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Anti-MDA5 Antibody

Catalog # AP51277

Product Information

Application	WB, IHC, FC
Primary Accession	Q9BYX4
Reactivity	Human, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	116689

Additional Information

Gene ID	64135
Other Names	MDA5; RH116; Interferon-induced helicase C domain-containing protein 1; 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
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human MDA5. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IHC~~1:100~500 FC~~1:10~50
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

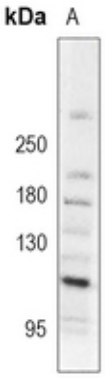
Name	IFIH1 (HGNC:18873)
Function	Innate immune receptor which acts as a cytoplasmic sensor of viral nucleic acids and plays a major role in sensing viral infection and in the activation of a cascade of antiviral responses including the induction of type I interferons and pro-inflammatory cytokines (PubMed:28594402, 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

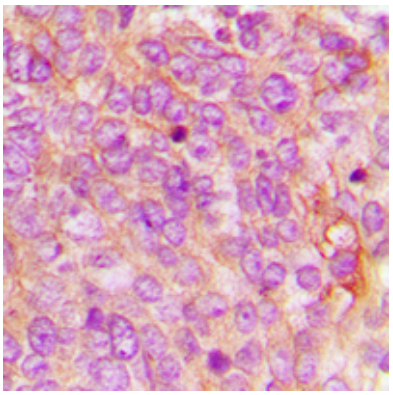
References

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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).
Kovacsovics M.,et al.Curr. Biol. 12:1633-1633(2002).

Images



Western blot analysis of MDA5 expression in A549 (A) whole cell lysates. (Predicted band size: 116 kD; Observed band size: 117 kD)



Immunohistochemical analysis of MDA5 staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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