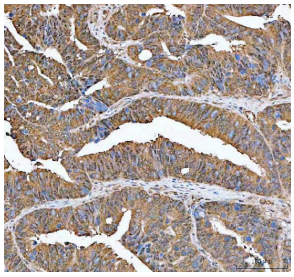
IRF3 Antibody / Innate Immune Transcription Factor Antibody (FY13467)

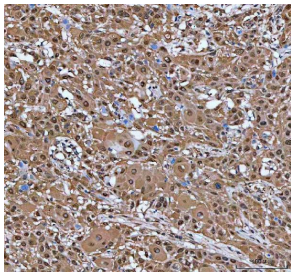
Catalog No.	Formulation	Size
FY13467	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

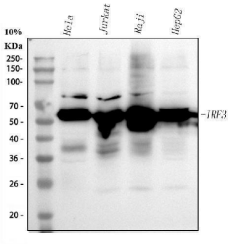
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purification
UniProt	Q14653
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This IRF3 Antibody / Innate Immune Transcription Factor Antibody is available for research use only.



IRF3 Antibody Human Colorectal Adenocarcinoma IHC. Immunohistochemical staining of FFPE human colorectal adenocarcinoma tissue with IRF3 antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. IRF3 immunoreactivity is observed predominantly within the cytoplasm of malignant epithelial cells, consistent with the expected localization of this innate immune transcription factor, which becomes activated and translocates to the nucleus following phosphorylation to regulate type I interferon production and antiviral gene expression. Cell nuclei are counterstained with hematoxylin (blue).



IRF3 Antibody Human Bladder Cancer IHC. Immunohistochemical staining of FFPE human bladder urothelial carcinoma tissue with IRF3 antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. IRF3 immunoreactivity is observed predominantly within the cytoplasm of malignant urothelial cells, consistent with the expected localization of this innate immune transcription factor, which undergoes phosphorylation-dependent nuclear translocation to activate type I interferon signaling and antiviral gene expression. Cell nuclei are counterstained with hematoxylin (blue).



IRF3 Antibody Human Cell Line WB. Western blot testing of 1) human HeLa, 2) human Jurkat, 3) human Raji, and 4) human HepG2 cell lysates with IRF3 antibody at 0.5 ug/ml. A prominent immunoreactive band is detected at approximately 50-55 kDa in all four human cell lines, consistent with the expected migration of IRF3 despite its predicted molecular weight of approximately 47 kDa. The results demonstrate specific detection of this innate immune transcription factor, which regulates type I interferon production and antiviral gene expression following activation by pattern recognition receptor signaling pathways.

Description

IRF3 Antibody recognizes Interferon Regulatory Factor 3 (IRF3), a ubiquitously expressed transcription factor that serves as a central regulator of innate antiviral immunity. IRF3 is activated in response to viral infection, cytosolic nucleic acids, and other pathogen-associated molecular patterns through signaling pathways initiated by pattern recognition receptors including Toll-like receptors, RIG-I-like receptors, and the cyclic GMP-AMP synthase-stimulator of interferon genes (cGAS-STING) pathway. Following phosphorylation by the kinases TBK1 and IKK epsilon, IRF3 dimerizes and translocates to the nucleus, where it induces transcription of type I interferons and numerous interferon-stimulated genes. Consequently, IRF3 Antibody is widely used to investigate innate immunity, antiviral signaling, inflammation, and host defense mechanisms.

IRF3 functions as a master regulator of the early antiviral response by coordinating expression of interferon beta and other cytokines that establish an antiviral state in infected and neighboring cells. In addition to viral defense, IRF3 contributes to antibacterial immunity, responses to intracellular DNA damage, apoptosis, autophagy, and regulation of inflammatory signaling networks. Because IRF3 integrates signals from multiple pathogen-sensing pathways, it occupies a pivotal position linking pathogen recognition to transcriptional activation of immune response genes. IRF3 Antibody is therefore an important tool for studies of innate immune signaling, cytokine regulation, and transcriptional control.

Dysregulation of IRF3 activity has been implicated in numerous pathological conditions, including chronic viral infections, autoimmune diseases, inflammatory disorders, neurodegenerative diseases, and cancer. Many viruses have evolved mechanisms to inhibit IRF3 activation in order to evade host immunity, while aberrant IRF3 signaling has been associated with excessive interferon production and chronic inflammation. Increasing evidence also supports roles for IRF3 in tumor immunity, cellular senescence, metabolic regulation, and responses to immunotherapy, making IRF3 an attractive target for both basic and translational research.

NSJ Bioreagents offers highly validated IRF3 Antibody products for reliable detection of endogenous IRF3 in human and animal samples. These antibodies support investigations into innate immune signaling, interferon production, antiviral defense, inflammatory responses, and transcriptional regulation while providing dependable performance across western blotting, immunohistochemistry, immunofluorescence, flow cytometry, immunoprecipitation, and other research applications.

For broader characterization of IRF3-associated innate immune signaling and interferon regulatory pathways, see our IRF3 Antibody / Innate Immune Signaling Antibody page featuring clone PCRP-IRF3-6C8 with WB, IF, FACS, and HuProt(TM) microarray specificity validation data.

Application Notes

Optimal dilution of the IRF3 Antibody / Innate Immune Transcription Factor Antibody should be determined by the researcher.

Immunogen

An E.coli-derived recombinant human Interferon Regulatory Factor 3 protein (amino acids T3-L450) was used as the immunogen for the IRF3 Antibody.

Storage

IRF3 Antibody is stable at -20oC for one year from date of receipt. After reconstitution, at 4oC for one month. It can also be aliquoted and stored frozen at -20oC for six months. Avoid repeated freeze-thaw cycles.

Alternate Names

Interferon Regulatory Factor 3 antibody, IRF-3 antibody, Interferon Regulatory Factor-3 antibody, ISGF3 Gamma antibody, IRF3 antibody, Interferon Response Factor 3 antibody

Copyright © NSJ Bioreagents. All rights reserved.