

Rabbit IFIH1 Polyclonal Antibody | anti-IFIH1 antibody

IFIH1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326681	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

IFIH1; Polyclonal Antibody; IFIH1 Antibody; CADM-140 autoantigen; Clinically amyopathic dermatomyositis autoantigen 140 kDa; DEAD/H (Asp Glu Ala Asp/His) box polypeptide; DEAD/H box polypeptide; Helicard; Helicase with 2 CARD domains; Hlcd; IDDM 19; IDDM19; IFIH 1; Ifih1; IFIH1_HUMAN; Interferon induced helicase C domain containing protein 1; interferon induced with helicase C domain 1; Interferon induced with helicase C domain protein 1; Interferon-induced helicase C domain-containing protein 1; Interferon-induced with helicase C domain protein 1; MDA 5; MDA-5; Melanoma differentiation associated protein 5; Melanoma differentiation-associated gene 5; Melanoma differentiation-associated protein 5; MGC133047; Murabutide down regulated protein; Murabutide down-regulated protein; RH 116; RH116; RIG I like receptor 2; RLR 2; RNA helicase DEAD box protein 116; RNA helicase-DEAD box protein 116; anti-IFIH1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	IFIH1 antibody detects endogenous levels of total IFIH1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	1025
Applicable Applications for anti-IFIH1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human IFIH1
Subcellular Location	Cytoplasm. Nucleus. May be found in the nucleus, during apoptosis.
Tissue Specificity	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.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IHC (Immunohistochemisry)

AAA326681 at 1/100 staining Mouse testis tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)

AAA326681 staining Hela cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



WB (Western Blot)

Western blot analysis of extracts of Jurkat, using IFIH1 antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-IFIH1 antibody	Description: Antiviral innate immunity depends on the combination of parallel pathways triggered by virus detecting proteins in the Toll-like receptor (TLR) family and RNA helicases, such as Rig-I (retinoic acid-inducible gene I) and MDA-5 (melanoma differentiation-associated antigen 5), which promote the transcription of type I interferons (IFN) and antiviral enzymes (1-3). TLRs and helicase proteins contain sites that recognize the molecular patterns of different virus types, including DNA, single-stranded RNA (ssRNA), double-stranded RNA (dsRNA), and glycoproteins. These antiviral proteins are found in different cell compartments; TLRs (i.e. TLR3, TLR7, TLR8, and TLR9) are expressed on endosomal membranes and helicases are localized to the cytoplasm. Rig-I expression is induced by retinoic acid, LPS, IFN, and viral infection (4, 5). Both Rig-I and MDA-5 share a DExD/H-box helicase domain that detects viral dsRNA and two amino-terminal caspase recruitment domains (CARD) that are required for triggering downstream signaling (4-7). Rig-I binds both dsRNA and viral ssRNA that contains a 5'-triphosphate end not seen in host RNA (8, 9). Though structurally related, Rig-I and MDA-5 detect a distinct set of viruses (10, 11). The CARD domain of the helicases, which is sufficient to generate signaling and IFN production, is recruited to the CARD domain of the MAVS/VISA/Cardif/IPS-1 mitochondrial protein, which triggers activation of NF-kappaB, TBK1/IKKepsilon, and IRF-3/IRF-7 (12-15). 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 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 IKKepsilon which phosphorylate interferon regulatory factors: IRF3 and IRF7 which in turn activate transcription of antiviral immunological genes, including interferons (IFNs); IFN-alpha and IFN-beta. 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. Subunit Structure: Monomer in the absence of ligands and homodimerizes in the presence of dsRNA ligands. Can assemble into helical or linear polymeric filaments on long dsRNA. Interacts with MAVS/IPS1. Interacts (via the CARD domains) with TKFC, the interaction is inhibited by viral infection (PubMed:17600090). Interacts with PCBP2. Interacts with NLRC5. Interacts with PIAS2-beta. Interacts with DDX60. Interacts with ANKRD17. Interacts with IKKepsilon (PubMed:17600090). Interacts with V protein of Simian virus 5, Human parainfluenza virus 2, Mumps virus, Sendai virus and Hendra virus. Binding to paramyxoviruses V proteins prevents IFN-beta induction, and the further establishment of an antiviral state. Interacts with herpes simplex virus 1 protein US11; this interaction prevents the interaction of MAVS/IPS1 to IFIH1. Interacts with ATG5 and ATG12, either as ATG5 and ATG12 monomers or as ATG12-ATG5 conjugates (PubMed:17709747). Post-translational Modifications: Sumoylated. Sumoylation positively regulates its role in type I interferon induction and is enhanced by PIAS2-beta. Ubiquitinated by RNF125, leading to its degradation by the proteasome (PubMed:17460044). USP17/UPS17L2-dependent deubiquitination positively regulates the receptor (PubMed:20368735). During apoptosis, processed into 3 cleavage products. The helicase-containing fragment, once liberated from the CARD domains, translocate from the cytoplasm to the nucleus. The processed protein significantly sensitizes cells to DNA degradation. Similarity: Belongs to the helicase family. RLR subfamily.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	27886568
NCBI GeneID	64135
NCBI Accession #	NP_071451.2
NCBI GenBank Nucleotide #	NM_022168.4
UniProt Accession #	Q9BYX4; Q2NKL6; Q6DC96; Q86X56; Q96MX8; Q9H3G6
Molecular Weight	Observed: 117 kDa Predicted: 117 kDa
NCBI Official Full Name	interferon-induced helicase C domain-containing protein 1
NCBI Official Synonym Full Names	interferon induced with helicase C domain 1

NCBI Official Symbol	IFIH1
NCBI Official Synonym Symbols	AGS7; Hlcd; MDA5; MDA-5; RLR-2; IDDM19; SGMRT1
NCBI Protein Information	interferon-induced helicase C domain-containing protein 1
UniProt Protein Name	Interferon-induced helicase C domain-containing protein 1
UniProt Gene Name	IFIH1
UniProt Synonym Gene Names	MDA5; RH116; CADM-140 autoantigen; Helicard; MDA-5; RLR-2

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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