SANTA CRUZ BIOTECHNOLOGY, INC.

WRN (C-19): sc-1956

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Werner's Syndrome (WS), also called adult progeria, is an inherited, autosomal recessive disorder that is most common in families from regions of Japan where consanguineous marriages occur frequently. WS is characterized by premature aging and the early onset of age-related diseases and commonly results in cancer. The gene responsible for Werner's Syndrome, WRN, has been mapped to the short arm of chromosome 8, 8p11.2-p12 and the subsequent cloning of the gene has revealed a predicted protein of 1432 amino acids in length, that bears significant sequence homology with DNA helicases. Four mutations in WRN have been identified in patients afflicted with WS. Two of the mutations involve mRNA splice-junctions. Of these two mutations, one was found in 60 percent of the individuals examined. This mutation is predicted to cause a frameshift which results in a truncated WRN protein.

REFERENCES

1. Thomas, W., et al. 1993. A genetic analysis of the Werner syndrome region on human chromosome 8p. Genomics 16: 685-690.
2. Yu, C.E., et al. 1994. Linkage disequilibrium and haplotype studies of chromosome 8p 11.1-21.1 markers and Werner Syndrome. Am. J. Hum. Genet. 55: 356-364.
3. Nakura, J., et al. 1994. Homozygosity mapping of the Werner syndrome locus (WRN). Genomics 23: 600-608.

CHROMOSOMAL LOCATION

Genetic locus: WRN (human) mapping to 8p12.

SOURCE

WRN (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of WRN of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1956 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

WRN (C-19) is recommended for detection of WRN 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 WRN siRNA (h): sc-36843, WRN shRNA Plasmid (h): sc-36843-SH and WRN shRNA (h) Lentiviral Particles: sc-36843-V.

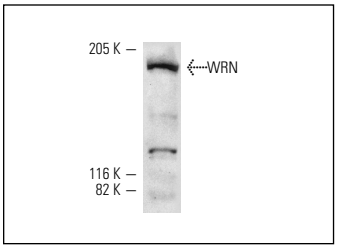
Molecular Weight of WRN: 170 kDa.

Positive Controls: NAMALWA cell lysate: sc-2234, HeLa nuclear extract: sc-2120 or K-562 nuclear extract: sc-2130.

STORAGE

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

DATA



WRN (C-19): sc-1956. Western blot analysis of WRN expression in NAMALWA whole cell lysate.

SELECT PRODUCT CITATIONS

1. Brosh, R.M., Jr., et al. 1999. Functional and physical interaction between WRN helicase and human replication protein. Am. J. Biol. Chem. 274: 18341-18350.
2. Lebel, M., et al. 1999. The Werner syndrome gene product co-purifies with the DNA replication complex and interacts with PCNA and Topoisomerase I. J. Biol. Chem. 274: 37795-37799.
3. Shiratori, M., et al. 1999. Detection by epitope-defined monoclonal antibodies of Werner DNA helicases in the nucleoplasm and their upregulation by cell transformation and immortalization. J. Cell Biol. 144: 1-9.
4. Lebel, M., et al. 2003. Genetic cooperation between the Werner syndrome protein and poly(ADP-ribose) polymerase-1 in preventing chromatid breaks, complex chromosomal rearrangements, and cancer in mice. Am. J. Pathol. 162: 1559-1569.
5. Friedemann, J., et al. 2005. Nuclear DNA helicase II (RNA helicase A) interacts with Werner Syndrome helicase and stimulates its exonuclease activity. J. Biol. Chem. 280: 31303-31313.
6. Turaga, R.V., et al. 2007. Werner syndrome protein prevents DNA breaks upon chromatin structure alteration. Aging Cell 6: 471-481.
7. Lachapelle, S., et al. 2011. Proteome-wide identification of WRN-interacting proteins in untreated and nuclease-treated samples. J. Proteome Res. 10: 1216-1227.

RESEARCH USE

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