## Recombinant Human Werner's syndrome helicase WRN protein ab112372

### Description

<table>
<thead>
<tr>
<th>Product name</th>
<th>Recombinant Human Werner's syndrome helicase WRN protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological activity</td>
<td>useful for Antibody Production and Protein Array</td>
</tr>
<tr>
<td>Expression system</td>
<td>Wheat germ</td>
</tr>
<tr>
<td>Accession</td>
<td>Q14191</td>
</tr>
<tr>
<td>Protein length</td>
<td>Protein fragment</td>
</tr>
<tr>
<td>Animal free</td>
<td>No</td>
</tr>
<tr>
<td>Nature</td>
<td>Recombinant</td>
</tr>
<tr>
<td>Species</td>
<td>Human</td>
</tr>
<tr>
<td>Sequence</td>
<td>NPPVNSDMSKISLIRMLVPENIDTYLIHMAIEILKHGPDS GLQPSCDVNK RRCFPGPSEEICSSKRSEEVGINTETSSAERKRLPV WFAKGSDTSKKL MDKTKRGLFS</td>
</tr>
<tr>
<td>Predicted molecular weight</td>
<td>38 kDa including tags</td>
</tr>
<tr>
<td>Amino acids</td>
<td>1322 to 1432</td>
</tr>
</tbody>
</table>

### Specifications

Our [Abpromise guarantee](#) covers the use of **ab112372** in the following tested applications.

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

<table>
<thead>
<tr>
<th>Applications</th>
<th>Western blot</th>
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<tbody>
<tr>
<td></td>
<td>ELISA</td>
</tr>
<tr>
<td></td>
<td>SDS-PAGE</td>
</tr>
</tbody>
</table>

| Form               | Liquid        |

### Additional notes

**ab112372** is best used within three months from the date of receipt. Useful for Antibody Production and Protein Array.

### Preparation and Storage

- Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles.
pH: 8.00
Constituents: 0.79% Tris HCl, 0.31% Glutathione
Note: Glutathione is reduced

General Info

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
ab112372 analysed by 12.5% SDS-PAGE and stained with Coomassie Blue.

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- We investigate all quality concerns to ensure our products perform to the highest standards

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