

# IRF3 Rabbit mAb

Catalog # AP76555

## Product Information

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<b>Application</b>	WB, IHC-P, FC, IP
<b>Primary Accession</b>	<a href="#">Q14653</a>
<b>Reactivity</b>	Human
<b>Host</b>	Rabbit
<b>Clonality</b>	Monoclonal Antibody
<b>Isotype</b>	IgG
<b>Conjugate</b>	Unconjugated
<b>Purification</b>	Affinity Purified
<b>Calculated MW</b>	47219

## Additional Information

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<b>Gene ID</b>	3661
<b>Other Names</b>	IRF3
<b>Dilution</b>	WB~~1:1000 IHC-P~~N/A FC~~1:10~50 IP~~N/A
<b>Format</b>	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
<b>Storage</b>	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

## Protein Information

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<b>Name</b>	IRF3 {ECO:0000303   PubMed:9803267, ECO:0000312   HGNC:HGNC:6118}
<b>Function</b>	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: <a href="#">22394562</a> , PubMed: <a href="#">24049179</a> , PubMed: <a href="#">25636800</a> , PubMed: <a href="#">27302953</a> , PubMed: <a href="#">31340999</a> , PubMed: <a href="#">36603579</a> , PubMed: <a href="#">8524823</a> , PubMed: <a href="#">39362857</a> ). 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: <a href="#">11846977</a> , PubMed: <a href="#">16846591</a> , PubMed: <a href="#">16979567</a> , PubMed: <a href="#">20049431</a> , PubMed: <a href="#">32972995</a> , PubMed: <a href="#">36603579</a> , PubMed: <a href="#">8524823</a> ). 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: <a href="#">16846591</a> , PubMed: <a href="#">16979567</a> , PubMed: <a href="#">20049431</a> , PubMed: <a href="#">36603579</a> ). 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 (DRAF1), 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.

**Background**

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IRFs comprise a family of transcription factors that function within the Jak/Stat pathway to regulate interferon (IFN) and IFN-inducible gene expression in response to viral infection. IRF-3 can inhibit cell growth and plays a critical role in controlling the expression of genes in the innate immune response.

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