

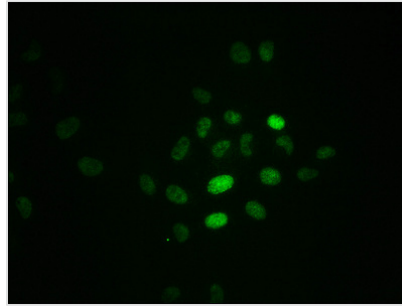


Phospho-RPA2 (T21) Antibody

Product Code	CSB-RA020089A21phHU
Abbreviation	Replication protein A 32 kDa subunit
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P15927
Immunogen	A synthesized peptide derived from Human Phospho-RPA2 (T21)
Species Reactivity	Human
Tested Applications	ELISA, IF; Recommended dilution: IF:1:20-1:200
Relevance	<p>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. 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. 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. Plays also a role in base excision repair (BER) probably through interaction with UNG. Also recruits SMARCAL1/HARP, which is involved in replication fork restart, to sites of DNA damage. May also play a role in telomere maintenance.</p>
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Alias	Replication protein A 32 kDa subunit, Replication factor A protein 2, RF-A protein 2, Replication protein A 34 kDa subunit, RP-A p34, RPA2, REPA2, RPA32, RPA34
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling
Gene Names	RPA2
Accession NO.	3B2



Image



Immunofluorescence staining of HeLa cells with CSB-RA020089A21pH1U at 1:100, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).

Description

CUSABIO cloned the DNA sequence encoding the phospho-RPA2 (T21) monoclonal antibody into the plasmid and then transfected into the cell line for expression. The monoclonal antibody was produced by immunizing the animals with the phosphopeptide corresponding to the residues surrounding Thr 21 of human RPA2. The product was purified through the affinity-chromatography method and then got the recombinant phospho-RPA2 (T21) monoclonal antibody. It belongs to the rabbit IgG. This phospho-RPA2 (T21) antibody can be used to detect human pT21-RPA2 protein in ELISA and IF applications.

RPA2 is a subunit of RPA, which is a heterotrimeric protein complex that specifically binds to ssDNA. RPA is essential for DNA replication initiation and replication elongation. When the ATR-dependent phosphorylation sites in RPA2 are mutated, the down-regulation of DNA synthesis after UV radiation is disrupted, but ATR activation is unaffected. The UV-induced, ATR-mediated inhibition of DNA replication is specifically required for Thr 21 and Ser 33, two residues among numerous phosphorylation sites in the amino terminus of RPA2.