

## RTEL1 (D-20): sc-85900

### 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

- 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.
- 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.
- Ding, H., et al. 2004. Regulation of murine telomere length by RTEL: an essential gene encoding a helicase-like protein. *Cell* 117: 873-886.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 608833. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Villeneuve, A.M. 2008. Ensuring an exit strategy: RTEL1 restricts rogue recombination. *Cell* 135: 213-215.
- Barber, L.J., et al. 2008. RTEL1 maintains genomic stability by suppressing homologous recombination. *Cell* 135: 261-271.

### CHROMOSOMAL LOCATION

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

### SOURCE

RTEL1 (D-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of RTEL1 of human origin.

### PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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

### 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.

### APPLICATIONS

RTEL1 (D-20) is recommended for detection of RTEL1 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)], 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.

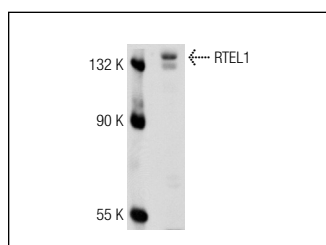
Molecular Weight of RTEL1: 152 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

### DATA



RTEL1 (D-20): sc-85900. Western blot analysis of RTEL1 expression in HeLa whole cell lysate.

### SELECT PRODUCT CITATIONS

- Seki, M., et al. 2013. IOP1 protein is an external component of the human cytosolic iron-sulfur cluster assembly (CIA) machinery and functions in the MMS19 protein-dependent CIA pathway. *J. Biol. Chem.* 288: 16680-16689.

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Try **RTEL1 (H-5): sc-515427**, our highly recommended monoclonal alternative to RTEL1 (D-20).