

# Anti-ADAR1 Antibody

Catalog # AP95651

## Product Information

---

|                   |                        |
|-------------------|------------------------|
| Application       | WB, FC                 |
| Primary Accession | <a href="#">P55265</a> |
| Reactivity        | Human                  |
| Host              | Mouse                  |
| Clonality         | Monoclonal             |
| Calculated MW     | 136066                 |

## Additional Information

---

|                    |                                                                                                                                                                                        |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gene ID            | 103                                                                                                                                                                                    |
| Other Names        | ADAR1; DSRAD; G1P1; IFI4; Double-stranded RNA-specific, adenosine deaminase; DRADA; 136 kDa double-stranded RNA-binding protein; p136; Interferon-inducible protein 4; IFI-4; K88DSRBP |
| Target/Specificity | Recombinant fusion protein of human ADAR1 expressed in E. Coli                                                                                                                         |
| Dilution           | WB~~WB (1/500 - 1/1000) FC~~FC (1/100 - 1/200)                                                                                                                                         |
| Format             | Mouse IgG1. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.                                                                                                               |
| Storage            | Store at -20 °C.Stable for 12 months from date of receipt                                                                                                                              |

## 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="#">12618436</a> , PubMed: <a href="#">7565688</a> , PubMed: <a href="#">7972084</a> ). 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.

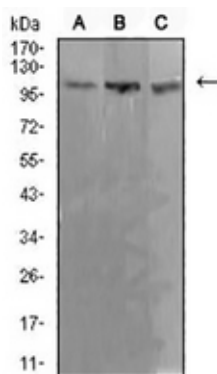
### Cellular Location

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

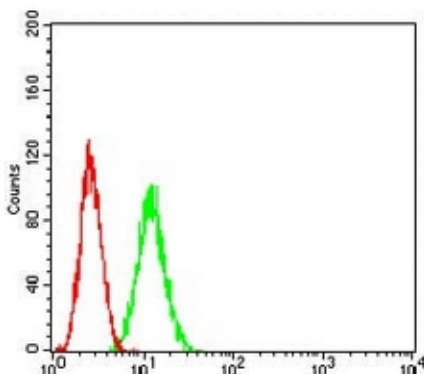
### Tissue Location

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.

## Images



Western blot analysis of ADAR1 expression in Ramos (A), K562 (B), Jurkat (C) whole cell lysates. (Predicted band size: 136 kD; Observed band size: 110 kD)



Flow cytometric analysis of HeLa cells using Anti-ADAR1 Antibody (green) and negative control (red).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.