

RecQL1 (G-2): sc-166446

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 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 levels of WRN, BLM, RecQL1, 4 and 5 are differentially upregulated to guarantee genomic stability in cells that are transformed or actively proliferating. In humans, RecQL1 and RecQL5 map to chromosome 12p12.1 and 17q25.1, respectively.

REFERENCES

1. Seki, M., Miyazawa, H., Tada, S., Yanagisawa, J., Yamaoka, T., Hoshino, S., Ozawa, K., Eki, T., Nogami, M., Okumura, K., 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., Shimamoto, A., Goto, M., Miller, R.W., Smithson, W.A., Lindor, N.M. and Furuichi, Y. 1999. Mutations in RECQL4 cause a subset of cases of Rothmund-Thomson syndrome. *Nat. Genet.* 22: 82-84.
3. Ohhata, T., Araki, R., Fukumura, R., Kuroiwa, A., Matsuda, Y., Tatsumi, K. and Abe, M. 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., Tsuyama, N., Kitao, S., Nishikawa, K., Shimamoto, A., Shiratori, M., Matsumoto, T., Anno, K., Sato, T., Mitsui, Y., Seki, M., Enomoto, T., Goto, M., Ellis, N.A., Ide, T., Furuichi, Y. and Sugimoto, M. 2000. Differential regulation of human RecQ family helicases in cell transformation and cell cycle. *Oncogene* 19: 4764-4772.
5. Kawabe, Y., Seki, M., Seki, T., Wang, W.S., Imamura, O., Furuichi, Y., Saitoh, H. and Enomoto, T. 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: RECQL (human) mapping to 12p12.1; Recql (mouse) mapping to 6 G2.

SOURCE

RecQL1 (G-2) is a mouse monoclonal antibody raised against amino acids 1-110 of RecQL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

RecQL1 (G-2) is recommended for detection of RecQL1 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 RecQL1 siRNA (h): sc-38217, RecQL1 siRNA (m): sc-38218, RecQL1 shRNA Plasmid (h): sc-38217-SH, RecQL1 shRNA Plasmid (m): sc-38218-SH, RecQL1 shRNA (h) Lentiviral Particles: sc-38217-V and RecQL1 shRNA (m) Lentiviral Particles: sc-38218-V.

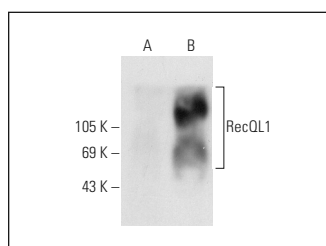
Molecular Weight of RecQL1: 75 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HeLa nuclear extract: sc-2120 or RecQL1 (m): 293T Lysate: sc-123053.

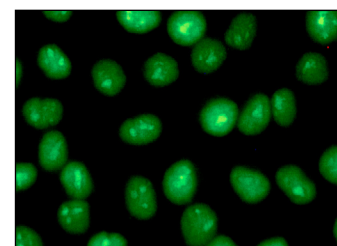
RECOMMENDED SUPPORT REAGENTS

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



RecQL1 (G-2): sc-166446. Western blot analysis of RecQL1 expression in non-transfected: sc-117752 (A) and mouse RecQL1 transfected: sc-123053 (B) 293T whole cell lysates.



RecQL1 (G-2): sc-166446. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

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.