

**DDX58 / RIG-1 / RIG-I Antibody (aa200-250)**  
**Rabbit Polyclonal Antibody**  
**Catalog # ALS15291****Specification**

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**DDX58 / RIG-1 / RIG-I Antibody (aa200-250) - Product Information**

|                   |                        |
|-------------------|------------------------|
| Application       | WB, IHC                |
| Primary Accession | <a href="#">O95786</a> |
| Reactivity        | Human, Monkey          |
| Host              | Rabbit                 |
| Clonality         | Polyclonal             |
| Calculated MW     | 107kDa KDa             |

**DDX58 / RIG-1 / RIG-I Antibody (aa200-250) - Additional Information****Gene ID** 23586**Other Names**

Probable ATP-dependent RNA helicase DDX58, 3.6.4.13, DEAD box protein 58, RIG-I-like receptor 1, RLR-1, Retinoic acid-inducible gene 1 protein, RIG-1, Retinoic acid-inducible gene I protein, RIG-I, DDX58

**Target/Specificity**

Human DDX58

**Reconstitution & Storage**

Store at 4°C for short term applications. For long term storage, aliquot and store at -20°C.

**Precautions**

DDX58 / RIG-1 / RIG-I Antibody (aa200-250) is for research use only and not for use in diagnostic or therapeutic procedures.

**DDX58 / RIG-1 / RIG-I Antibody (aa200-250) - 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: <a href="http://www.uniprot.org/citations/15208624" target="\_blank">15208624</a>, PubMed: <a href="http://www.uniprot.org/citations/16125763" target="\_blank">16125763</a>, PubMed: <a href="http://www.uniprot.org/citations/15708988" target="\_blank">15708988</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/29117565" target="\_blank">29117565</a>,  
 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>,  
 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.69). 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

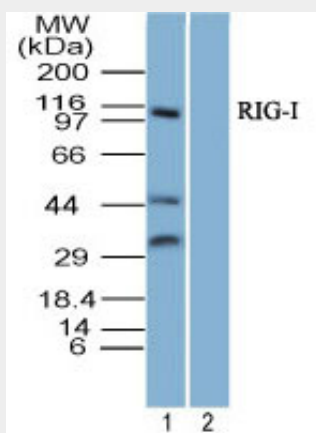
Present in vascular smooth cells (at protein level).

### DDX58 / RIG-1 / RIG-I Antibody (aa200-250) - Protocols

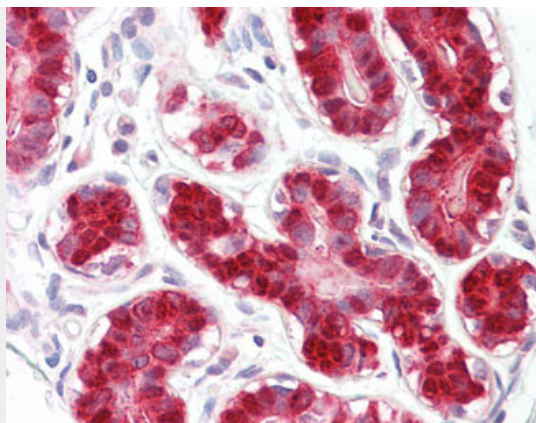
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

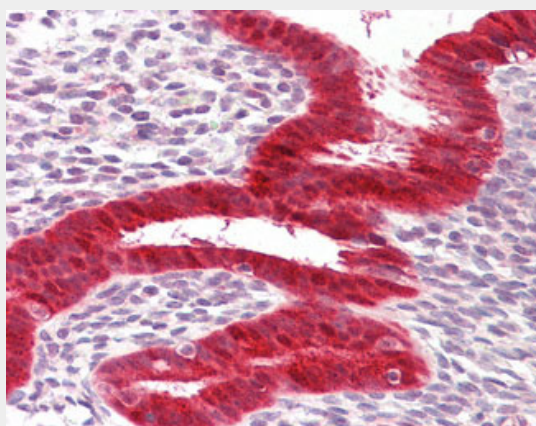
### DDX58 / RIG-1 / RIG-I Antibody (aa200-250) - Images



Western blot of RIG-I Antibody in 293 lysate in the 1) absence and 2) presence of immunizing...



Anti-RIG-1 / RIG-I antibody IHC of human breast.



Anti-RIG-1 / RIG-I antibody IHC of human uterus.

#### **DDX58 / RIG-1 / RIG-I Antibody (aa200-250) - Background**

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: 5'-triphosphorylated ssRNA and dsRNA and short dsRNA (

#### **DDX58 / RIG-1 / RIG-I Antibody (aa200-250) - References**

Sun Y.-W.,et al.Thesis (1997), Shanghai Institute of Hematology, China.  
Imaizumi T.,et al.Biochem. Biophys. Res. Commun. 292:274-279(2002).  
Humphray S.J.,et al.Nature 429:369-374(2004).  
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.  
Bechtel S.,et al.BMC Genomics 8:399-399(2007).