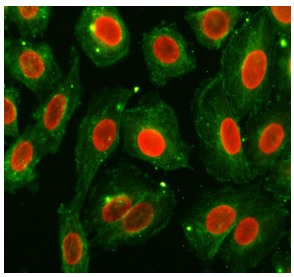
IFI16 Antibody / Gamma-interferon-inducible Protein 16 Antibody (FY13512)

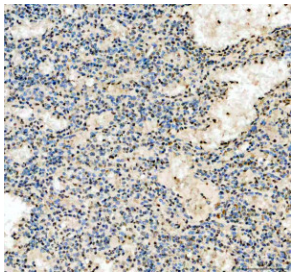
Catalog No.	Formulation	Size
FY13512	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

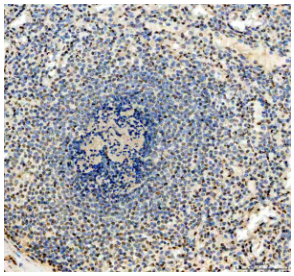
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen Affinity
Buffer	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4
UniProt	Q16666
Applications	Western Blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml ELISA: 0.1-0.5ug/ml Immunofluorescence: 5ug/ml
Limitations	This IFI16 Antibody / Gamma-interferon-inducible Protein 16 Antibody is available for research use only.



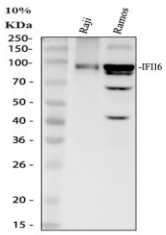
IFI16 Antibody by IF. Immunofluorescence staining of human SiHa cells using rabbit polyclonal IFI16 antibody at 5 ug/ml. Gamma-interferon-inducible protein 16 is detected predominantly in cell nuclei (red, Cy3), while alpha-tubulin staining highlights the cytoplasmic microtubule network (green, Fluoro488). The distinct nuclear localization of IFI16 contrasts with the filamentous cytoplasmic distribution of alpha-tubulin. Cells were treated with enzyme-based antigen retrieval for 15 minutes, followed by overnight primary antibody incubation at 4oC and fluorescent secondary antibody detection.



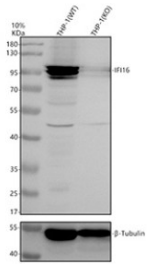
IFI16 Antibody by IHC. Immunohistochemistry staining of FFPE human tonsil tissue using rabbit polyclonal IFI16 antibody at 2 ug/ml. Gamma-interferon-inducible protein 16 expression is demonstrated by brown nuclear staining in scattered lymphoid and stromal cells, with variable staining intensity across the tissue section. Many surrounding lymphocytes exhibit little or no detectable immunoreactivity. Heat-induced antigen retrieval was performed using EDTA buffer (pH 8.0), followed by overnight primary antibody incubation at 4oC and DAB-based detection.



IFI16 Antibody by IHC. Immunohistochemistry staining of FFPE human spleen tissue using rabbit polyclonal IFI16 antibody at 2 ug/ml. Gamma-interferon-inducible protein 16 immunoreactivity is observed in scattered cells throughout the lymphoid tissue, with predominantly nuclear staining and variable intensity among individual cells. The lymphoid follicle contains numerous hematoxylin-counterstained nuclei with comparatively limited brown labeling. Heat-induced antigen retrieval was performed using EDTA buffer (pH 8.0), followed by overnight primary antibody incubation at 4oC and DAB-based detection.



IFI16 Antibody by WB. Western blot analysis of gamma-interferon-inducible protein 16 in human Raji whole-cell lysate (lane 1) and human Ramos whole-cell lysate (lane 2). Samples containing 30 ug of total protein per lane were separated by 10% SDS-PAGE under reducing conditions. The rabbit polyclonal antibody was used at 0.5 ug/ml and detected a principal band at approximately 85-95 kDa, consistent with the predicted molecular weight of 88 kDa. The Ramos sample exhibits a substantially stronger IFI16 signal than Raji, with additional bands near 60 and 42 kDa. These lower-molecular-weight bands may represent protein fragments or nonspecific antibody reactivity.



IFI16 Antibody WB Analysis of THP-1 Wild-Type and Knockout Cells. Western blot analysis of human THP-1 wild-type (WT, lane 1) and IFI16 knockout (KO, lane 2) whole-cell lysates using Gamma-interferon-inducible Protein 16 Antibody at 0.5 ug/ml. Prominent immunoreactive bands are detected near 85-95 kDa in WT lysate and are markedly reduced in KO lysate, supporting antibody specificity for IFI16. Each lane contains 30 ug of protein under reducing conditions. Beta-Tubulin serves as the loading control.

Description

IFI16 Antibody recognizes interferon gamma-inducible protein 16 (IFI16), a member of the PYHIN protein family involved in intracellular DNA sensing, innate immune signaling, and transcriptional regulation. Also known as gamma-interferon-inducible protein 16, IFI16 functions at the intersection of antiviral defense, inflammatory responses, and cellular stress signaling. Its ability to recognize DNA and participate in protein signaling complexes makes it an important component of the cellular response to infection and genomic disturbances.

IFI16 contains an N-terminal pyrin domain (PYD) and two C-terminal HIN domains, commonly designated HIN-A and HIN-B. The HIN domains bind double-stranded DNA through interactions with the DNA backbone, allowing IFI16 to recognize nucleic acids largely independently of sequence. The pyrin domain facilitates protein-protein interactions involved in assembling signaling complexes. Together, these domains enable IFI16 to connect DNA recognition with downstream immune responses and regulatory pathways.

Although predominantly associated with the nucleus, IFI16 can also participate in cytoplasmic DNA-sensing pathways. During certain viral infections, IFI16 recognizes foreign DNA and contributes to the activation of innate immune signaling. Its interactions with the STING pathway can promote production of type I interferons and other antiviral mediators. IFI16 has also been implicated in inflammasome-related signaling, including responses to herpesvirus infection that involve caspase-1 activation and inflammatory cytokine maturation.

Beyond antiviral immunity, IFI16 participates in the regulation of cell proliferation, differentiation, and senescence. It interacts with proteins involved in cell-cycle control, including p53 and retinoblastoma-associated pathways, and can influence transcriptional programs governing growth arrest and cellular stress responses. Increased IFI16 expression has been associated with cellular senescence and the development of inflammatory phenotypes, connecting this DNA sensor to broader mechanisms of tissue aging and immune regulation.

IFI16 expression is influenced by interferon signaling, particularly interferon gamma, linking its activity to immune activation and inflammatory conditions. Dysregulated IFI16 signaling has been investigated in autoimmune disorders, chronic inflammation, and cancer, where altered nucleic acid sensing and immune responses may contribute to disease progression. IFI16 is also recognized as an autoantigen in certain autoimmune diseases, reflecting its significance in the relationship between nuclear proteins and immune tolerance.

The biological functions of IFI16 extend beyond direct DNA recognition. Its interactions with chromatin-associated proteins, transcription factors, and innate immune signaling components allow it to influence multiple cellular pathways. Researchers investigating IFI16 frequently examine the relationship between nuclear DNA surveillance, antiviral defense, inflammasome activation, and the regulation of cellular growth and survival.

An IFI16 Antibody from NSJ Bioreagents provides a research tool for investigating gamma-interferon-inducible protein 16 and its roles in DNA sensing, innate immunity, transcriptional regulation, and inflammatory signaling.

Explore our Immunology Antibodies collection for additional research tools targeting innate immune signaling, interferon responses, and inflammatory pathways.

Application Notes

Optimal dilution of the IFI16 Antibody / Gamma-interferon-inducible Protein 16 Antibody should be determined by the researcher.

Immunogen

E.coli-derived human Gamma-interferon-inducible Protein 16 recombinant protein (amino acids E183-K743) was used as the immunogen for the IFI16 Antibody.

Storage

After reconstitution, the IFI16 Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Gamma-interferon-inducible protein 16 antibody, Interferon gamma-inducible protein 16 antibody, IFI-16 antibody, HIN-200 family protein antibody, PYHIN family protein antibody

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