

Specification

[20049431](http://www.uniprot.org/citations/20049431), PubMed:<[32972995](http://www.uniprot.org/citations/32972995)>, PubMed:<[36603579](http://www.uniprot.org/citations/36603579)>, PubMed:<[8524823](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/16846591)>, PubMed:<[16979567](http://www.uniprot.org/citations/16979567)>, PubMed:<[20049431](http://www.uniprot.org/citations/20049431)>, PubMed:<[36603579](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/22394562)>, PubMed:<[25636800](http://www.uniprot.org/citations/25636800)>, PubMed:<[27302953](http://www.uniprot.org/citations/27302953)>, PubMed:<[36603579](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/16154084)>, PubMed:<[27302953](http://www.uniprot.org/citations/27302953)>, PubMed:<[33440148](http://www.uniprot.org/citations/33440148)>, PubMed:<[36603579](http://www.uniprot.org/citations/36603579)>). Can activate distinct gene expression programs in macrophages and can induce significant apoptosis in primary macrophages (PubMed:<[16846591](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/25609812)>). Key transcription factor regulating the IFN response during SARS-CoV-2 infection (PubMed:<[33440148](http://www.uniprot.org/citations/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

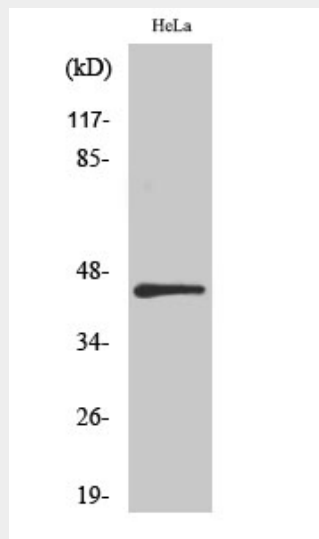
Expressed constitutively in a variety of tissues.

IRF-3 Polyclonal 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](#)

IRF-3 Polyclonal Antibody - Images



IRF-3 Polyclonal 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 IKKε 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.