10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

RPA3 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP2814a

Specification

RPA3 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession P35244

RPA3 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 6119

Other Names
Replication protein A 14 kDa subunit, RP-A p14, Replication factor A protein 3, RF-A protein 3, RPA3, REPA3, RPA14

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2814a was selected from the N-term region of human RPA3. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

RPA3 Antibody (N-term) Blocking Peptide - Protein Information

Name RPA3

Synonyms REPA3, RPA14

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. Thereby, it plays an essential role both in DNA replication and the cellular response to DNA damage (PubMed:17596542, PubMed: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:<a

href="http://www.uniprot.org/citations/24332808" target="_blank">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. 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). Also plays a role in base excision repair (BER), probably through interaction with UNG (PubMed:9765279). RPA stimulates 5'-3' helicase activity of BRIP1/FANCJ (PubMed:17596542). Also recruits SMARCAL1/HARP, which is involved in replication fork restart, to sites of DNA damage. May also play a role in telomere maintenance. RPA3 has its own single-stranded DNA-binding activity and may be responsible for polarity of the binding of the complex to DNA (PubMed:19010961). 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).

Cellular Location
Nucleus

RPA3 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

RPA3 Antibody (N-term) Blocking Peptide - Images

RPA3 Antibody (N-term) Blocking Peptide - Background

RPA3 is required for DNA recombination, repair and replication. The activity of RP-A is mediated by single-stranded DNA binding and protein interactions.

RPA3 Antibody (N-term) Blocking Peptide - References

Salas,T.R., Nucleic Acids Res. 37 (1), 38-46 (2009)Umbricht,C.B., Genomics 20 (2), 249-257 (1994)