SANTA CRUZ BIOTECHNOLOGY, INC.

RNF181 (F-9E): sc-101120

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The Power to Question

BACKGROUND

The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain this conserved domain are generally involved in the ubiquitination pathway of protein degradation. RNF181 (RING finger protein 181) is a 153 amino acid protein that contains one RING-type zinc finger and belongs to the RNF181 family. RNF181 is auto-ubiquitinated as part of the enzymatic reaction, and upon DNA damage, RNF181 is phosphorylated by ATM or ATR. RNF181 demonstrates highest levels of expression in liver and heart, moderate levels in placenta, lung, liver, kidney, pancreas, and lower levels in brain and skeletal muscle. The RNF181 gene is conserved in chimpanzee, canine, bovine, mouse, rat, zebrafish and fruit fly, and maps to human chromosome 2p11.2.

REFERENCES

1. Borden, K.L. and Freemont, P.S. 1996. The RING finger domain: a recent example of a sequence-structure family. Curr. Opin. Struct. Biol. 6: 395-401.
2. Lorick, K.L., et al. 1999. RING fingers mediate ubiquitin-conjugating enzyme (E2)-dependent ubiquitination. Proc. Natl. Acad. Sci. USA 96: 11364-11369.
3. Zhang, Q.H., et al. 2000. Cloning and functional analysis of cDNAs with open reading frames for 300 previously undefined genes expressed in CD34+ hematopoietic stem/progenitor cells. Genome Res. 10: 1546-1560.

CHROMOSOMAL LOCATION

Genetic locus: RNF181 (human) mapping to 2p11.2.

SOURCE

RNF181 (F-9E) is a mouse monoclonal antibody raised against recombinant RNF181 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

RNF181 (F-9E) is recommended for detection of RNF181 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for RNF181 siRNA (h): sc-94487, RNF181 shRNA Plasmid (h): sc-94487-SH and RNF181 shRNA (h) Lentiviral Particles: sc-94487-V.

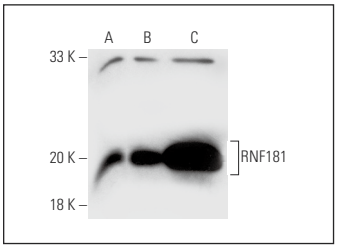
Molecular Weight of RNF181: 18 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or Hep G2 cell lysate: sc-2227.

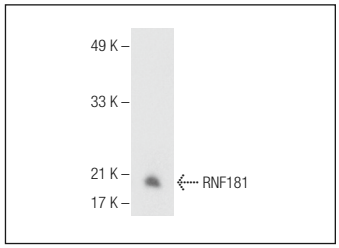
RECOMMENDED SUPPORT REAGENTS

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).

DATA



RNF181 (F-9E): sc-101120. Western blot analysis of RNF181 expression in non-transfected 293T: sc-117752 (**A**), mouse RNF181 transfected 293T: sc-123237 (**B**) and Jurkat (**C**) whole cell lysates.



RNF181 (F-9E): sc-101120. Western blot analysis of RNF181 expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Pedersen, S.M., et al. 2015. Negative regulation of CARD11 signaling and lymphoma cell survival by the E3 ubiquitin ligase RNF181. Mol. Cell. Biol. 36: 794-808.
2. Akizuki, Y., et al. 2023. cIAP1-based degraders induce degradation via branched ubiquitin architectures. Nat. Chem. Biol. 19: 311-322.

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 for detailed protocols and support products.