abcam

Product datasheet

Anti-Werner's syndrome helicase WRN antibody [EPR6392] ab124673

KO VALIDATED Recombinant RabMAb

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Overview

Product name	Anti-Werner's syndrome helicase WRN antibody [EPR6392]
Description	Rabbit monoclonal [EPR6392] to Werner's syndrome helicase WRN
Host species	Rabbit
Tested applications	**Suitable for:** WB **Unsuitable for:** Flow Cyt,ICC/IF,IHC-P or IP
Species reactivity	**Reacts with:** Human **Does not react with:** Mouse, Rat
Immunogen	Synthetic peptide within Human Werner's syndrome helicase WRN aa 1400-1500 (C terminal). The exact sequence is proprietary.
Positive control	WB: HAP1, MOLT 4, K562 and A431 cell lysates.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	pH: 7.20 Preservative: 0.05% Sodium azide Constituents: 40% Glycerol (glycerin, glycerine), 9.85% Tris glycine, 50% Tissue culture supernatant
Purity	Protein A purified

Clonality	Monoclonal
Clone number	EPR6392
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab124673 in the following tested applications.

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

Application	Abreviews	Notes
WB	(1)	1/1000 - 1/10000. Detects a band of approximately 200 kDa (predicted molecular weight: 162 kDa).

Application notes Is unsuitable for Flow Cyt,ICC/IF,IHC-P or IP.

Target

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.

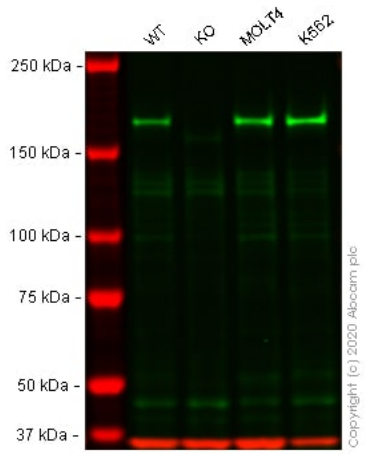
Involvement in disease Defects in WRN are a cause of Werner syndrome (WRN) [MIM:277700]. WRN is a rare autosomal recessive progeroid syndrome characterized by the premature onset of multiple age-related disorders, including atherosclerosis, cancer, non-insulin-dependent diabetes mellitus, ocular cataracts 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



Western blot - Anti-Werner's syndrome helicase WRN antibody [EPR6392] (ab124673)

All lanes : Anti-Werner's syndrome helicase WRN antibody [EPR6392] (ab124673) at 1/1000 dilution

Lane 1 : Wild-type HAP1 cell lysate
Lane 2 : WRN knockout HAP1 cell lysate
Lane 3 : MOLT-4 cell lysate
Lane 4 : K562 cell lysate

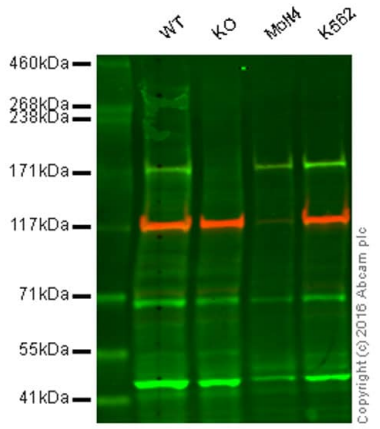
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 162 kDa
Observed band size: 170 kDa

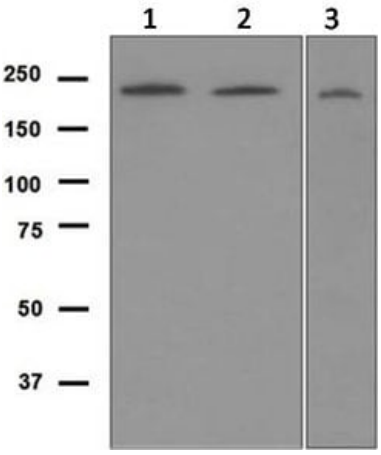
Lanes 1 - 4: Merged signal (red and green). Green - ab124673 observed at 170 kDa. Red - loading control, **ab8245** (Mouse anti-GAPDH antibody [6C5]) observed at 37kDa.

ab124673 was shown to react with Werner's syndrome helicase WRN in wild-type HAP1 cells in western blot. Loss of signal was observed when WRN knockout sample was used. Wild-type and WRN knockout HAP1 cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3% milk in TBS-T (0.1% Tween®) before incubation with ab124673 and **ab8245** (Mouse anti-GAPDH antibody [6C5]) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-Werner's syndrome helicase WRN antibody [EPR6392] (ab124673)

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: Werner's syndrome helicase WRN knockout HAP1 cell lysate (20 µg)
Lane 3: MOLT4 cell lysate (20 µg)
Lane 4: K562 cell lysate (20 µg)
Lanes 1 to 4: Merged signal (red and green). Green - ab124673 observed at 170 kDa. Red - loading control, **ab181602**, observed at 124 kDa.
ab124673 was shown to recognize Werner's syndrome helicase WRN when Werner's syndrome helicase WRN knockout samples were used, along with additional cross-reactive bands. Wild-type and Werner's syndrome helicase WRN knockout samples were subjected to SDS-PAGE. ab124673 and **ab181602** (loading control to GAPDH) were both diluted at 1/1000 and 1/10000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed **ab216772** and Goat Anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed **ab216777** secondary antibodies at 1/10000 dilution for 1 h at room temperature before imaging.



Western blot - Anti-Werner's syndrome helicase WRN antibody [EPR6392] (ab124673)

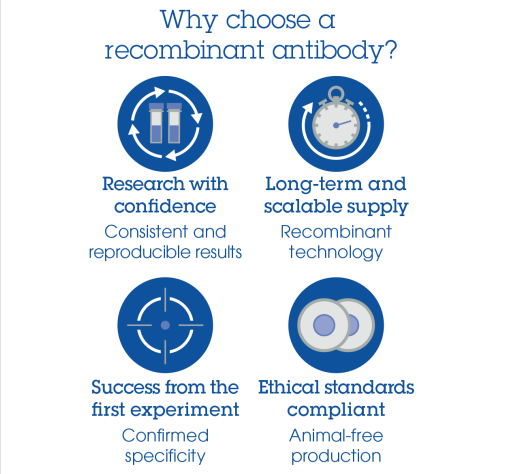
All lanes : Anti-Werner's syndrome helicase WRN antibody [EPR6392] (ab124673) at 1/1000 dilution

Lane 1 : MOLT4 cell lysates
Lane 2 : K562 cell lysates
Lane 3 : A431 cell lysates

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat anti-Rabbit HRP at 1/2000 dilution

Predicted band size: 162 kDa



Anti-Werner's syndrome helicase WRN antibody [EPR6392] (ab124673)

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