

Product datasheet for **TA327337**

MDA5 (IFIH1) Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IF, WB
Recommended Dilution:	WB 1:500 - 1:2000
Reactivity:	Human
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Recombinant protein of human IFIH1
Formulation:	Store at -20C or -80C. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3
Concentration:	lot specific
Purification:	Affinity purification
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	interferon induced with helicase C domain 1
Database Link:	NP_071451 Entrez Gene 64135 Human Q9BYX4



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Background:

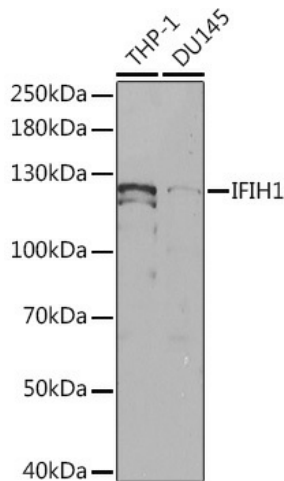
Antiviral innate immunity depends on the combination of parallel pathways triggered by virus detecting proteins in the Toll-like receptor (TLR) family and RNA helicases, such as Rig-I (retinoic acid-inducible gene I) and MDA-5 (melanoma differentiation-associated antigen 5), which promote the transcription of type I interferons (IFN) and antiviral enzymes. 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. 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. Rig-I binds both dsRNA and viral ssRNA that contains a 5-triphosphate end not seen in host RNA. Though structurally related, Rig-I and MDA-5 detect a distinct set of viruses. 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- κ B, TBK1/IKK α , and IRF-3/IRF-7. MDA-5, also named Ifih1 (interferon induced with helicase C domain 1), RH116 (RNA helicase-DEAD box protein 116), or Helicard is found to be induced by interferon. During apoptosis, MDA-5 is cleaved by caspases, separating the helicase and CARD domains. MDA-5 is uniquely activated by picornavirus and measles virus.

Synonyms:

AGS7; Hlcd; IDDM19; MDA-5; MDA5; RLR-2

Protein Pathways:

RIG-I-like receptor signaling pathway

Product images:

Western blot analysis of extracts of various cell lines, using IFIH1 Rabbit pAb (TA327337) at 1:1000 dilution. | Secondary antibody: HRP Goat Anti-Rabbit IgG (H+L) at 1:10000 dilution. | Lysates/proteins: 25ug per lane. | Blocking buffer: 3% nonfat dry milk in TBST. | Detection: ECL Basic Kit.