

# Rent1 (G-3): sc-166092

## 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 HUpf1) 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 a 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 (G-3) is a mouse monoclonal antibody raised against amino acids 71-370 mapping near the N-terminus of Rent1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain 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-166092 X, 200 µg/0.1 ml.

## APPLICATIONS

Rent1 (G-3) is recommended for detection of Rent1 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 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 (G-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

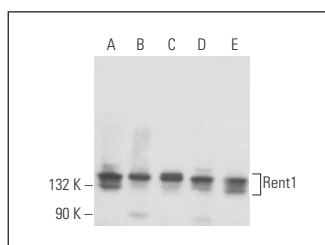
Molecular Weight of Rent1: 130 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Raji whole cell lysate: sc-364236 or SH-SY5Y cell lysate: sc-3812.

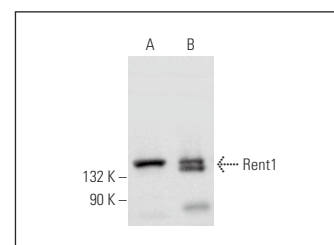
## RECOMMENDED SUPPORT REAGENTS

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



Rent1 (G-3): sc-166092. Western blot analysis of Rent1 expression in SH-SY5Y (A), Ramos (B), A-673 (C), C2C12 (D) and A-10 (E) whole cell lysates.



Rent1 (G-3): sc-166092. Western blot analysis of Rent1 expression in Raji (A) and NIH/3T3 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Higa, M., et al. 2018. Regulation of inflammatory responses by dynamic subcellular localization of RNA-binding protein Arid5a. *Proc. Natl. Acad. Sci. USA* 115: E1214-E1220.
- Yaojia Cheng, Y.X., et al. 2020. Aberrant expression of the UPF1 RNA surveillance gene disturbs keratinocyte homeostasis by stabilizing AREG. *Int. J. Mol. Med.* 45: 1163-1175.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.