

IRF3 Antibody

Purified Mouse Monoclonal Antibody (Mab) Catalog # AM8483b

Specification

IRF3 Antibody - Product Information

Application Primary Accession Reactivity Host Clonality Isotype Calculated MW IF, WB, IHC-P, FC,E <u>Q14653</u> Human, African Green Monkey Mouse monoclonal IgG1,k 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 IF~~1:25 WB~~1:2000 IHC-P~~1:25 FC~~1:25

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:<u>8524823</u>, PubMed:<u>22394562</u>, PubMed:<u>25636800</u>, PubMed:<u>27302953</u>, PubMed:<u>24049179</u>,



PubMed: 31340999, PubMed: 36603579). 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: 8524823, PubMed: 11846977, PubMed: 16846591, PubMed:<u>16979567</u>, PubMed:<u>20049431</u>, PubMed:<u>36603579</u>, PubMed:<u>32972995</u>). 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 IKBKE and TBK1 kinases (PubMed:22394562, PubMed:25636800, PubMed:36603579, PubMed:27302953). 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 (PubMed:<u>16154084</u>, PubMed:<u>27302953</u>, 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.

- <u>Western Blot</u>
- <u>Blocking Peptides</u>
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>
- **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 hours 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 icubated 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 Goat-Anti-Mouse antibody used was lgG, **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 ($1\mu g/1 \times 10^{6}$ 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-alpha and IFN-beta) 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-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. 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 IKBKE 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.