SANTA CRUZ BIOTECHNOLOGY, INC.

# WRN (H-300): sc-5629

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, 8p12, and the subsequent cloning of the gene has reveled a predicted protein of 1,432 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.

## CHROMOSOMAL LOCATION

Genetic locus: WRN (human) mapping to 8p12; Wrn (mouse) mapping to 8 A3.

## SOURCE

WRN (H-300) is a rabbit polyclonal antibody raised against amino acids 1133-1432 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.

## APPLICATIONS

WRN (H-300) is recommended for detection of WRN of mouse, rat and 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 siRNA (m): sc-36844, WRN shRNA Plasmid (h): sc-36843-SH, WRN shRNA Plasmid (m): sc-36844-SH, WRN shRNA (h) Lentiviral Particles: sc-36843-V and WRN shRNA (m) Lentiviral Particles: sc-36844-V.

Molecular Weight of WRN: 170 kDa.

Postive Controls: NAMALWA cell lysate: sc-2234, K-562 nuclear extract: sc-2130 or KNRK nuclear extract: sc-2141.

## STORAGE

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

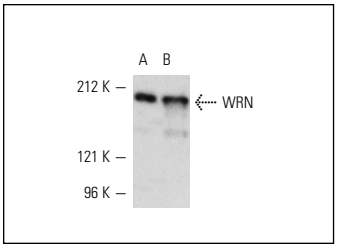
## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

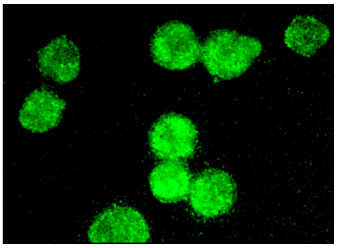
## RESEARCH USE

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

## DATA




WRN (H-300): sc-5629. Western blot analysis of WRN expression in K-562 (**A**) and KNRK (**B**) nuclear extracts.



WRN (H-300): sc-5629. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear staining.

## SELECT PRODUCT CITATIONS


1. Harrigan, J.A., et al. 2003. The Werner syndrome protein stimulates DNA polymerase β strand displacement synthesis via its helicase activity. J. Biol. Chem. 278: 22686-22695.
2. Cheng, W.H., et al. 2003. Werner syndrome protein phosphorylation by abl tyrosine kinase regulates its activity and distribution. Mol. Cell. Biol. 23: 6385-6395.
3. Partridge, J.J., et al. 2003. DNA damage modulates nucleolar interaction of the Werner protein with the AAA ATPase p97/VCP. Mol. Biol. Cell 14: 4221-4229.
4. Bhattacharyya, S., et al. 2009. Telomerase associated protein 1, HSP90 and topoisomerase IIα associate directly with the BLM helicase in immortalized cells using altand modulate its helicase activity using telomeric DNA substrates. J. Biol. Chem. 284: 14966-14977.
5. Lachaud, A.A., et al. 2010. Werner's syndrome helicase participates in transcription of phenobarbital-inducible CYP2B genes in rat and mouse liver. Biochem. Pharmacol. 79: 463-470.
6. Uhl, M., et al. 2010. Role of SIRT1 in homologous recombination. DNA Repair 9: 383-393.
7. Lee, S.J., et al. 2010. Estrogen prevents senescence through induction of WRN, Werner syndrome protein. Horm. Res. Paediatr. 74: 33-40.
8. Liu, J., et al. 2011. Promyelocytic leukemia protein interacts with Werner syndrome helicase and regulates double-strand break repair in gamma-irradiation-induced DNA damage responses. Biochemistry 76: 550-554.