10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

KD-Validated Anti-Adenosine Deaminase RNA Specific Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1362

Specification

KD-Validated Anti-Adenosine Deaminase RNA Specific Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	P55265
Reactivity	**Human**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 136 kDa; observed, 150 kDa KDa**
Gene Name	**ADAR**
Aliases	**ADAR; Adenosine Deaminase RNA Specific; ADAR1; DRADA; Double-Stranded RNA-Specific Adenosine Deaminase; G1P1; IFI4; 136 KDa Double-Stranded RNA-Binding Protein; Interferon-Inducible Protein 4; Interferon-Induced Protein 4; K88DSRBP; DSRAD; IFI-4; P136; Adenosine Deaminase Acting On RNA 1-A; DsRNA Adeonosine Deaminase; DsRNA Adenosine Deaminase; EC 3.5.4.37; EC 3.5.4; AGS6; DSH**
Immunogen	**A synthesized peptide derived from human ADAR1**

KD-Validated Anti-Adenosine Deaminase RNA Specific Rabbit Monoclonal Antibody - Additional Information

Gene ID	**103**

Other Names
Double-stranded RNA-specific adenosine deaminase, DRADA, 3.5.4.37, 136 kDa double-stranded RNA-binding protein, p136, Interferon-inducible protein 4, IFI-4, K88DSRBP, ADAR, ADAR1, DSRAD, G1P1, IFI4

KD-Validated Anti-Adenosine Deaminase RNA Specific Rabbit Monoclonal Antibody - Protein Information

Name ADAR

Synonyms ADAR1, DSRAD, G1P1, IFI4

Function
Catalyzes the hydrolytic deamination of adenosine to inosine in double-stranded RNA (dsRNA) referred to as A-to-I RNA editing (PubMed:<a href="http://www.uniprot.org/citations/12618436"

target="_blank">12618436, PubMed:7565688, PubMed:7972084). This may affect gene expression and function in a number of ways that include mRNA translation by changing codons and hence the amino acid sequence of proteins since the translational machinery read the inosine as a guanosine; pre-mRNA splicing by altering splice site recognition sequences; RNA stability by changing sequences involved in nuclease recognition; genetic stability in the case of RNA virus genomes by changing sequences during viral RNA replication; and RNA structure- dependent activities such as microRNA production or targeting or protein-RNA interactions. Can edit both viral and cellular RNAs and can edit RNAs at multiple sites (hyper-editing) or at specific sites (site- specific editing). Its cellular RNA substrates include: bladder cancer- associated protein (BLCAP), neurotransmitter receptors for glutamate (GRIA2) and serotonin (HTR2C) and GABA receptor (GABRA3). Site-specific RNA editing of transcripts encoding these proteins results in amino acid substitutions which consequently alters their functional activities. Exhibits low-level editing at the GRIA2 Q/R site, but edits efficiently at the R/G site and HOTSPOT1. Its viral RNA substrates include: hepatitis C virus (HCV), vesicular stomatitis virus (VSV), measles virus (MV), hepatitis delta virus (HDV), and human immunodeficiency virus type 1 (HIV-1). Exhibits either a proviral (HDV, MV, VSV and HIV-1) or an antiviral effect (HCV) and this can be editing-dependent (HDV and HCV), editing-independent (VSV and MV) or both (HIV-1). Impairs HCV replication via RNA editing at multiple sites. Enhances the replication of MV, VSV and HIV-1 through an editing-independent mechanism via suppression of EIF2AK2/PKR activation and function. Stimulates both the release and infectivity of HIV-1 viral particles by an editing-dependent mechanism where it associates with viral RNAs and edits adenosines in the 5'UTR and the Rev and Tat coding sequence. Can enhance viral replication of HDV via A-to-I editing at a site designated as amber/W, thereby changing an UAG amber stop codon to an UIG tryptophan (W) codon that permits synthesis of the large delta antigen (L-HDAg) which has a key role in the assembly of viral particles. However, high levels of ADAR1 inhibit HDV replication.

Cellular Location
[Isoform 1]: Cytoplasm. Nucleus. Note=Shuttles between the cytoplasm and nucleus (PubMed:24753571, PubMed:7565688). Nuclear import is mediated by TNPO1 (PubMed:24753571).

Tissue Location
Ubiquitously expressed, highest levels were found in brain and lung (PubMed:7972084). Isoform 5 is expressed at higher levels in astrocytomas as compared to normal brain tissue and expression increases strikingly with the severity of the tumor, being higher in the most aggressive tumors.

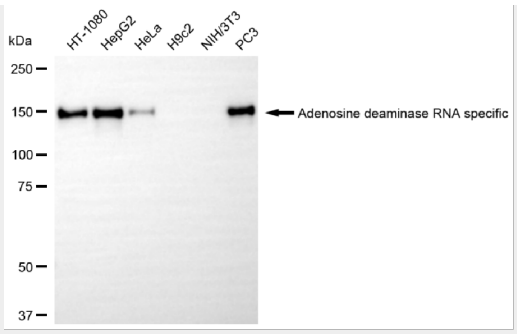
KD-Validated Anti-Adenosine Deaminase RNA Specific Rabbit Monoclonal Antibody - Protocols

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

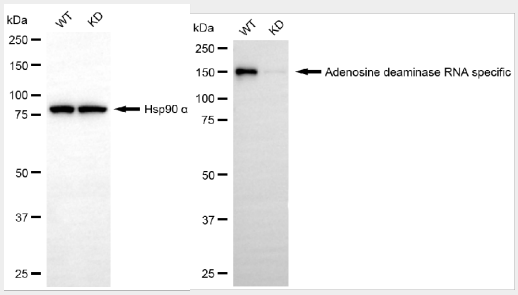
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-Adenosine Deaminase RNA Specific Rabbit Monoclonal Antibody - Images

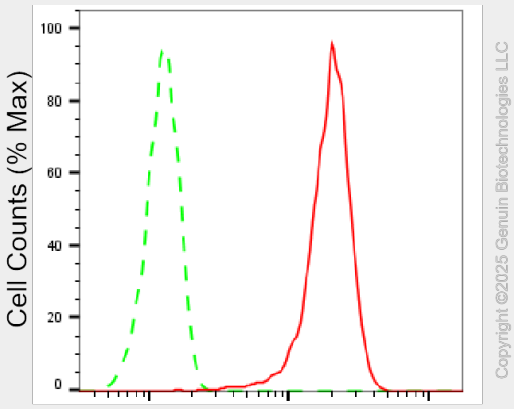
10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999



Western blotting analysis using anti-adenosine deaminase RNA specific antibody (Cat#AGI1362). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-adenosine deaminase RNA specific antibody (Cat#AGI1362, 1:5,000) and HRP-conjugated goat anti rabbit secondary antibody respectively.

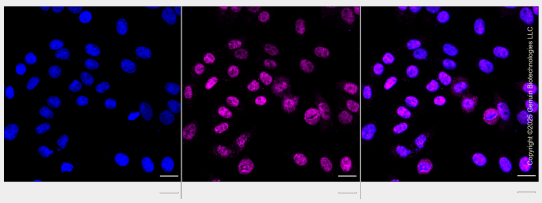


Western blotting analysis using anti-adenosine deaminase RNA specific antibody (Cat#AGI1362). Adenosine deaminase RNA specific expression in wild-type (WT) and adenosine deaminase RNA specific (ADAR) knockdown (KD) 293T cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-adenosine deaminase RNA specific antibody (Cat#AGI1362, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Adenosine deaminase RNA specific-
Alexa Fluor® 647

Flow cytometric analysis of Adenosine deaminase RNA specific expression in HepG2 cells using anti-Adenosine deaminase RNA specific antibody (Cat#AGI1362, 1:2,000). Green, isotype control; red, Adenosine deaminase RNA specific.



10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Immunocytochemical staining of HepG2 cells with Adenosine deaminase RNA specific antibody (Cat#AGI1362, 1:1,000). Nuclei were stained blue with DAPI; Adenosine deaminase RNA specific was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar, 20 µm.