

**IRF8 Antibody**  
Catalog # ASC10272**Specification****IRF8 Antibody - Product Information**

Application	WB, IF
Primary Accession	<a href="#">Q14653</a>
Other Accession	<a href="#">NP_002154</a> , <a href="#">4504567</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	IRF8 antibody can be used for detection of IRF8 by Western blot at 1 µg/mL. For immunofluorescence start at 10 µg/mL.

**IRF8 Antibody - Additional Information**

Gene ID	3661
<b>Other Names</b>	
IRF8 Antibody: Interferon regulatory factor 3, IRF-3, interferon regulatory factor 3	

**Target/Specificity**  
IRF3;**Reconstitution & Storage**

IRF8 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

IRF8 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**IRF8 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:<a href="http://www.uniprot.org/citations/22394562" target="\_blank">22394562</a>, PubMed:<a href="http://www.uniprot.org/citations/24049179" target="\_blank">24049179</a>, PubMed:<a href="http://www.uniprot.org/citations/25636800" target="\_blank">25636800</a>, PubMed:<a href="http://www.uniprot.org/citations/27302953" target="\_blank">27302953</a>, PubMed:<a href="http://www.uniprot.org/citations/31340999" target="\_blank">31340999</a>, PubMed:<a href="http://www.uniprot.org/citations/36603579" target="\_blank">36603579</a>, PubMed:<a href="http://www.uniprot.org/citations/8524823" target="\_blank">8524823</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="http://www.uniprot.org/citations/11846977" target="\_blank">11846977</a>, PubMed:<a href="http://www.uniprot.org/citations/16846591" target="\_blank">16846591</a>, PubMed:<a href="http://www.uniprot.org/citations/16979567" target="\_blank">16979567</a>, PubMed:<a href="http://www.uniprot.org/citations/20049431" target="\_blank">20049431</a>, PubMed:<a href="http://www.uniprot.org/citations/32972995" target="\_blank">32972995</a>, PubMed:<a href="http://www.uniprot.org/citations/36603579" target="\_blank">36603579</a>, PubMed:<a href="http://www.uniprot.org/citations/8524823" target="\_blank">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="http://www.uniprot.org/citations/16846591" target="\_blank">16846591</a>, PubMed:<a href="http://www.uniprot.org/citations/16979567" target="\_blank">16979567</a>, PubMed:<a href="http://www.uniprot.org/citations/20049431" target="\_blank">20049431</a>, PubMed:<a href="http://www.uniprot.org/citations/36603579" target="\_blank">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 IKBKE and TBK1 kinases (PubMed:<a href="http://www.uniprot.org/citations/22394562" target="\_blank">22394562</a>, PubMed:<a href="http://www.uniprot.org/citations/25636800" target="\_blank">25636800</a>, PubMed:<a href="http://www.uniprot.org/citations/27302953" target="\_blank">27302953</a>, PubMed:<a href="http://www.uniprot.org/citations/36603579" target="\_blank">36603579</a>). 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:<a href="http://www.uniprot.org/citations/16154084" target="\_blank">16154084</a>, PubMed:<a href="http://www.uniprot.org/citations/27302953" target="\_blank">27302953</a>, PubMed:<a href="http://www.uniprot.org/citations/33440148" target="\_blank">33440148</a>, PubMed:<a href="http://www.uniprot.org/citations/36603579" target="\_blank">36603579</a>). Can activate distinct gene expression programs in macrophages and can induce significant apoptosis in primary macrophages (PubMed:<a href="http://www.uniprot.org/citations/16846591" target="\_blank">16846591</a>). 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:<a href="http://www.uniprot.org/citations/25609812" target="\_blank">25609812</a>). Key transcription factor regulating the IFN response during SARS-CoV-2 infection (PubMed:<a href="http://www.uniprot.org/citations/33440148" target="\_blank">33440148</a>).

### 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.

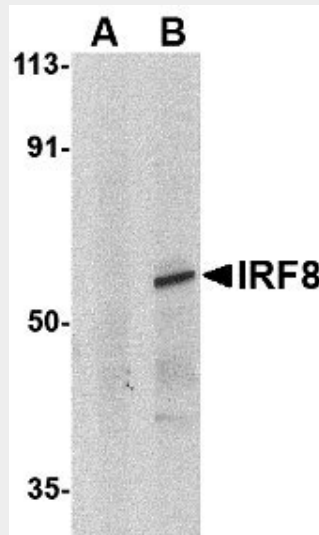
### IRF8 Antibody - Protocols

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

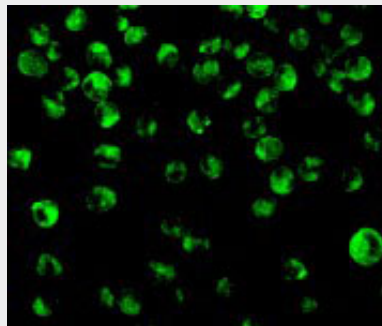
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)

- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### IRF8 Antibody - Images



Western blot analysis of IRF8 in human thymus tissue lysate with IRF8 antibody at 1  $\mu\text{g}/\text{mL}$  in (A) the presence and (B) absence of blocking peptide.



Immunofluorescence of IRF8 in K562 cells with IRF8 antibody at 10  $\mu\text{g}/\text{mL}$ .

### IRF8 Antibody - Background

IRF8 Antibody: Interferons (IFN)s are involved in a multitude of immune interactions during viral infections and play a major role in both the induction and regulation of innate and adaptive antiviral mechanisms. During infection, host-virus interactions signal downstream molecules such as transcription factors such as IFN regulatory factor-3 (IRF3) which can act to stimulate transcription of IFN-alpha/beta genes. Unlike IRF3, IRF8 appears to act as a negative regulator of IFN-induced genes in most cases, but IRF8 mediates activation of NF- $\kappa\text{B}$  by the toll-like receptor 9 (TLR9) after stimulation by unmethylated CpG DNA in dendritic cells. Finally, it has been shown that IRF8 decreases bcl-2 expression and thus may play a role in chronic myelogenous leukemia.

### IRF8 Antibody - References

Malmgaard L. Induction and regulation of IFNs during viral infections. *J. Interferon & Cyto. Res.* 2004; 24:439-54

Weisz A, Marx P, Sharf R, et al. The human interferon consensus sequence binding protein (H-ICSBP) is a negative regulator of enhancer elements common to interferon inducible genes. *J. Biol. Chem.*

1992; 267:25589-96.

Nelson N, Marks MS, Driggers PH, et al. Interferon consensus sequence-binding protein, a member of the interferon regulatory factor family, suppresses interferon-induced gene transcription. *Mol. Cell. Biol.* 1993; 13:588-99.

Tsujimura H, Tamura T, Kong HJ, et al. Toll-like receptor 9 signaling activates NF- $\kappa$ B through IFN regulatory factor-8/IFN consensus sequence binding protein in dendritic cells. *J. Immunol.* 2004; 172:6820-7.