

Anti-RPA70 Picoband Antibody
Catalog # ABO12572**Specification**

Anti-RPA70 Picoband Antibody - Product Information

| | |
|-------------------|------------------------|
| Application | WB |
| Primary Accession | P27694 |
| Host | Rabbit |
| Reactivity | Human |
| Clonality | Polyclonal |
| Format | Lyophilized |

Description

Rabbit IgG polyclonal antibody for Replication protein A 70 kDa DNA-binding subunit(RPA1) detection. Tested with WB in Human.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-RPA70 Picoband Antibody - Additional Information

Gene ID 6117

Other Names

Replication protein A 70 kDa DNA-binding subunit, RP-A p70, Replication factor A protein 1, RF-A protein 1, Single-stranded DNA-binding protein, Replication protein A 70 kDa DNA-binding subunit, N-terminally processed, RPA1, REPA1, RPA70

Calculated MW

68138 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization

Nucleus . Nucleus, PML body . Enriched in PML bodies in cells displaying alternative lengthening of their telomeres. .

Protein Name

Replication protein A 70 kDa DNA-binding subunit

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human RPA70 (533-568aa QESAEAILGQNAAAYLGELKDKNEQAFEEVFQNNANFR), different from the related mouse sequence by three amino acids.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins.

Storage

At -20°C for one year. After reconstitution, 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.

Anti-RPA70 Picoband Antibody - Protein Information

Name RPA1

Synonyms REPA1, RPA70

Function

As part of the heterotrimeric replication protein A complex (RPA/RP-A), binds and stabilizes single-stranded DNA intermediates that form during DNA replication or upon DNA stress. It prevents their reannealing and in parallel, recruits and activates different proteins and complexes involved in DNA metabolism (PubMed: [17596542](http://www.uniprot.org/citations/17596542), PubMed: [27723717](http://www.uniprot.org/citations/27723717), PubMed: [27723720](http://www.uniprot.org/citations/27723720)). Thereby, it plays an essential role both in DNA replication and the cellular response to DNA damage (PubMed: [9430682](http://www.uniprot.org/citations/9430682)). In the cellular response to DNA damage, the RPA complex controls DNA repair and DNA damage checkpoint activation. Through recruitment of ATRIP activates the ATR kinase a master regulator of the DNA damage response (PubMed: [24332808](http://www.uniprot.org/citations/24332808)). It is required for the recruitment of the DNA double-strand break repair factors RAD51 and RAD52 to chromatin in response to DNA damage (PubMed: [17765923](http://www.uniprot.org/citations/17765923)). Also recruits to sites of DNA damage proteins like XPA and XPG that are involved in nucleotide excision repair and is required for this mechanism of DNA repair (PubMed: [7697716](http://www.uniprot.org/citations/7697716)). Also plays a role in base excision repair (BER) probably through interaction with UNG (PubMed: [9765279](http://www.uniprot.org/citations/9765279)). Also recruits SMARCAL1/HARP, which is involved in replication fork restart, to sites of DNA damage. Plays a role in telomere maintenance (PubMed: [17959650](http://www.uniprot.org/citations/17959650), PubMed: [34767620](http://www.uniprot.org/citations/34767620)). As part of the alternative replication protein A complex, aRPA, binds single-stranded DNA and probably plays a role in DNA repair. Compared to the RPA2-containing, canonical RPA complex, may not support chromosomal DNA replication and cell cycle progression through S-phase. The aRPA may not promote efficient priming by DNA polymerase alpha but could support DNA synthesis by polymerase delta in presence of PCNA and replication factor C (RFC), the dual incision/excision reaction of nucleotide excision repair and RAD51-dependent strand exchange (PubMed: [19996105](http://www.uniprot.org/citations/19996105)). RPA stimulates 5'-3' helicase activity of the BRIP1/FANCD1 (PubMed: [17596542](http://www.uniprot.org/citations/17596542)).

Cellular Location

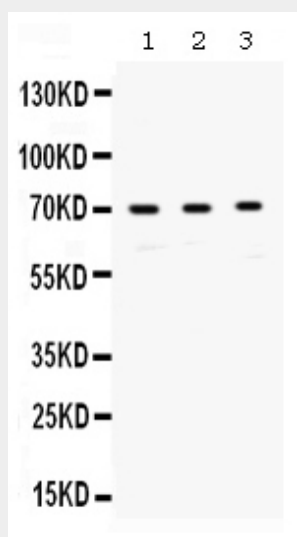
Nucleus. Nucleus, PML body. Note=Enriched in PML bodies in cells displaying alternative lengthening of their telomeres

Anti-RPA70 Picoband Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-RPA70 Picoband Antibody - Images



Western blot analysis of RPA70 expression in HELA whole cell lysates (lane 1), JURKAT whole cell lysates (lane 2) and COLO320 whole cell lysates (lane 3). RPA70 at 70KD was detected using rabbit anti- RPA70 Antigen Affinity purified polyclonal antibody (Catalog # ABO12572) at 0.5 µg/mL. The blot was developed using chemiluminescence (ECL) method .

Anti-RPA70 Picoband Antibody - Background

Replication protein A 70 kDa DNA-binding subunit is a protein that in humans is encoded by the RPA1 gene. This gene is mapped to chromosome 17p13.3. Replication protein A (RPA) is a heterotrimeric single-strand DNA (ssDNA)-binding protein essential for DNA replication, repair, and recombination. It is composed of 70-kD (RPA1), 32-kD (RPA2), and 14-kD (RPA3) subunits. The RPA1 subunit is responsible for high-affinity ssDNA binding. The RPA complex was originally isolated as a factor essential for in vitro replication of the papovavirus SV40. It had been found that recombinant human RPA1, purified from bacteria, exhibited ssDNA-binding activity comparable to that of the complete RPA complex. RPA1 could substitute for the complete complex in stimulating the activity of DNA polymerase alpha-primase, but it could not substitute for the complete complex in SV40 DNA replication in vitro, suggesting an important functional role for the other subunits.