

Rent1 (H-300): sc-48802

BACKGROUND

In eukaryotes, it is essential to have the ability to detect and degrade transcripts that lack full coding potential. Nonsense-mediated RNA decay (NMD) protects the organism by avoiding the translation of truncated peptides with dominant negative or deleterious gain-of-function potential. Rent1, a mammalian ortholog of Upf1p, is essential for embryonic viability. Rent1 (also designated regulator of nonsense transcripts and HUup1) contains an N-terminal zinc finger-like domain, NTPase domains and a region comprised of domains that define Rent1 as a superfamily group I helicase. Rent1 protein has nucleic-acid-dependent ATPase activity and 5' to 3' helicase activity. In addition, Rent1 is an RNA-binding protein whose activity is modulated by ATP and directly interacts with Rent2, which is a mammalian homolog of Upf2p. Two mammalian orthologs to Upf3p, Rent3a and Rent3b, are encoded by two separate genes. Rent3b (also known as Rent3X) is encoded by an X-linked gene and localizes primarily to the nucleus, while Rent 1 and Rent 2 localize primarily in the cytoplasm. Specific Rent3 protein interactions with Y14 and spliced mRNA suggest Rent3a and Rent3b serve as a link between splicing and NMD in the cytoplasm.

CHROMOSOMAL LOCATION

Genetic locus: UPF1 (human) mapping to 19p13.11; Upf1 (mouse) mapping to 8 B3.3.

SOURCE

Rent1 (H-300) is a rabbit polyclonal antibody raised against amino acids 71-370 mapping near the N-terminus of Rent1 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-48802 X, 200 µg/0.1 ml.

APPLICATIONS

Rent1 (H-300) is recommended for detection of Rent1 of mouse, rat and 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 Rent1 siRNA (h): sc-38223, Rent1 siRNA (m): sc-38224, Rent1 shRNA Plasmid (h): sc-38223-SH, Rent1 shRNA Plasmid (m): sc-38224-SH, Rent1 shRNA (h) Lentiviral Particles: sc-38223-V and Rent1 shRNA (m) Lentiviral Particles: sc-38224-V.

Rent1 (H-300) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

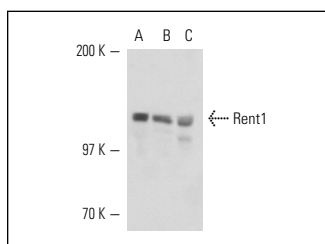
Molecular Weight of Rent1: 130 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, SK-N-SH cell lysate: sc-2410 or L6 whole cell lysate: sc-364196.

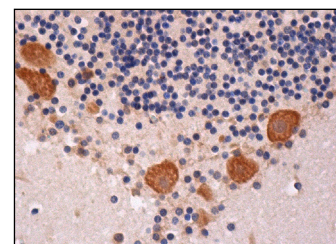
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Rent1 (H-300): sc-48802. Western blot analysis of Rent1 expression in Sol8 (A), SK-N-SH (B) and L6 (C) whole cell lysates.



Rent1 (H-300): sc-48802. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells.

SELECT PRODUCT CITATIONS

- Gardner, L.B. 2008. Hypoxic inhibition of nonsense-mediated RNA decay regulates gene expression and the integrated stress response. *Mol. Cell Biol.* 28: 3729-3741.
- Yepiskoposyan, H., et al. 2011. Autoregulation of the nonsense-mediated mRNA decay pathway in human cells. *RNA.* 17: 2108-2118.
- Geibler, V., et al. 2013. The RNA helicase Ddx5/p68 binds to hUpf3 and enhances NMD of Ddx17/p72 and Smg5 mRNA. *Nucleic Acids Res.* 41: 7875-7888.

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.



Try **Rent1 (C-6): sc-393594** or **Rent1 (E-8): sc-166091**, our highly recommended monoclonal alternatives to Rent1 (H-300).