SANTA CRUZ BIOTECHNOLOGY, INC.

Rent2 (G-10): sc-374230

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 Rent1 and Rent2 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: UPF2 (human) mapping to 10p14; Upf2 (mouse) mapping to 2 A1.

SOURCE

Rent2 (G-10) is a mouse monoclonal antibody raised against amino acids 121-420 mapping within an internal region of Rent2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-374230 X, 200 µg/0.1 ml.

Rent2 (G-10) is available conjugated to agarose (sc-374230 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374230 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374230 PE), fluorescein (sc-374230 FITC), Alexa Fluor® 488 (sc-374230 AF488), Alexa Fluor® 546 (sc-374230 AF546), Alexa Fluor® 594 (sc-374230 AF594) or Alexa Fluor® 647 (sc-374230 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374230 AF680) or Alexa Fluor® 790 (sc-374230 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

Rent2 (G-10) is recommended for detection of Rent2 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).

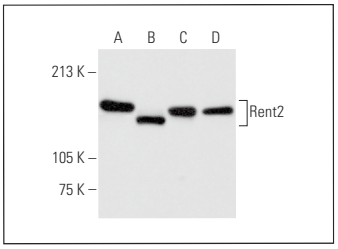
Suitable for use as control antibody for Rent2 siRNA (h): sc-38225, Rent2 siRNA (m): sc-38226, Rent2 shRNA Plasmid (h): sc-38225-SH, Rent2 shRNA Plasmid (m): sc-38226-SH, Rent2 shRNA (h) Lentiviral Particles: sc-38225-V and Rent2 shRNA (m) Lentiviral Particles: sc-38226-V.

Rent2 (G-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

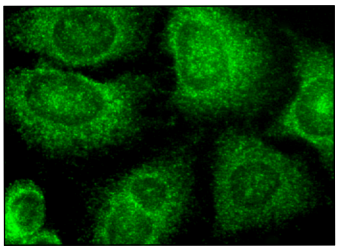
Molecular Weight of Rent2: 147 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, Ramos cell lysate: sc-2216 or Jurkat whole cell lysate: sc-2204.

DATA



Rent2 (G-10): sc-374230. Western blot analysis of Rent2 expression in Ramos (**A**), Jurkat (**B**), Raji (**C**) and HEK293 (**D**) whole cell lysates.



Rent2 (G-10): sc-374230. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Rossi, F., et al. 2021. Circular RNA ZNF609/CKAP5 mRNA interaction regulates microtubule dynamics and tumorigenicity. Mol. Cell 82: 75-89.e9.
2. Rojo, C., et al. 2024. Caspases compromise SLU7 and UPF1 stability and NMD activity during hepatocarcinogenesis. JHEP reports: innovation in hepatology 6: 101118.

RESEARCH USE

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