

**DDX58 Antibody**  
Rabbit mAb  
Catalog # AP91422

## Specification

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### DDX58 Antibody - Product Information

Application	<b>WB, IP</b>
Primary Accession	<a href="#">O95786</a>
Clonality	<b>Monoclonal</b>
<b>Other Names</b>	
RIG-I-like receptor 1; RLR-1; RLR1; Retinoic acid-inducible gene 1 protein; RIG-1; RIG1; RIG-I; RIGI;	
Isotype	<b>Rabbit IgG</b>
Host	<b>Rabbit</b>
Calculated MW	<b>106600 Da</b>

### DDX58 Antibody - Additional Information

Purification	<b>Affinity-chromatography</b>
Immunogen	<b>A synthesized peptide derived from human DDX58</b>
Description	<b>Retinoic acid inducible gene I (RIG-I) is a 925 amino acid, interferon-inducible cellular DExD/H box RNA helicase that activates type I interferon (IFN), an important effector of the innate immune system that is sensitive to these dsRNA viruses. dsRNA is normally present in very low quantities in cells, so when a virus is present, the elevated levels of dsRNA act as a sign telling RIG-I to activate the production of IFN.</b>
Storage Condition and Buffer	<b>Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.</b>

### DDX58 Antibody - Protein Information

**Name** RIGI ([HGNC:19102](#))

**Synonyms** DDX58

#### Function

Innate immune receptor that senses cytoplasmic viral nucleic acids and activates a downstream signaling cascade leading to the production of type I interferons and pro-inflammatory cytokines (PubMed: [15208624](http://www.uniprot.org/citations/15208624), PubMed: [15708988](http://www.uniprot.org/citations/15708988)),

PubMed: <a href="http://www.uniprot.org/citations/16125763" target="\_blank">16125763</a>, PubMed: <a href="http://www.uniprot.org/citations/16127453" target="\_blank">16127453</a>, PubMed: <a href="http://www.uniprot.org/citations/16153868" target="\_blank">16153868</a>, PubMed: <a href="http://www.uniprot.org/citations/17190814" target="\_blank">17190814</a>, PubMed: <a href="http://www.uniprot.org/citations/18636086" target="\_blank">18636086</a>, PubMed: <a href="http://www.uniprot.org/citations/19122199" target="\_blank">19122199</a>, PubMed: <a href="http://www.uniprot.org/citations/19211564" target="\_blank">19211564</a>, PubMed: <a href="http://www.uniprot.org/citations/24366338" target="\_blank">24366338</a>, PubMed: <a href="http://www.uniprot.org/citations/28469175" target="\_blank">28469175</a>, PubMed: <a href="http://www.uniprot.org/citations/29117565" target="\_blank">29117565</a>, PubMed: <a href="http://www.uniprot.org/citations/31006531" target="\_blank">31006531</a>, PubMed: <a href="http://www.uniprot.org/citations/34935440" target="\_blank">34935440</a>, PubMed: <a href="http://www.uniprot.org/citations/35263596" target="\_blank">35263596</a>, PubMed: <a href="http://www.uniprot.org/citations/36793726" target="\_blank">36793726</a>). Forms a ribonucleoprotein complex with viral RNAs on which it homooligomerizes to form filaments (PubMed: <a href="http://www.uniprot.org/citations/15208624" target="\_blank">15208624</a>, PubMed: <a href="http://www.uniprot.org/citations/15708988" target="\_blank">15708988</a>). The homooligomerization allows the recruitment of RNF135 an E3 ubiquitin-protein ligase that activates and amplifies the RIG-I- mediated antiviral signaling in an RNA length-dependent manner through ubiquitination-dependent and -independent mechanisms (PubMed: <a href="http://www.uniprot.org/citations/28469175" target="\_blank">28469175</a>, PubMed: <a href="http://www.uniprot.org/citations/31006531" target="\_blank">31006531</a>). Upon activation, associates with mitochondria antiviral signaling protein (MAVS/IPS1) that activates the IKK-related kinases TBK1 and IKKε which in turn phosphorylate the interferon regulatory factors IRF3 and IRF7, activating transcription of antiviral immunological genes including the IFN-α and IFN-β interferons (PubMed: <a href="http://www.uniprot.org/citations/28469175" target="\_blank">28469175</a>, PubMed: <a href="http://www.uniprot.org/citations/31006531" target="\_blank">31006531</a>). Ligands include 5'- triphosphorylated ssRNAs and dsRNAs but also short dsRNAs (<1 kb in length) (PubMed: <a href="http://www.uniprot.org/citations/15208624" target="\_blank">15208624</a>, PubMed: <a href="http://www.uniprot.org/citations/15708988" target="\_blank">15708988</a>, PubMed: <a href="http://www.uniprot.org/citations/19576794" target="\_blank">19576794</a>, PubMed: <a href="http://www.uniprot.org/citations/19609254" target="\_blank">19609254</a>, PubMed: <a href="http://www.uniprot.org/citations/21742966" target="\_blank">21742966</a>). In addition to the 5'-triphosphate moiety, blunt-end base pairing at the 5'-end of the RNA is very essential (PubMed: <a href="http://www.uniprot.org/citations/15208624" target="\_blank">15208624</a>, PubMed: <a href="http://www.uniprot.org/citations/15708988" target="\_blank">15708988</a>, PubMed: <a href="http://www.uniprot.org/citations/19576794" target="\_blank">19576794</a>, PubMed: <a href="http://www.uniprot.org/citations/19609254" target="\_blank">19609254</a>, PubMed: <a href="http://www.uniprot.org/citations/21742966" target="\_blank">21742966</a>). Overhangs at the non- triphosphorylated end of the dsRNA RNA have no major impact on its activity (PubMed: <a href="http://www.uniprot.org/citations/15208624" target="\_blank">15208624</a>, PubMed: <a href="http://www.uniprot.org/citations/15708988" target="\_blank">15708988</a>, PubMed: <a href="http://www.uniprot.org/citations/19576794" target="\_blank">19576794</a>, PubMed: <a href="http://www.uniprot.org/citations/19609254" target="\_blank">19609254</a>, PubMed: <a href="http://www.uniprot.org/citations/21742966" target="\_blank">21742966</a>). A 3'overhang at the 5'triphosphate end decreases and any 5'overhang at the 5' triphosphate end abolishes its activity (PubMed: <a href="http://www.uniprot.org/citations/15208624" target="\_blank">15208624</a>, PubMed: <a href="http://www.uniprot.org/citations/15708988" target="\_blank">15708988</a>, PubMed: <a href="http://www.uniprot.org/citations/19576794" target="\_blank">19576794</a>, PubMed: <a href="http://www.uniprot.org/citations/19609254" target="\_blank">19609254</a>, PubMed: <a href="http://www.uniprot.org/citations/21742966" target="\_blank">21742966</a>). Detects both positive and negative strand RNA viruses including members of the families Paramyxoviridae: Human respiratory syncytial virus and measles virus (MeV), Rhabdoviridae: vesicular stomatitis virus (VSV), Orthomyxoviridae: influenza A and B virus, Flaviviridae: Japanese encephalitis virus (JEV), hepatitis C virus (HCV), dengue virus

(DENV) and west Nile virus (WNV) (PubMed:<a href="http://www.uniprot.org/citations/21616437" target="\_blank">21616437</a>, PubMed:<a href="http://www.uniprot.org/citations/21884169" target="\_blank">21884169</a>). It also detects rotaviruses and reoviruses (PubMed:<a href="http://www.uniprot.org/citations/21616437" target="\_blank">21616437</a>, PubMed:<a href="http://www.uniprot.org/citations/21884169" target="\_blank">21884169</a>). Detects and binds to SARS-CoV-2 RNAs which is inhibited by m6A RNA modifications (Ref.71). Also involved in antiviral signaling in response to viruses containing a dsDNA genome such as Epstein-Barr virus (EBV) (PubMed:<a href="http://www.uniprot.org/citations/19631370" target="\_blank">19631370</a>). Detects dsRNA produced from non-self dsDNA by RNA polymerase III, such as Epstein-Barr virus-encoded RNAs (EBERs). May play important roles in granulocyte production and differentiation, bacterial phagocytosis and in the regulation of cell migration.

#### Cellular Location

Cytoplasm. Cell projection, ruffle membrane. Cytoplasm, cytoskeleton. Cell junction, tight junction  
Note=Colocalized with TRIM25 at cytoplasmic perinuclear bodies Associated with the actin cytoskeleton at membrane ruffles

#### Tissue Location

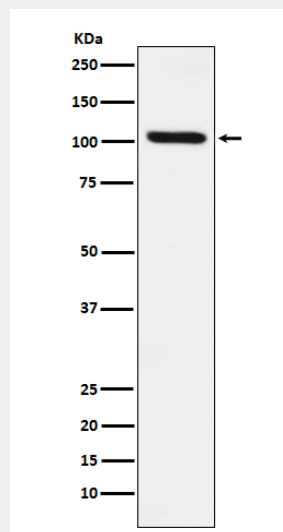
Present in vascular smooth cells (at protein level).

### DDX58 Antibody - 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](#)

### DDX58 Antibody - Images



Western blot analysis of DDX58 expression in Jurkat cell lysate.