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Adenosine Deaminase (ADAR) Antibody (N-term) Blocking peptide

Synthetic peptide
Catalog # BP1493a

Specification

Adenosine Deaminase (ADAR) Antibody (N-term) Blocking peptide - Product Information

Primary Accession P55265

Adenosine Deaminase (ADAR) Antibody (N-term) Blocking peptide - Additional Information

Gene ID 103

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

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Adenosine Deaminase (ADAR) Antibody (N-term) Blocking peptide - 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:7972084, PubMed:7565688, PubMed:12618436). 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:7565688, PubMed:24753571). 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.

Adenosine Deaminase (ADAR) Antibody (N-term) Blocking peptide - Protocols

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

- Blocking Peptides

Adenosine Deaminase (ADAR) Antibody (N-term) Blocking peptide - Images

Adenosine Deaminase (ADAR) Antibody (N-term) Blocking peptide - Background

ADAR is the enzyme responsible for RNA editing by site-specific deamination of adenosines. This enzyme destabilizes double stranded RNA through conversion of adenosine to inosine. Mutations have been associated with dyschromatosis symmetrica hereditaria.

Adenosine Deaminase (ADAR) Antibody (N-term) Blocking peptide - References

Lykke-Andersen,S., RNA 13 (10), 1732-1744 (2007)Li,M., Arch. Dermatol. Res. 299 (5-6), 273-275 (2007)