondary. Detection: chemiluminescence with an exposure time of 3 seconds.

All lanes:
Western blot - Anti-IRF1 antibody [BLR039F] (ab243895)

Predicted band size: 36 kDa

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