

IRF3 Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8483b**Specification**

IRF3 Antibody - Product Information

Application	WB, IHC-P, FC, IF, E
Primary Accession	Q14653
Reactivity	Human, Green Monkey
Host	Mouse
Clonality	monoclonal
Isotype	IgG1, k
Calculated MW	47219

IRF3 Antibody - Additional Information**Gene ID** 3661**Other Names**

Interferon regulatory factor 3, IRF-3, IRF3

Target/Specificity

This IRF3 antibody is generated from a mouse immunized with a recombinant protein.

Dilution

WB~~1:2000

IHC-P~~1:25

FC~~1:25

IF~~1:25

E~~Use at an assay dependent concentration.

Format

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

IRF3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

IRF3 Antibody - Protein Information**Name** IRF3 {ECO:0000303|PubMed:9803267, ECO:0000312|HGNC:HGNC:6118}**Function** Key transcriptional regulator of type I interferon (IFN)- dependent immune responses which plays a critical role in the innate immune response against DNA and RNA viruses

(PubMed:[22394562](#), PubMed:[24049179](#), PubMed:[25636800](#), PubMed:[27302953](#), PubMed:[31340999](#), PubMed:[36603579](#), PubMed:[8524823](#)). Regulates the transcription of type I IFN genes (IFN-alpha and IFN-beta) and IFN-stimulated genes (ISG) by binding to an interferon-stimulated response element (ISRE) in their promoters (PubMed:[11846977](#), PubMed:[16846591](#), PubMed:[16979567](#), PubMed:[20049431](#), PubMed:[32972995](#), PubMed:[36603579](#), PubMed:[8524823](#)). Acts as a more potent activator of the IFN-beta (IFNB) gene than the IFN-alpha (IFNA) gene and plays a critical role in both the early and late phases of the IFNA/B gene induction (PubMed:[16846591](#), PubMed:[16979567](#), PubMed:[20049431](#), PubMed:[36603579](#)). Found in an inactive form in the cytoplasm of uninfected cells and following viral infection, double-stranded RNA (dsRNA), or toll-like receptor (TLR) signaling, is phosphorylated by IKKε and TBK1 kinases (PubMed:[22394562](#), PubMed:[25636800](#), PubMed:[27302953](#), PubMed:[36603579](#)). This induces a conformational change, leading to its dimerization and nuclear localization and association with CREB binding protein (CREBBP) to form dsRNA-activated factor 1 (DRAFI), a complex which activates the transcription of the type I IFN and ISG genes (PubMed:[16154084](#), PubMed:[27302953](#), PubMed:[33440148](#), PubMed:[36603579](#)). Can activate distinct gene expression programs in macrophages and can induce significant apoptosis in primary macrophages (PubMed:[16846591](#)). In response to Sendai virus infection, is recruited by TOMM70:HSP90AA1 to mitochondrion and forms an apoptosis complex TOMM70:HSP90AA1:IRF3:BAX inducing apoptosis (PubMed:[25609812](#)). Key transcription factor regulating the IFN response during SARS-CoV-2 infection (PubMed:[33440148](#)).

Cellular Location

Cytoplasm. Nucleus Mitochondrion. Note=Shuttles between cytoplasmic and nuclear compartments, with export being the prevailing effect (PubMed:[10805757](#), PubMed:[35922005](#)). When activated, IRF3 interaction with CREBBP prevents its export to the cytoplasm (PubMed:[10805757](#)). Recruited to mitochondria via TOMM70:HSP90AA1 upon Sendai virus infection (PubMed:[25609812](#)).

Tissue Location

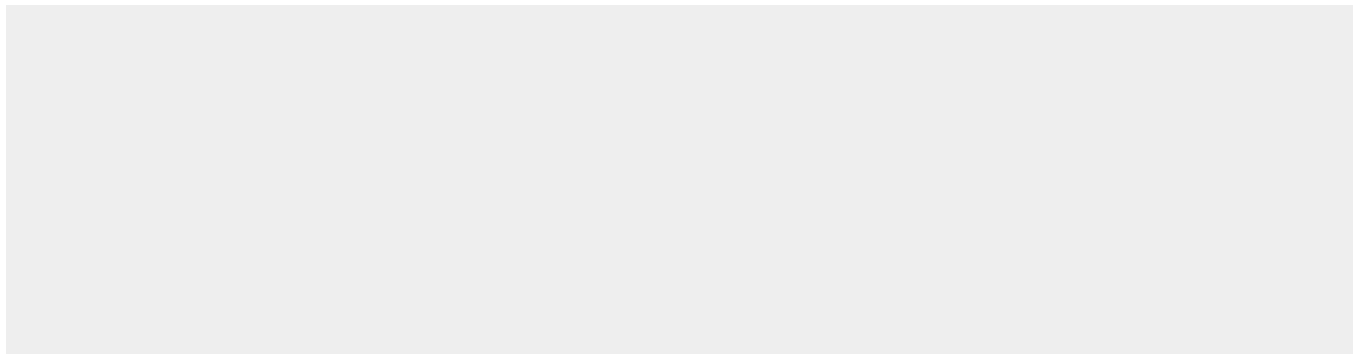
Expressed constitutively in a variety of tissues.

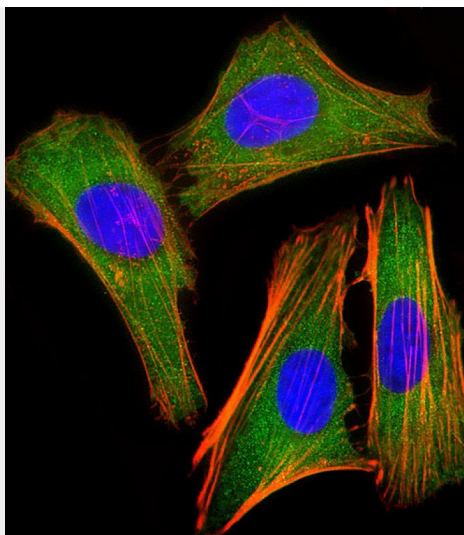
IRF3 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

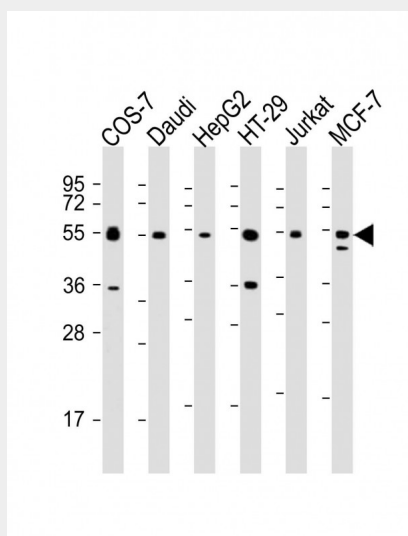
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

IRF3 Antibody - Images

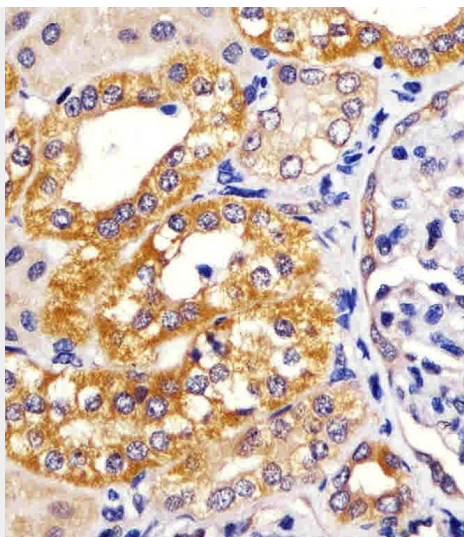




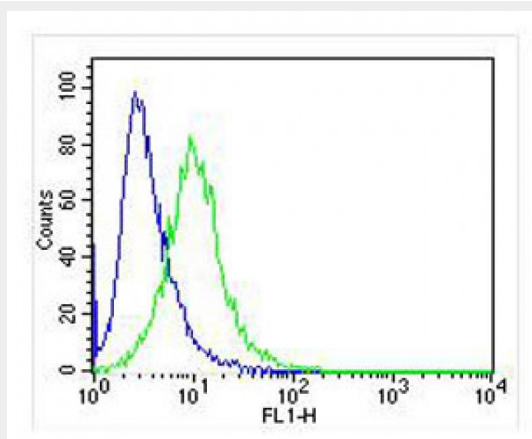
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervical epithelial adenocarcinoma cell line) cells labeling IRF3 with AM8483b at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-mouse IgG (NA166821) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing cytoplasm staining on HeLa cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (PD18466410) at 1/100 dilution (red). The nuclear counter stain is DAPI (blue).



All lanes : Anti-IRF3 Antibody at 1:2000 dilution Lane 1: COS-7 whole cell lysate Lane 2: Daudi whole cell lysate Lane 3: HepG2 whole cell lysate Lane 4: HT-29 whole cell lysate Lane 5: Jurkat whole cell lysate Lane 6: MCF-7 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 47 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



AM8483b staining IRF3 in human kidney sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hour at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



Overlay histogram showing Jurkat cells stained with AM8483b (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AM8483b, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed (NA168821) at 1/400 dilution for 40 min at 37°C. Isotype control antibody (blue line) was mouse IgG (1 µg/1x10⁶ cells) used under the same conditions. Acquisition of >10,000 events was performed.

IRF3 Antibody - Background

Key transcriptional regulator of type I interferon (IFN)-dependent immune responses which plays a critical role in the innate immune response against DNA and RNA viruses. Regulates the transcription of type I IFN genes (IFN- α and IFN- β) and IFN-stimulated genes (ISG) by binding to an interferon-stimulated response element (ISRE) in their promoters. Acts as a more potent activator of the IFN- β (IFNB) gene than the IFN- α (IFNA) gene and plays a critical role in both the early and late phases of the IFNA/B gene induction. Found in an inactive form in the cytoplasm of uninfected cells and following viral infection, double-stranded RNA (dsRNA), or toll-like receptor (TLR) signaling, is phosphorylated by IKK ϵ and TBK1 kinases. This induces a conformational

change, leading to its dimerization and nuclear localization and association with CREB binding protein (CREBBP) to form dsRNA-activated factor 1 (DRAF1), a complex which activates the transcription of the type I IFN and ISG genes. Can activate distinct gene expression programs in macrophages and can induce significant apoptosis in primary macrophages.

IRF3 Antibody - References

Au W.W.-C.,et al.Proc. Natl. Acad. Sci. U.S.A. 92:11657-11661(1995).
Tabata Y.,et al.Submitted (FEB-2003) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Grimwood J.,et al.Nature 428:529-535(2004).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.