

DDX58 / RIG-1 / RIG-I Antibody
Goat Polyclonal Antibody
Catalog # ALS12956**Specification**

DDX58 / RIG-1 / RIG-I Antibody - Product Information

Application	IHC
Primary Accession	O95786
Reactivity	Human
Host	Goat
Clonality	Polyclonal
Calculated MW	107kDa KDa

DDX58 / RIG-1 / RIG-I Antibody - 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 -20°C. Minimize freezing and thawing.

Precautions

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

DDX58 / RIG-1 / RIG-I 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, PubMed: 16125763, PubMed: 15708988, PubMed: 16127453, PubMed: 16153868, PubMed: 17190814, PubMed: 18636086),

PubMed:19122199,
 PubMed:19211564,
 PubMed:29117565,
 PubMed:28469175,
 PubMed:31006531,
 PubMed:34935440,
 PubMed:35263596,
 PubMed:36793726).
 Forms a ribonucleoprotein complex with viral RNAs on which it homooligomerizes to form
 filaments (PubMed:15208624,
 PubMed:15708988). 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:28469175,
 PubMed:31006531).
 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:28469175,
 PubMed:31006531). Ligands
 include 5'- triphosphorylated ssRNAs and dsRNAs but also short dsRNAs (<1 kb in length)
 (PubMed:15208624,
 PubMed:15708988,
 PubMed:19576794,
 PubMed:19609254,
 PubMed:21742966).
 In addition to the 5'-triphosphate moiety, blunt-end base pairing at the 5'-end of the RNA is very
 essential (PubMed:15208624,
 PubMed:15708988,
 PubMed:19576794,
 PubMed:19609254,
 PubMed:21742966). Overhangs at the non- triphosphorylated end of the dsRNA RNA
 have no major impact on its activity (PubMed:15208624,
 PubMed:15708988,
 PubMed:19576794,
 PubMed:19609254,
 PubMed:21742966). A 3'overhang
 at the 5'triphosphate end decreases and any 5'overhang at the 5' triphosphate end abolishes its
 activity (PubMed:15208624,
 PubMed:15708988,
 PubMed:19576794,
 PubMed:19609254,
 PubMed:21742966). 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:21616437,
 PubMed:21884169). It also detects rotaviruses and reoviruses (PubMed:21616437,
 PubMed:21884169). 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:19631370). 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

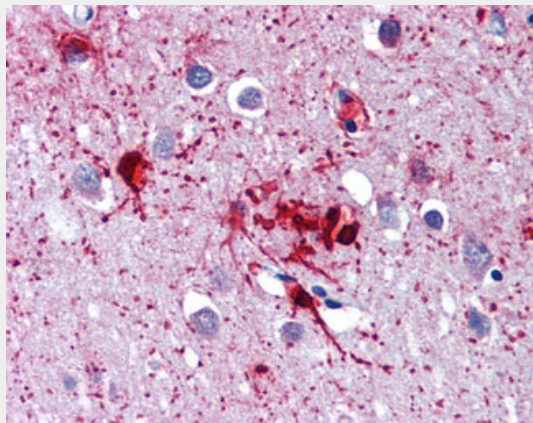
Tissue Location

Present in vascular smooth cells (at protein level).

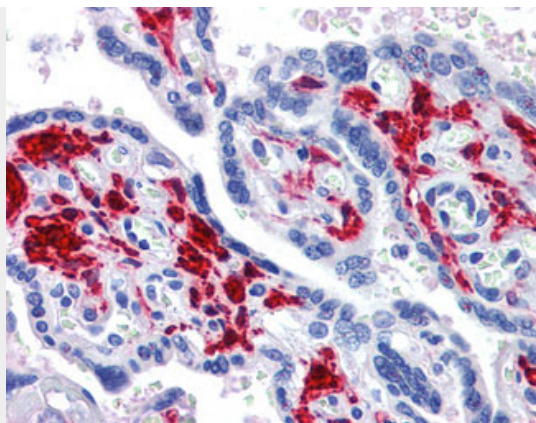
DDX58 / RIG-1 / RIG-I Antibody - Protocols

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

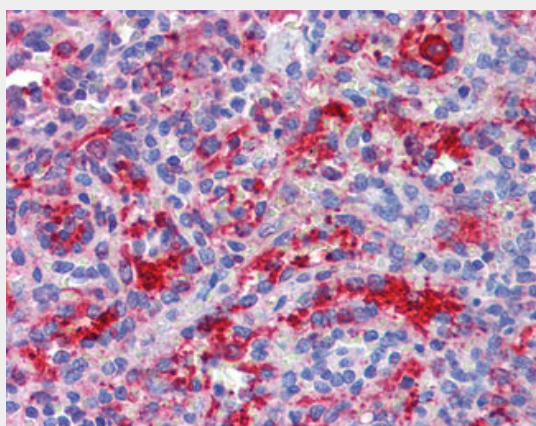
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

DDX58 / RIG-1 / RIG-I Antibody - Images

Anti-DDX58 antibody IHC of human brain, cortex.



Anti-DDX58 antibody IHC of human placenta.



Anti-DDX58 antibody IHC of human spleen.

DDX58 / RIG-1 / RIG-I Antibody - 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 - 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).