Product name: Anti-Werner's syndrome helicase WRN antibody

Description: Rabbit polyclonal to Werner's syndrome helicase WRN

Host species: Rabbit

Tested applications: Suitable for: WB, IP

Species reactivity: Reacts with: Human

Immunogen: The epitope recognized by ab17987 maps to a region between residues 400 and 450 of human Werner Syndrome Helicase.

Positive control: Whole cell lysate from 293T cells.

Form: Liquid

Storage instructions: Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.

Storage buffer: Preservative: 0.1% Sodium azide
Constituents: 0.021% PBS, 1.764% Sodium citrate, 1.815% Tris

Purity: Immunogen affinity purified

Clonality: Polyclonal

Isotype: IgG

Applications

Our Abpromise guarantee covers the use of ab17987 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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<th>Application</th>
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<td>WB</td>
<td>1/5000 - 1/25000. Detects a band of approximately 200 kDa (predicted molecular weight: 162 kDa).</td>
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<tr>
<td>IP</td>
<td>Use at 2-5 µg/mg of lysate.</td>
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Function
Multifunctional enzyme that has both magnesium and ATP-dependent DNA-helicase activity and 3'->5' exonuclease activity towards double-stranded DNA with a 5'-overhang. Has no nuclease activity towards single-stranded DNA or blunt-ended double-stranded DNA. Binds preferentially to DNA substrates containing alternate secondary structures, such as replication forks and Holliday junctions. May play an important role in the dissociation of joint DNA molecules that can arise as products of homologous recombination, at stalled replication forks or during DNA repair. Alleviates stalling of DNA polymerases at the site of DNA lesions. Important for genomic integrity. Plays a role in the formation of DNA replication focal centers; stably associates with foci elements generating binding sites for RP-A.

Involvement in disease
Defects in WRN are a cause of Werner syndrome (WRN) [MIM:277700]. WRN is a rare autosomal recessive progeroid syndrome characterized by the premature onset of multiple age-related disorders, including atherosclerosis, cancer, non-insulin-dependent diabetes mellitus, ocular cataracts and osteoporosis. The major cause of death, at a median age of 47, is myocardial infarction. Currently all known WS mutations produces prematurely terminated proteins. Defects in WRN may be a cause of colorectal cancer (CRC) [MIM:114500].

Sequence similarities
Belongs to the helicase family, RecQ subfamily.
Contains 1 3'-5' exonuclease domain.
Contains 1 helicase ATP-binding domain.
Contains 1 helicase C-terminal domain.
Contains 1 HRDC domain.

Post-translational modifications
Phosphorylated by PRKDC. Phosphorylated upon DNA damage, probably by ATM or ATR.

Cellular localization
Nucleus > nucleolus. Nucleus.

Images
ab17987, at 0.1mcg/ml, staining Human WRN in whole cell lysate (100mcg) in 293T cells by Western blot. WRN was immunoprecipitated with ab17987 at 5mcg/10cm plate (+/- blocking peptide). Detection was by chemiluminescence with an exposure time of less than 10 seconds.

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