abcam

Product datasheet

Anti-ADAR1 antibody [EPR7033] ab126745

KO VALIDATED Recombinant RabMAb

9 References 6 Images

Overview

Product name	Anti-ADAR1 antibody [EPR7033]
Description	Rabbit monoclonal [EPR7033] to ADAR1
Host species	Rabbit
Specificity	The immunogen is designed to detect the p150 isoform and not the p110.
Tested applications	**Suitable for:** WB, IHC-P, Flow Cyt (Intra) **Unsuitable for:** ICC/IF or IP
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide within Human ADAR1 aa 200-300. The exact sequence is proprietary. The immunogen used to raise this antibody is designed to detect isoform 1 (p150) and isoforms 2-4. It does not detect Isoform 5 (p110). Database link: **P55265**
Positive control	WB: HEK293T, HeLa, Ramos and SH-SY5Y cell lysates. IHC-P: Human brain tissue Flow Cyt (intra): HeLa cells
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**. Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Stable for 12 months at -20°C.

Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.5% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR7033
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab126745 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/1000 - 1/10000. Detects a band of approximately 150 kDa (predicted molecular weight: 136 kDa).
IHC-P		1/50 - 1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
Flow Cyt (Intra)		1/10 - 1/100. **ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Application notes Is unsuitable for ICC/IF or IP.

Target

Function Converts multiple adenosines to inosines and creates I/U mismatched base pairs in double-helical RNA substrates without apparent sequence specificity. Has been found to modify more frequently adenosines in AU-rich regions, probably due to the relative ease of melting A/U base pairs as compared to G/C pairs. Functions to modify viral RNA genomes and may be responsible for hypermutation of certain negative-stranded viruses. Edits the messenger RNAs for glutamate receptor (GLUR) subunits by site-selective adenosine deamination. Produces low-level editing at the GLUR-B Q/R site, but edits efficiently at the R/G site and HOTSPOT1. Binds to short interfering RNAs (siRNA) without editing them and suppresses siRNA-mediated RNA interference. Binds to ILF3/NF90 and up-regulates ILF3-mediated gene expression.

Tissue specificity Ubiquitously expressed, highest levels were found in brain and lung.

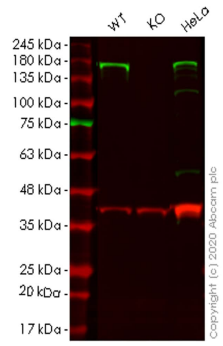
Involvement in disease Defects in ADAR are a cause of dyschromatosis symmetrical hereditaria (DSH) [MIM:127400]; also known as reticulate acropigmentation of Dohi. DSH is a pigmentary genodermatosis of autosomal dominant inheritance characterized by a mixture of hyperpigmented and hypopigmented macules distributed on the dorsal parts of the hands and feet.

Sequence similarities Contains 1 A to I editase domain.
Contains 2 DRADA repeats.
Contains 3 DRBM (double-stranded RNA-binding) domains.

Post-translational modifications Sumoylation reduces RNA-editing activity.

Cellular localization	Cytoplasm. Nucleus > nucleolus. Isoform 1 is found predominantly in cytoplasm but appears to shuttle between the cytoplasm and nucleus. Isoform 5 is found exclusively in the nucleolus.

Images



Western blot - Anti-ADAR1 antibody [EPR7033] (ab126745)

All lanes : Anti-ADAR1 antibody [EPR7033] (ab126745) at 1/1000 dilution

Lane 1 : Wild-type HEK293T cell lysate
Lane 2 : ADAR knockout HEK293T cell lysate
Lane 3 : HeLa cell lysate

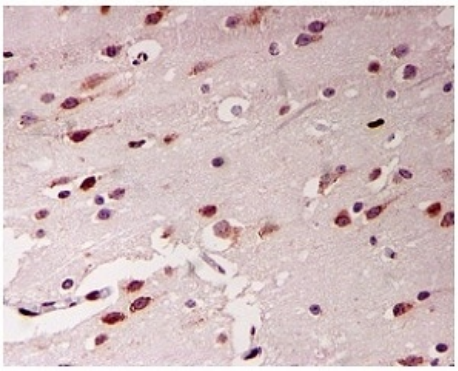
Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) at 1/10000 dilution

Predicted band size: 136 kDa
Observed band size: 130 kDa

Lanes 1-3: Merged signal (red and green). Green - ab126745 observed at 130 kDa. Red - loading control **ab8245** observed at 36 kDa.

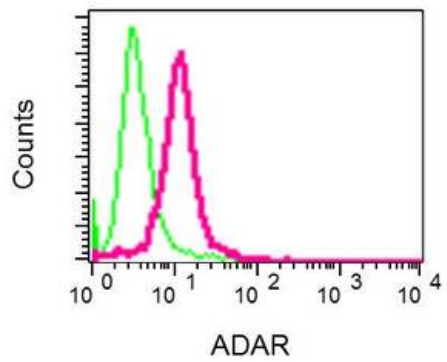
ab126745 Anti-ADAR1 antibody [EPR7033] was shown to specifically react with ADAR1 in wild-type HEK293T cells. Loss of signal was observed when knockout cell line **ab266846** (knockout cell lysate **ab257131**) was used. Wild-type and ADAR1 knockout samples were subjected to SDS-PAGE. ab126745 and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ADAR1 antibody [EPR7033] (ab126745)

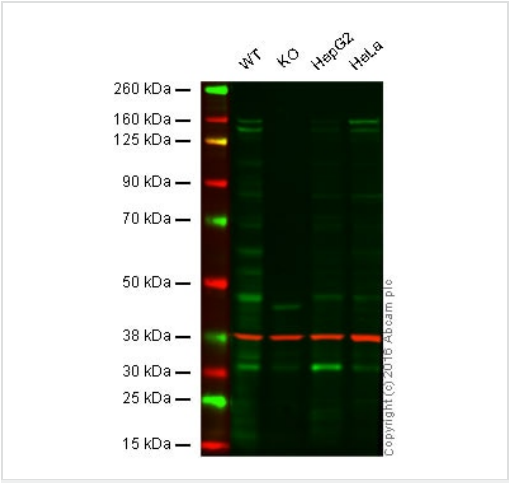
ab126745, at 1/50 dilution, staining ADAR1 in paraffin-embedded Human brain tissue by Immunohistochemistry.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



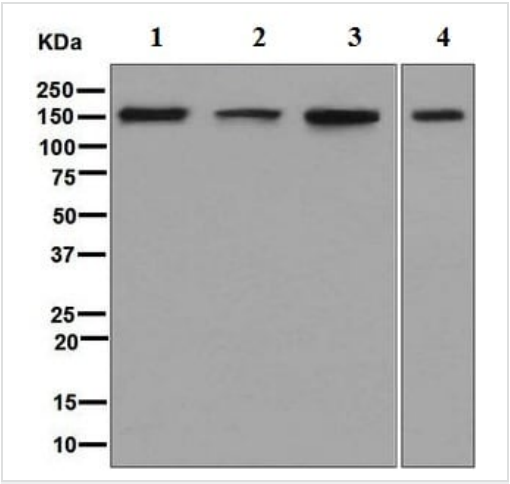
Flow Cytometry (Intracellular) - Anti-ADAR1 antibody [EPR7033] (ab126745)

Intracellular flow cytometric analysis of permeabilized Ramos cells, staining ADAR1 (red) with ab126745. $1x10^6$ cells were collected and washed with blocking buffer. Cells were fixed with 2% paraformaldehyde, permeabilized with 1X FACS permeabilizing solution and blocked with blocking buffer for 30 minutes at room temperature. Cells were incubated with primary antibody (1/10) for 30 minutes at room temperature before a Fluorescently-conjugated secondary antibody or 30 min at room temperature. A rabbit IgG was used as a negative control (green).



Western blot - Anti-ADAR1 antibody [EPR7033] (ab126745)

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: ADAR1 knockout HAP1 cell lysate (20 µg)
Lane 3: HepG2 cell lysate (20 µg)
Lane 4: HeLa cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab126745 observed at 150 kDa. Red - loading control, **ab8245**, observed at 37 kDa.
ab126745 was shown to recognize ADAR1 when ADAR1 knockout samples were used, along with additional cross-reactive bands. Wild-type and ADAR1 knockout samples were subjected to SDS-PAGE. ab126745 and **ab8245** (loading control to GAPDH) were diluted at 1/1000 and 1/10 000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (**ab216776**) secondary antibodies at 1/10 000 dilution for 1 h at room temperature before imaging.



Western blot - Anti-ADAR1 antibody [EPR7033] (ab126745)

All lanes : Anti-ADAR1 antibody [EPR7033] (ab126745) at 1/1000 dilution

Lane 1 : HeLa (treated with IFN-alpha) cell lysate
Lane 2 : HeLa cell lysate
Lane 3 : Ramos cell lysate
Lane 4 : SH-SY5Y cell lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 136 kDa
Observed band size: 150 kDa

Anti-ADAR1 antibody [EPR7033] (ab126745)

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