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# Anti-WRN Picoband Antibody

Catalog # ABO11725

## Product Information

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| **Application** | WB |
| **Primary Accession** | Q14191 |
| **Host** | Rabbit |
| **Reactivity** | Human, Rat |
| **Clonality** | Polyclonal |
| **Format** | Lyophilized |
| **Description** | Rabbit IgG polyclonal antibody for Werner syndrome ATP-dependent helicase(WRN) detection. Tested with WB in Human;Rat. |
| **Reconstitution** | Add 0.2ml of distilled water will yield a concentration of 500ug/ml. |

## Additional Information

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| **Gene ID** | 7486 |
| **Other Names** | Werner syndrome ATP-dependent helicase, 3.6.4.12, DNA helicase, RecQ-like type 3, RecQ3, Exonuclease WRN, 3.1.-.-, RecQ protein-like 2, WRN, RECQ3, RECQL2 |
| **Calculated MW** | 162461 |
| **Application Details** | Western blot, 0.1-0.5 □g/ml, Human, Rat |
| **Subcellular Localization** | Nucleus, nucleolus . Nucleus . Nucleus, nucleoplasm . Gamma- irradiation leads to its translocation from nucleoli to nucleoplasm and PML regulates the irradiation-induced WRN relocation. . |
| **Source** | Eukaryota |
| **Protein Name** | Werner syndrome ATP-dependent helicase |
| **Contents** | Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3. |
| **Immunogen** | E. coli-derived human WRN recombinant protein (Position: Q122-N240). Human WRN shares 84% amino acid (aa) sequence identity with mouse WRN. |
| **Purification** | Immunogen affinity purified. |
| **Cross Reactivity** | No cross reactivity with other proteins. |
| **Storage** | At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing. |

## Protein Information

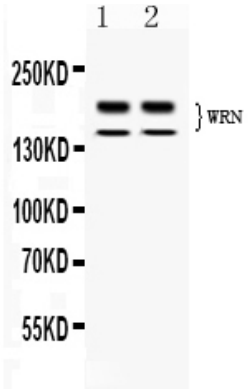
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|---|---|
| **Name** | WRN |
| **Synonyms** | RECQ3, RECQL2 |
| **Function** | Multifunctional enzyme that has magnesium and ATP-dependent 3'-5' DNA-helicase activity on partially duplex substrates (PubMed:9224595, PubMed:9288107, PubMed:9611231). Also has 3'->5' exonuclease activity towards double-stranded (ds)DNA with a 5'-overhang (PubMed:11863428). Has no nuclease activity towards single-stranded (ss)DNA or blunt-ended dsDNA (PubMed:11863428). Helicase activity is most efficient with (d)ATP, but (d)CTP will substitute with reduced efficiency; strand displacement is enhanced by single-strand binding- protein (heterotrimeric replication protein A complex, RPA1, RPA2, RPA3) (PubMed:9611231). 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. Plays a role in the formation of DNA replication focal centers; stably associates with foci elements generating binding sites for RP-A (By similarity). Plays a role in double-strand break repair after gamma- irradiation (PubMed:9224595, PubMed:9288107, PubMed:9611231). Unwinds some G-quadruplex DNA (d(CGG)n tracts); unwinding seems to occur in both 5'-3' and 3'-5' direction and requires a short single-stranded tail (PubMed:10212265). d(CGG)n tracts have a propensity to assemble into tetraplex structures; other G-rich substrates from a telomeric or IgG switch sequence are not unwound (PubMed:10212265). Depletion leads to chromosomal breaks and genome instability (PubMed:33199508). |
| **Cellular Location** | Nucleus, nucleolus. Nucleus. Nucleus, nucleoplasm. Chromosome. Note=Gamma-irradiation leads to its translocation from nucleoli to nucleoplasm and PML regulates the irradiation-induced WRN relocation (PubMed:21639834). Localizes to DNA damage sites (PubMed:27063109). |

## Background

Werner syndrome ATP-dependent helicase, also known as DNA helicase, RecQ-like type 3, is an enzyme that in humans is encoded by the WRN gene. This gene encodes a member of the RecQ subfamily and the DEAH (Asp-Glu-Ala-His) subfamily of DNA and RNA helicases. DNA helicases are involved in many aspects of DNA metabolism, including transcription, replication, recombination, and repair. This protein contains a nuclear localization signal in the C-terminus and shows a predominant nucleolar localization. It possesses an intrinsic 3' to 5' DNA helicase activity, and is also a 3' to 5' exonuclease. Based on interactions between this protein and Ku70/80 heterodimer in DNA end processing, this protein may be involved in the repair of double strand DNA breaks. Defects in this gene are the cause of Werner syndrome, an autosomal recessive disorder characterized by premature aging.

## Images

Western blot analysis of WRN expression in rat thymus extract (lane 1) and human placenta extract (lane 2). WRN at 162KD, 200KD was detected using rabbit anti- WRN Antigen Affinity purified polyclonal antibody (Catalog # ABO11725) at 0.5 ??g/mL. The blot was developed using




chemiluminescence (ECL) method .

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.