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Anti-DDX58 Picoband Antibody

Catalog # ABO12816

Specification

Anti-DDX58 Picoband Antibody - Product Information

Application	**WB**
Primary Accession	O95786
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Probable ATP-dependent RNA helicase DDX58(DDX58) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-DDX58 Picoband 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

Calculated MW
106600 MW KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

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

Tissue Specificity
Present in vascular smooth cells (at protein level). .

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
E. coli-derived human DDX58 recombinant protein (Position: H871-K925). Human DDX58 shares 83.3% amino acid (aa) sequence identity with mouse DDX58.

Purification

Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins.

Storage

At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time. Avoid repeated freezing and thawing.

Anti-DDX58 Picoband 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:15708988, PubMed:16125763, PubMed:16127453, PubMed:16153868, PubMed:17190814, PubMed:18636086, PubMed:19122199, PubMed:19211564, PubMed:24366338, PubMed:28469175, PubMed:29117565, 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 IKBKE which in turn phosphorylate the interferon regulatory factors IRF3 and IRF7, activating transcription of antiviral immunological genes including the IFN-alpha and IFN-beta 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.70). 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).

Anti-DDX58 Picoband 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 Cytomety

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- Cell Culture

Anti-DDX58 Picoband Antibody - Images

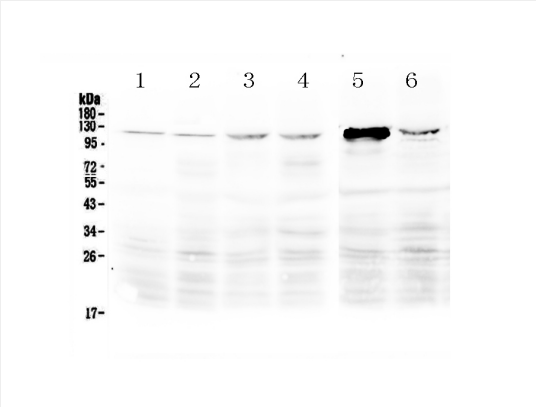

Figure 1. Western blot analysis of DDX58 using anti-DDX58 antibody (ABO12816).

Anti-DDX58 Picoband Antibody - Background

RIG-I (retinoic acid-inducible gene I) is a RIG-I-like receptor dsRNA helicase enzyme that is encoded (in humans) by the DDX58 gene. RIG-I is part of the RIG-I-like receptor family, which also includes MDA5 and LGP2, and functions as a pattern recognition receptor that is a sensor for viruses such as influenza A, Sendai virus, and flavivirus. DEAD box proteins, characterized by the conserved motif Asp-Glu-Ala-Asp (DEAD), are putative RNA helicases which are implicated in a number of cellular processes involving RNA binding and alteration of RNA secondary structure. This gene encodes a protein containing RNA helicase-DEAD box protein motifs and a caspase recruitment domain (CARD). It is involved in viral double-stranded (ds) RNA recognition and the regulation of immune response.