

# RTEL1 (H-5): sc-515427

## BACKGROUND

RTEL1 (regulator of telomere elongation helicase 1), also known as C20orf41, KIAA1088 or NHL, is a 1,400 amino acid nuclear protein that contains one helicase ATP-binding domain and belongs to the helicase family of DNA-binding proteins. In mice, RTEL1 is required for telomere elongation and is an important regulator of chromosome stability. Human RTEL1 is highly expressed in kidney and intestine and, existing as a functional ortholog of its mouse counterpart, is thought to act as an ATP-dependent helicase that may regulate chromosome function and genomic stability. The gene encoding RTEL1 maps to a gene-rich cluster on chromosome 20 that is thought to house a number of tumor-related genes, suggesting that RTEL1 may play a role in tumorigenesis. Multiple isoforms of RTEL1 exist due to alternative splicing events.

## REFERENCES

1. Zhu, L., et al. 1998. Telomere length regulation in mice is linked to a novel chromosome locus. *Proc. Natl. Acad. Sci. USA* 95: 8648-8653.
2. Bai, C., et al. 2000. Overexpression of M68/DcR3 in human gastrointestinal tract tumors independent of gene amplification and its location in a four-gene cluster. *Proc. Natl. Acad. Sci. USA* 97: 1230-1235.
3. Ding, H., et al. 2004. Regulation of murine telomere length by Rtel: an essential gene encoding a helicase-like protein. *Cell* 117: 873-886.
4. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 608833. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: RTEL1 (human) mapping to 20q13.33.

## SOURCE

RTEL1 (H-5) is a mouse monoclonal antibody raised against amino acids 301-600 mapping within an internal region of RTEL1 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.

RTEL1 (H-5) is available conjugated to agarose (sc-515427 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515427 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515427 PE), fluorescein (sc-515427 FITC), Alexa Fluor® 488 (sc-515427 AF488), Alexa Fluor® 546 (sc-515427 AF546), Alexa Fluor® 594 (sc-515427 AF594) or Alexa Fluor® 647 (sc-515427 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515427 AF680) or Alexa Fluor® 790 (sc-515427 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

RTEL1 (H-5) is recommended for detection of RTEL1 of 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 RTEL1 siRNA (h): sc-76438, RTEL1 shRNA Plasmid (h): sc-76438-SH and RTEL1 shRNA (h) Lentiviral Particles: sc-76438-V.

Molecular Weight of RTEL1: 152 kDa.

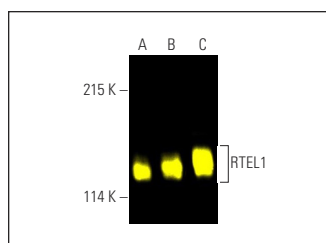
Positive Controls: HEK293T whole cell lysate: sc-45137, Jurkat whole cell lysate: sc-2204 or SK-N-MC cell lysate: sc-2237.

## RECOMMENDED SUPPORT REAGENTS

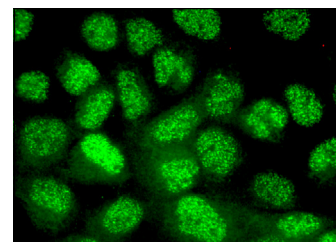
To ensure optimal results, the following support reagents are recommended:

- 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



RTEL1 (H-5) Alexa Fluor® 488: sc-515427 AF488. Direct fluorescent western blot analysis of RTEL1 expression in SK-N-MC (A), Jurkat (B) and HEK293T (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



RTEL1 (H-5): sc-515427. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Yu, E.Y., et al. 2021. Reciprocal impacts of telomerase activity and ADRN/MES differentiation state in neuroblastoma tumor biology. *Commun. Biol.* 4: 1315.

## 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.