

RecQL4 (B-3): sc-518189



The Power to Question

BACKGROUND

In humans, the RecQ helicase family includes WRN, BLM, RecQL1, RecQL4 and RecQL5 proteins, all of which contain a conserved helicase domain. WRN and BLM have been demonstrated to be the responsible genes in Werner and Bloom syndromes, respectively. RecQL1 and RecQL5 also belong to the human RecQ helicase family, but their correlation with genetic disorders, if any, is unknown. The levels of RecQ helicase family members are differentially upregulated to guarantee genomic stability in cells that are transformed or actively proliferating. The gene encoding human RecQL4, which maps to chromosome 8q24.3, is believed to be the gene responsible for the development of Rothmund-Thomson syndrome (RTS). The genes encoding RecQL1 and RecQL5 map to chromosome 12p12.1 and 17q25.1, respectively.

REFERENCES

1. Seki, M., et al. 1994. Molecular cloning of cDNA encoding human DNA helicase Q1 which has homology to *Escherichia coli* Rec Q helicase and localization of the gene at chromosome 12p12. *Nucleic Acids Res.* 22: 4566-4573.
2. Kitao, S., et al. 1999. Mutations in RECQL4 cause a subset of cases of Rothmund-Thomson syndrome. *Nat. Genet.* 22: 82-84.
3. Ohhata, T., et al. 2000. Cloning, genomic structure and chromosomal localization of the gene encoding mouse DNA helicase RecQ helicase protein-like 4. *Gene* 261: 251-258.
4. Kawabe, T., et al. 2000. Differential regulation of human RecQ family helicases in cell transformation and cell cycle. *Oncogene* 19: 4764-4772.
5. Kawabe, Y., et al. 2000. Covalent modification of the Werner's syndrome gene product with the ubiquitin-related protein, SUMO-1. *J. Biol. Chem.* 275: 20963-20966.

CHROMOSOMAL LOCATION

Genetic locus: RECQL4 (human) mapping to 8q24.3; Recql4 (mouse) mapping to 15 D3.

SOURCE

RecQL4 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 28-50 of RecQL4 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RecQL4 (B-3) is available conjugated to agarose (sc-518189 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518189 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518189 PE), fluorescein (sc-518189 FITC), Alexa Fluor® 488 (sc-518189 AF488), Alexa Fluor® 546 (sc-518189 AF546), Alexa Fluor® 594 (sc-518189 AF594) or Alexa Fluor® 647 (sc-518189 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518189 AF680) or Alexa Fluor® 790 (sc-518189 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

RecQL4 (B-3) is recommended for detection of RecQL4 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).

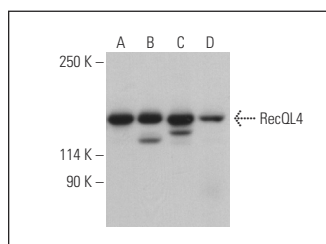
Suitable for use as control antibody for RecQL4 siRNA (h): sc-38219, RecQL4 siRNA (m): sc-38220, RecQL4 shRNA Plasmid (h): sc-38219-SH, RecQL4 shRNA Plasmid (m): sc-38220-SH, RecQL4 shRNA (h) Lentiviral Particles: sc-38219-V and RecQL4 shRNA (m) Lentiviral Particles: sc-38220-V.

Positive Controls: RecQL4 (m): 293 Lysate: sc-179411, K-562 whole cell lysate: sc-2203 or A-431 whole cell lysate: sc-2201.

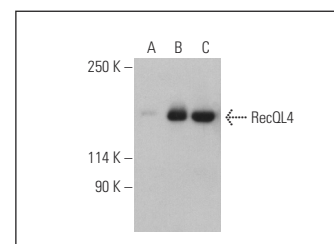
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



RecQL4 (B-3): sc-518189. Western blot analysis of RecQL4 expression in A-431 (A), RT-4 (B) and NIH/3T3 (C) whole cell lysates and rat brain tissue extract (D). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



RecQL4 (B-3): sc-518189. Western blot analysis of RecQL4 expression in non-transfected 293: sc-110760 (A), mouse RecQL4 transfected 293: sc-179411 (B) and K-562 (C) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

1. Xu, X., et al. 2023. DNA replication initiation factor RECQ4 possesses a role in antagonizing DNA replication initiation. *Nat. Commun.* 14: 1233.

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.