

ADAR2 (C-6): sc-514581

BACKGROUND

ADAR2, also designated adenosine deaminase, RNA-specific (RED1), RNA-editing enzyme 1, DRABA2, DRADA2, ADAR2a-L1, ADAR2a-L2 and ADAR2a-L3, mediates RNA editing by destabilizing RNA through deamination of adenosine to inosine. ADAR2 is responsible for pre-mRNA editing of the glutamate receptor subunit B by site-specific deamination of adenosines. It can modify its own pre-mRNA and generate new splice sites. Translocation of endogenous ADAR2 from the nucleolus to the nucleoplasm results in increased editing of endogenous ADAR2 substrates. Alternative splicing of this gene results in several transcript variants that may influence RNA editing. RNA editing involves the deamination of adenosines at specific sites, the result of which can be a change in the amino acid sequence of the protein so that it differs from that predicted by the sequence of the DNA.

REFERENCES

- Higuchi, M., et al. 2000. Point mutation in an AMPA receptor gene rescues lethality in mice deficient in the RNA-editing enzyme ADAR2. *Nature* 406: 78-81.
- Wong, S.K., et al. 2001. Substrate recognition by ADAR1 and ADAR2. *RNA* 7: 846-858.
- Kallman, A.M., et al. 2003. ADAR2 A→I editing: site selectivity and editing efficiency are separate events. *Nucleic Acids Res.* 31: 4874-4881.
- Sansam, C.L., et al. 2003. Modulation of RNA editing by functional nucleolar sequestration of ADAR2. *Proc. Natl. Acad. Sci. USA* 100: 14018-14023.
- Dawson, T.R., et al. 2004. Structure and sequence determinants required for the RNA editing of ADAR2 substrates. *J. Biol. Chem.* 279: 4941-4951.

CHROMOSOMAL LOCATION

Genetic locus: ADARB1 (human) mapping to 21q22.3; Adarb1 (mouse) mapping to 10 C1.

SOURCE

ADAR2 (C-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 719-741 at the C-terminus of ADAR2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ADAR2 (C-6) is available conjugated to agarose (sc-514581 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514581 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514581 PE), fluorescein (sc-514581 FITC), Alexa Fluor® 488 (sc-514581 AF488), Alexa Fluor® 546 (sc-514581 AF546), Alexa Fluor® 594 (sc-514581 AF594) or Alexa Fluor® 647 (sc-514581 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514581 AF680) or Alexa Fluor® 790 (sc-514581 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514581 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ADAR2 (C-6) is recommended for detection of ADAR2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ADAR2 siRNA (h): sc-37659, ADAR2 siRNA (m): sc-37660, ADAR2 shRNA Plasmid (h): sc-37659-SH, ADAR2 shRNA Plasmid (m): sc-37660-SH, ADAR2 shRNA (h) Lentiviral Particles: sc-37659-V and ADAR2 shRNA (m) Lentiviral Particles: sc-37660-V.

Molecular Weight of ADAR2 monomer: 90 kDa.

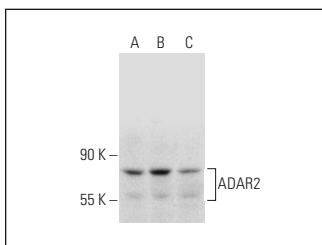
Molecular Weight of ADAR2 homodimer: 180 kDa.

Positive Controls: ADAR2 (h): 293T Lysate: sc-117039, A-431 whole cell lysate: sc-2201 or Hep G2 cell lysate: sc-2227.

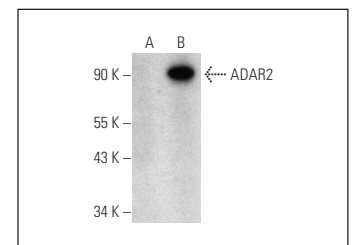
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ADAR2 (C-6): sc-514581. Western blot analysis of ADAR2 expression in A-431 (A), Hep G2 (B) and HL-60 (C) whole cell lysates.



ADAR2 (C-6): sc-514581. Western blot analysis of ADAR2 expression in non-transfected: sc-117752 (A) and human ADAR2 transfected: sc-117039 (B) 293T whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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