SANTA CRUZ BIOTECHNOLOGY, INC.

# APOBEC1 (E-2): sc-166508

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Posttranscriptional editing of apolipoprotein B (apoB) mRNA is regulated by APOBEC1 (also designated human (or rat) small intestinal apolipoprotein B mRNA editing protein, HEPR or REPR) in hepatic cells to achieve a steady state proportion of edited and unedited RNA molecules. APOBEC1 has conserved histidine and cysteine residues, that are identified as a $Zn^{2+}$-binding motif in other cytidine deaminases. APOBEC1 is predominantly expressed in the adult small intestine but is also found in the stomach, colon and testis. APOBEC1 exists as a dimer and shows structural homology to some known mammalian and bacteriophage deoxycytidylate deaminases which exist as homopolymers. APOBEC1 may be involved in other aspects of RNA metabolism, independent of its role as an apoB RNA-specific cytidine deaminase.

## REFERENCES


1. Hadjiagapiou, C., et al. 1994. Molecular cloning of a human small intestinal apolipoprotein B mRNA editing protein. Nucleic Acids Res. 22: 1874-1879.
2. Lau, P.P., et al. 1994. Dimeric structure of a human apolipoprotein B mRNA editing protein and cloning and chromosomal localization of its gene. Proc. Natl. Acad. Sci. USA 91: 8522-8526.
3. Fujino, T., et al. 1998. Human apolipoprotein B RNA editing deaminase gene (APOBEC1). Genomics 47: 266-275.
4. Anant, S. and Davidson, N.O. 2000. An AU-rich sequence element (UUUN[A/U]U) downstream of the edited C in apolipoprotein B mRNA is a high-affinity binding site for APOBEC1: binding of APOBEC1 to this motif in the 3' untranslated region of c-Myc increases mRNA stability. Mol. Cell. Biol. 20: 1982-1992.
5. Yang, Y., et al. 2000. Induction of cytidine to uridine editing on cytoplasmic apolipoprotein B mRNA by overexpressing APOBEC1. J. Biol. Chem. 275: 22663-22669.


## CHROMOSOMAL LOCATION

Genetic locus: Apobec1 (mouse) mapping to 6 F1.

## SOURCE

APOBEC1 (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-30 at the N-terminus of APOBEC1 of mouse origin.

## PRODUCT

Each vial contains 200 µg $IgG_3$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166508 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

APOBEC1 (E-2) is recommended for detection of APOBEC1 of mouse and rat 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 APOBEC1 siRNA (m): sc-41183, APOBEC1 shRNA Plasmid (m): sc-41183-SH and APOBEC1 shRNA (m) Lentiviral Particles: sc-41183-V.

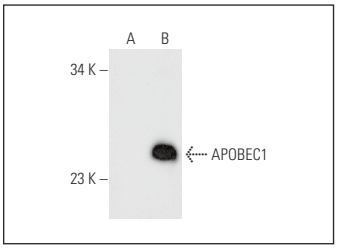
Molecular Weight of APOBEC1: 27 kDa.

Positive Controls: rat spleen extract: sc-2397, I-11.15 whole cell lysate: sc-364370 or APOBEC1 (m): 293T Lysate: sc-118483.

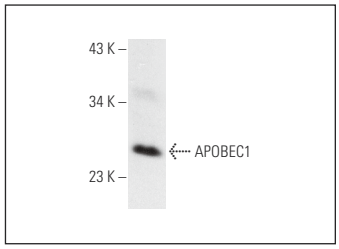
## RECOMMENDED SUPPORT REAGENTS

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




APOBEC1 (E-2): sc-166508. Western blot analysis of APOBEC1 expression in non-transfected: sc-117752 (**A**) and mouse APOBEC1 transfected: sc-118483 (**B**) 293T whole cell lysates.




APOBEC1 (E-2): sc-166508. Western blot analysis of APOBEC1 expression in I-11.15 whole cell lysate.

## SELECT PRODUCT CITATIONS


1. Andreazza, S., et al. 2019. Mitochondrially-targeted APOBEC1 is a potent mtDNA mutator affecting mitochondrial function and organismal fitness in *Drosophila*. Nat. Commun. 10: 3280.


## RESEARCH USE

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

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.