

IFIH1 / MDA5 Antibody (Internal)
Rabbit Polyclonal Antibody
Catalog # ALS12228**Specification**

IFIH1 / MDA5 Antibody (Internal) - Product Information

Application	IF, WB, IHC
Primary Accession	Q9BYX4
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	117kDa KDa

IFIH1 / MDA5 Antibody (Internal) - Additional Information**Gene ID** 64135**Other Names**

Interferon-induced helicase C domain-containing protein 1, 3.6.4.13, Clinically amyopathic dermatomyositis autoantigen 140 kDa, CADM-140 autoantigen, Helicase with 2 CARD domains, Helicard, Interferon-induced with helicase C domain protein 1, Melanoma differentiation-associated protein 5, MDA-5, Murabutide down-regulated protein, RIG-I-like receptor 2, RLR-2, RNA helicase-DEAD box protein 116, IFIH1, MDA5, RH116

Target/Specificity

16 amino acid peptide from near the center of human MDA5.

Reconstitution & Storage

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles. Store undiluted.

Precautions

IFIH1 / MDA5 Antibody (Internal) is for research use only and not for use in diagnostic or therapeutic procedures.

IFIH1 / MDA5 Antibody (Internal) - Protein Information**Name** IFIH1 ([HGNC:18873](#))**Function**

Innate immune receptor which acts as a cytoplasmic sensor of viral nucleic acids and plays a major role in sensing viral infection and in the activation of a cascade of antiviral responses including the induction of type I interferons and pro-inflammatory cytokines (PubMed:32169843, PubMed:33727702, PubMed:28594402). Its ligands include mRNA lacking 2'-O-methylation at their 5' cap and long-dsRNA (>1 kb in length) (PubMed:22160685). Upon ligand binding it associates with mitochondria antiviral signaling protein (MAVS/IPS1) which

activates the IKK-related kinases: TBK1 and IKKε which phosphorylate interferon regulatory factors: IRF3 and IRF7 which in turn activate transcription of antiviral immunological genes, including interferons (IFNs); IFN-α and IFN-β. Responsible for detecting the Picornaviridae family members such as encephalomyocarditis virus (EMCV), mengo encephalomyocarditis virus (ENMG), and rhinovirus (PubMed:28606988). Detects coronavirus SARS-CoV-2 (PubMed:33440148, PubMed:33514628). Can also detect other viruses such as dengue virus (DENV), west Nile virus (WNV), and reovirus. Also involved in antiviral signaling in response to viruses containing a dsDNA genome, such as vaccinia virus. Plays an important role in amplifying innate immune signaling through recognition of RNA metabolites that are produced during virus infection by ribonuclease L (RNase L). May play an important role in enhancing natural killer cell function and may be involved in growth inhibition and apoptosis in several tumor cell lines.

Cellular Location

Cytoplasm. Nucleus. Mitochondrion. Note=Upon viral RNA stimulation and ISGylation, translocates from cytosol to mitochondrion. May be found in the nucleus, during apoptosis

Tissue Location

Widely expressed, at a low level. Expression is detected at slightly highest levels in placenta, pancreas and spleen and at barely levels in detectable brain, testis and lung

IFIH1 / MDA5 Antibody (Internal) - Protocols

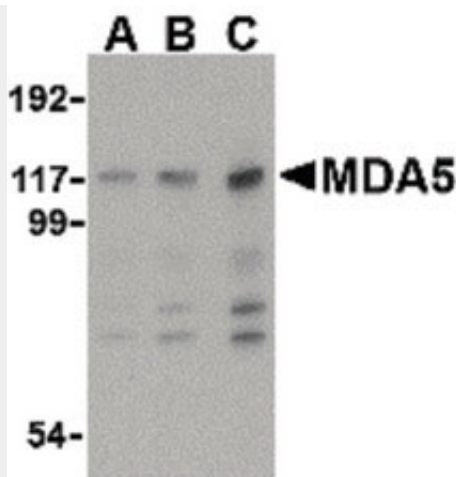
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

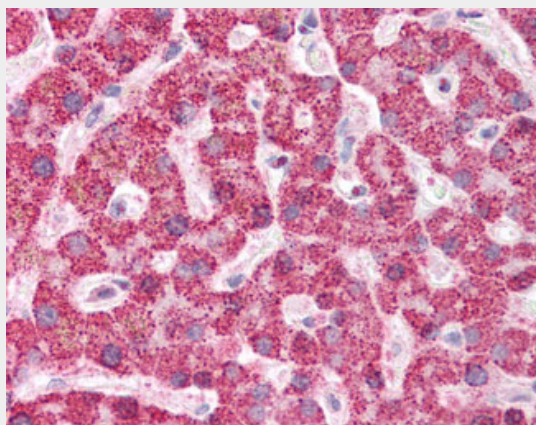
IFIH1 / MDA5 Antibody (Internal) - Images



Immunofluorescence of MDA5 in Human Lymph Node cells with MDA5 antibody at 20 ug/ml.



Western blot of MDA5 in Daudi cell lysate with MDA5 antibody at (A) 1, (B) 2 and (C) 4 ug/ml.



Anti-MDA5 antibody IHC of human liver.

IFIH1 / MDA5 Antibody (Internal) - Background

Innate immune receptor which acts as a cytoplasmic sensor of viral nucleic acids and plays a major role in sensing viral infection and in the activation of a cascade of antiviral responses including the induction of type I interferons and proinflammatory cytokines. Its ligands include mRNA lacking 2'-O- methylation at their 5' cap and long-dsRNA (>1 kb in length). Upon ligand binding it associates with mitochondria antiviral signaling protein (MAVS/IPS1) which activates the IKK-related kinases: TBK1 and IKKε which phosphorylate interferon regulatory factors: IRF3 and IRF7 which in turn activate transcription of antiviral immunological genes, including interferons (IFNs); IFN-α and IFN-β. Responsible for detecting the Picornaviridae family members such as encephalomyocarditis virus (EMCV) and mengo encephalomyocarditis virus (ENMG). Can also detect other viruses such as dengue virus (DENV), west Nile virus (WNV), and reovirus. Also involved in antiviral signaling in response to viruses containing a dsDNA genome, such as vaccinia virus. Plays an important role in amplifying innate immune signaling through recognition of RNA metabolites that are produced during virus infection by ribonuclease L (RNase L). May play an important role in enhancing natural killer cell function and may be involved in growth inhibition and apoptosis in several tumor cell lines.

IFIH1 / MDA5 Antibody (Internal) - References

- Kang D.-C., et al. Proc. Natl. Acad. Sci. U.S.A. 99:637-642(2002).
Cocude C., et al. J. Gen. Virol. 84:3215-3225(2003).
Ota T., et al. Nat. Genet. 36:40-45(2004).

Kovacsovics M.,et al.Curr. Biol. 12:838-843(2002).
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