

WRN (D-6): sc-376182

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, and the subsequent cloning of the gene has revealed 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% 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.

SOURCE

WRN (D-6) is a mouse monoclonal antibody raised against amino acids 1133-1432 of WRN 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.

WRN (D-6) is available conjugated to agarose (sc-376182 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376182 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376182 PE), fluorescein (sc-376182 FITC), Alexa Fluor[®] 488 (sc-376182 AF488), Alexa Fluor[®] 546 (sc-376182 AF546), Alexa Fluor[®] 594 (sc-376182 AF594) or Alexa Fluor[®] 647 (sc-376182 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376182 AF680) or Alexa Fluor[®] 790 (sc-376182 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

WRN (D-6) is recommended for detection of WRN of 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 WRN siRNA (h): sc-36843, WRN shRNA Plasmid (h): sc-36843-SH and WRN shRNA (h) Lentiviral Particles: sc-36843-V.

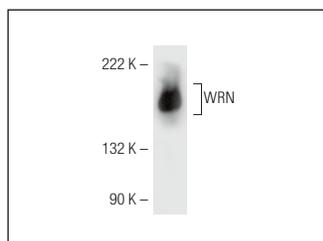
Molecular Weight of WRN: 170 kDa.

Positive Controls: NAMALWA cell lysate: sc-2234, K-562 nuclear extract: sc-2130 or A-431 whole cell lysate: sc-2201.

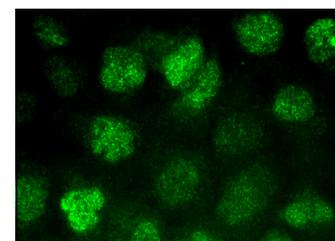
RECOMMENDED SUPPORT REAGENTS

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 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



WRN (D-6): sc-376182. Western blot analysis of WRN expression in K-562 nuclear extract.



WRN (D-6): sc-376182. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Czerwinska, J., et al. 2014. Catalytic activities of Werner protein are affected by adduction with 4-hydroxy-2-nonenal. *Nucleic Acids Res.* 42: 11119-11135.
- Garzón, J., et al. 2019. Human RIF1-protein phosphatase 1 prevents degradation and breakage of nascent DNA on replication stalling. *Cell Rep.* 27: 2558-2566.e4.
- James, C.D., et al. 2020. Werner syndrome protein (WRN) regulates cell proliferation and the human papillomavirus 16 life cycle during epithelial differentiation. *mSphere* 5: e00858-20.
- Kang, S.M., et al. 2021. Human WRN is an intrinsic inhibitor of progerin, abnormal splicing product of Lamin A. *Sci. Rep.* 11: 9122.

RESEARCH USE

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

PROTOCOLS

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

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