

APOBEC1 (N-15): sc-11735

BACKGROUND

Post-transcriptional 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 Zn²⁺ 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., Giannoni, F., Funahashi, T., Skarosi, S.F. and Davidson, N.O. 1994. Molecular cloning of a human small intestinal apolipoprotein B mRNA editing protein. *Nucleic Acids Res.* 22: 1874-1879.
2. Lau, P.P., Zhu, H.J., Baldini, A., Charnsangavej, C. and Chan, L. 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., Navaratnam, N. and Scott, J. 1998. Human apolipoprotein B RNA editing deaminase gene (APOBEC1). *Genomics* 47: 266-275.
4. Yang, Y., Sowden, M.P. and Smith, H.C. 2000. Induction of cytidine to uridine editing on cytoplasmic apolipoprotein B mRNA by overexpressing APOBEC-1. *J. Biol. Chem.* 275: 22663-22669.
5. 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 Apobec-1: binding of Apobec-1 to this motif in the 3' untranslated region of c-myc increases mRNA stability. *Mol. Cell. Biol.* 20: 1982-1992.

CHROMOSOMAL LOCATION

Genetic locus: APOBEC1 (human) mapping to 12p13.31.

SOURCE

APOBEC1 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of APOBEC1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11735 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

APOBEC1 (N-15) is recommended for detection of APOBEC1 of human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

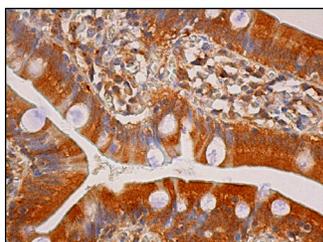
Suitable for use as control antibody for APOBEC1 siRNA (h): sc-41182, APOBEC1 shRNA Plasmid (h): sc-41182-SH and APOBEC1 shRNA (h) Lentiviral Particles: sc-41182-V.

Molecular Weight of APOBEC1: 27 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



APOBEC1 (N-15): sc-11735. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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

PROTOCOLS

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