

Rent1 (P-14): sc-18260

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 Upflp, is essential for embryonic viability. Rent1 (also designated regulator of nonsense transcripts and HUupf1) 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 (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-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.

Blocking peptide available for competition studies, sc-18260 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rent1 (P-14) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Rent1 (P-14) is also recommended for detection of Rent1 in additional species, including equine, canine, bovine and avian.

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.

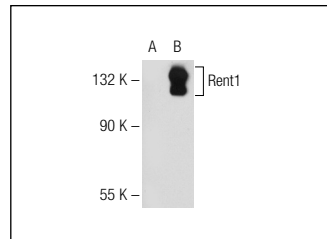
Molecular Weight of Rent1: 130 kDa.

Positive Controls: Rent1 (h): 293T lysate: sc-115858, Sol8 cell lysate: sc-2249 or SK-N-SH cell lysate: sc-2410.

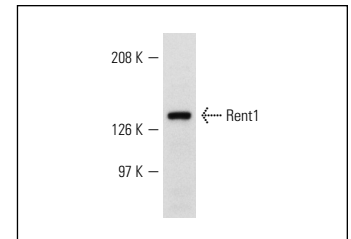
RECOMMENDED SECONDARY REAGENTS

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.

DATA



Rent1 (P-14): sc-18260. Western blot analysis of Rent1 expression in non-transfected: sc-117752 (A) and human Rent1 transfected: sc-115858 (B) 293T whole cell lysates.



Rent1 (P-14): sc-18260. Western blot analysis of Rent1 expression in Sol8 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Ayala, Y.M., et al. 2011. TDP-43 regulates its mRNA levels through a negative feedback loop. *EMBO J.* 30: 277-288.
2. Zubovic, L., et al. 2012. Mutually exclusive splicing regulates the Nav 1.6 sodium channel function through a combinatorial mechanism that involves three distinct splicing regulatory elements and their ligands. *Nucleic Acids Res.* 40: 6255-6269.
3. Nakano, K., et al. 2013. Viral interference with host mRNA surveillance, the nonsense-mediated mRNA decay (NMD) pathway, through a new function of HTLV-1 Rex: implications for retroviral replication. *Microbes Infect.* 15: 491-505.

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 (P-14).