SANTA CRUZ BIOTECHNOLOGY, INC.

RPA 32 kDa subunit (C-16): sc-14692

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

The single-stranded-DNA-binding proteins (SSBs) are essential for DNA function in prokaryotic and eukaryotic cells, mitochondria, phages and viruses. Replication protein A (RPA), a highly conserved eukaryotic protein, is a heterotrimeric SSB. RPA plays an important role in DNA replication, recombination and repair. The binding of human RPA (hRPA) to DNA involves molecular polarity, in which initial hRPA binding occurs on the 5' side of a ssDNA substrate and then extends in the 3' direction to create a stably bound hRPA. RPA is one of the major damage-recognition proteins involved in the early stage of nucleotide excision repair. RPA can also play a role in telomere maintenance. The C-terminus of RPA 32 can specfically interact with the DNA repair enzyme UNG2 and repair factors XPA and Rad52, each of which functions in a different repair pathway. In addition, RPA 32 binds specifically to the SH2 domain of Stat3 *in vivo,* and overexpression of RPA 32 corresponds to the augmented growth factor-stimulated tyrosine phosphorylation and transcription activities of Stat3.

REFERENCES

1. Erdile, L.F., et al. 1990. The primary structure of the 32 kDa subunit of human replication protein A. J. Biol. Chem. 265: 3177-3182.
2. Erdile, L.F., et al. 1991. Characterization of a cDNA encoding the 70 kDa single-stranded DNA-binding subunit of human replication protein A and the role of the protein in DNA replication. J. Biol. Chem. 266: 12090-12098.
3. Bochkarev, A., et al. 1997. Structure of the single-stranded-DNA-binding domain of replication protein A bound to DNA. Nature 385: 176-181.

CHROMOSOMAL LOCATION

Genetic locus: RPA2 (human) mapping to 1p35.3; Rpa2 (mouse) mapping to 4 D2.3.

SOURCE

RPA 32 kDa subunit (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of RPA 32 kDa subunit of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14692 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-14692 X, 200 µg/0.1 ml.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

RPA 32 kDa subunit (C-16) is recommended for detection of RPA 32 kDa subunit of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RPA 32 kDa subunit (C-16) is also recommended for detection of RPA 32 kDa subunit in additional species, including equine, canine, bovine and porcine.

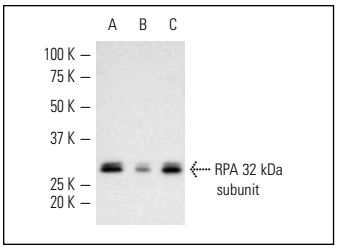
Suitable for use as control antibody for RPA 32 kDa subunit siRNA (h): sc-38229, RPA 32 kDa subunit siRNA (m): sc-38230, RPA 32 kDa subunit shRNA Plasmid (h): sc-38229-SH, RPA 32 kDa subunit shRNA Plasmid (m): sc-38230-SH, RPA 32 kDa subunit shRNA (h) Lentiviral Particles: sc-38229-V and RPA 32 kDa subunit shRNA (m) Lentiviral Particles: sc-38230-V.

RPA 32 kDa subunit (C-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

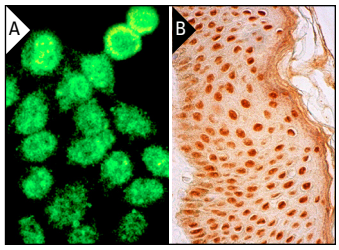
Molecular Weight of RPA 32 kDa subunit: 32 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HeLa nuclear extract: sc-2120 or H69AR whole cell lysate: sc-364382.

DATA



RPA 32 kDa subunit (C-16): sc-14692. Western blot analysis of RPA 32 kDa subunit expression in H69AR (**A**) and HeLa (**B**) whole cell lysates and HeLa nuclear extract (**C**).



RPA 32 kDa subunit (C-16): sc-14692. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human vulva/anal skin tissue showing nuclear staining of epidermal cells (**B**).

SELECT PRODUCT CITATIONS

1. Gastwirt, R.F., et al. 2006. Spy1 expression prevents normal cellular responses to DNA damage: inhibition of apoptosis and checkpoint activation. J. Biol. Chem. 281: 35425-35435.

MONOS Satisfaction Guaranteed

Try **RPA 32 kDa subunit (9H8): sc-56770** or **RPA 32 kDa subunit (B-4): sc-271578**, our highly recommended monoclonal alternatives to RPA 32 kDa subunit (C-16). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **RPA 32 kDa subunit (9H8): sc-56770**.