

ADAR
Purified Mouse Monoclonal Antibody
Catalog # AO2526a**Specification**

ADAR - Product Information

Application	WB, IHC, ICC, E
Primary Accession	P55265
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Calculated MW	136kDa KDa

Immunogen

Purified recombinant fragment of human ADAR (AA: 1085-1223) expressed in E. Coli.

Formulation

Purified antibody in PBS with 0.05% sodium azide

ADAR - Additional Information

Gene ID 103

Other Names

DSH; AGS6; G1P1; IFI4; P136; ADAR1; DRADA; DSRAD; IFI-4; K88DSRBP

Dilution

WB~~ 1/500 - 1/2000

IHC~~ 1:100~500

ICC~~ 1/200 - 1/1000

E~~ 1/10000

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

ADAR is for research use only and not for use in diagnostic or therapeutic procedures.

ADAR - 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: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

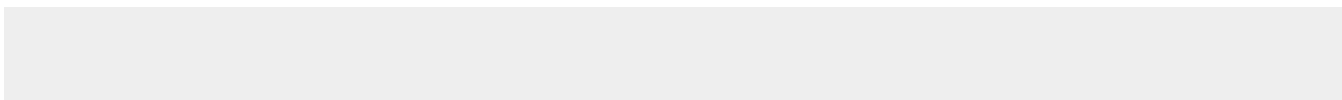
Ubiquitously expressed, highest levels were found in brain and lung (PubMed:7972084). Isoform 5 is expressed at higher levels in astrocytomas as compared to normal brain tissue and expression increases strikingly with the severity of the tumor, being higher in the most aggressive tumors.

ADAR - 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](#)

ADAR - Images



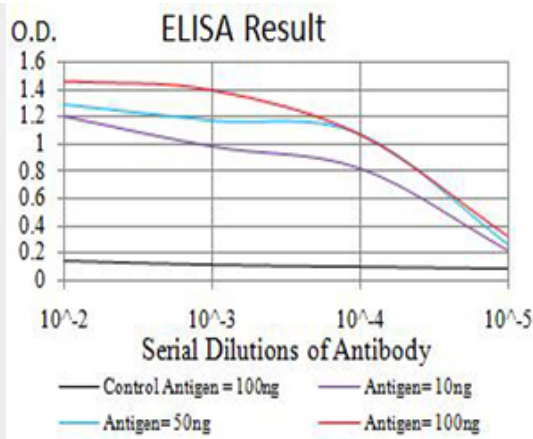


Figure 1: Black line: Control Antigen (100 ng); Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line: Antigen (100 ng)

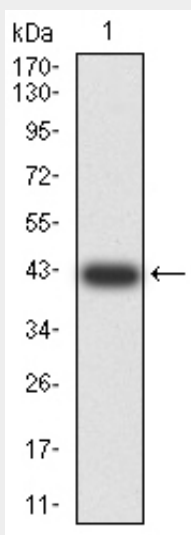


Figure 2: Western blot analysis using ADAR mAb against human ADAR (AA: 1085-1223) recombinant protein. (Expected MW is 42.1 kDa)

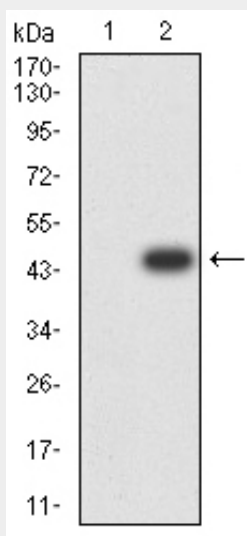


Figure 3: Western blot analysis using ADAR mAb against HEK293 (1) and ADAR (AA: 1085-1223)-hlgGfC transfected HEK293 (2) cell lysate.

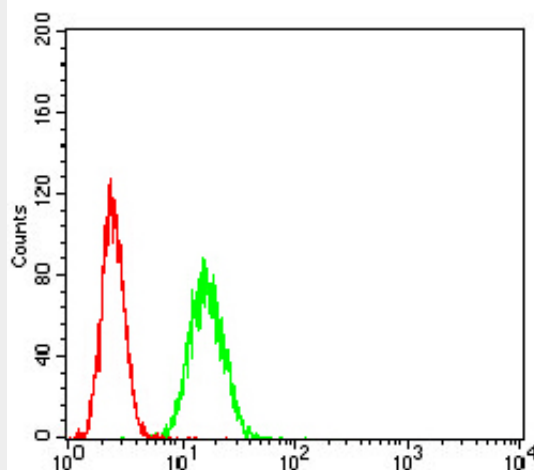


Figure 5:Flow cytometric analysis of HeLa cells using ADAR mouse mAb (green) and negative control (red).

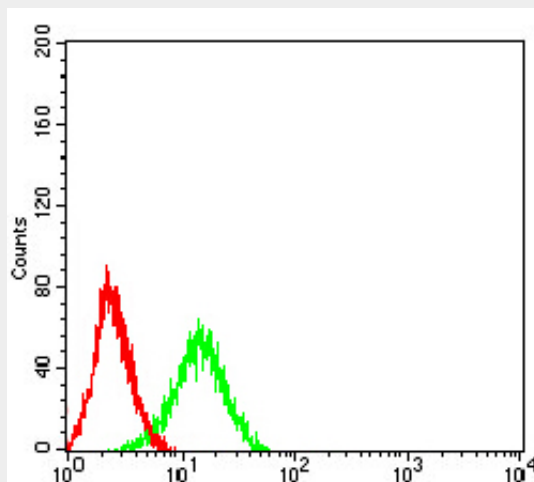


Figure 6:Flow cytometric analysis of Jurkat cells using ADAR mouse mAb (green) and negative control (red).

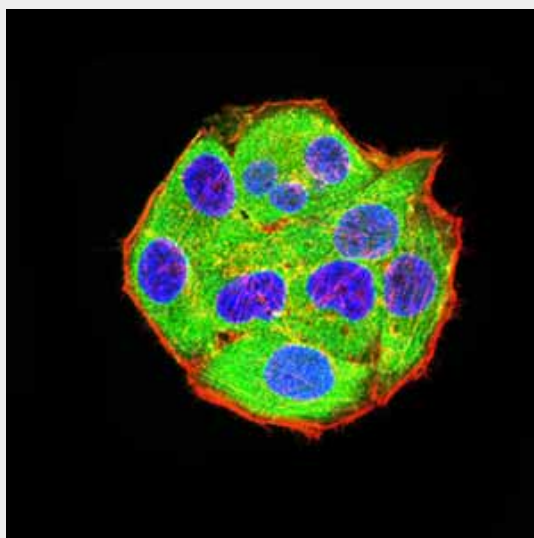


Figure 4:Immunofluorescence analysis of HeLa cells using ADAR mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor- 555 phalloidin.

Secondary antibody from Fisher (Cat#: 35503)

ADAR - References

1.Cell Res. 2015 Apr;25(4):459-76. 2.PLoS One. 2014 Oct 1;9(10):e108476.