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KD-Validated Anti-IFIH1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1058

Product Information

Application	WB, ICC
Primary Accession	Q9BYX4
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	24GB6085
Calculated MW	116689
Gene Name	IFIH1
Aliases	IFIH1; Interferon Induced With Helicase C Domain 1; MDA-5; MDA5; Helicard; IDDM19; Interferon-Induced Helicase C Domain-Containing Protein 1; Clinically Amyopathic Dermatomyositis Autoantigen 140 KDa; Melanoma Differentiation-Associated Protein 5; Melanoma Differentiation-Associated Gene 5; RNA Helicase-DEAD Box Protein 116; Murabutide Down-Regulated Protein; Helicase With 2 CARD Domains; RIG-I-Like Receptor; CADM-140 Autoantigen; RLR-2; Hlcd; Interferon-Induced With Helicase C Domain Protein 1; DEAD/H (Asp-Glu-Ala-Asp/His) Box Polypeptide; EC 3.6.4.13; SGMRT1; IMD95; RH116; AGS7; HLCD
Immunogen	A synthesized peptide derived from human MDA5

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 (HGNC:18873)

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:28594402, PubMed:32169843, PubMed:33727702). 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 IKBKE 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), 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

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