SANTA CRUZ BIOTECHNOLOGY, INC.

RPA 70 kDa subunit (H-300): sc-25376

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 an ssDNA substrate and then extends in the 3' direction to create a stably bound hRPA. RPA is a major damage-recognition protein involved in the early stages of nucleotide excision repair. It can also play a role in telomere maintenance. The RPA 70 kDa subunit binds to ssDNA and mediates interactions with many cellular and viral proteins. The DNA binding domain lies in the middle of RPA 70 kDa subunit and comprises 2 structurally homologous subdomains oriented in tandem. RPA contains a conserved four cysteine-type zinc-finger motif, which mediates the transition of RPA-ssDNA interaction to a stable RPA-ssDNA complex in a redox-dependent manner.

CHROMOSOMAL LOCATION

Genetic locus: RPA1 (human) mapping to 17p13.3; Rpa1 (mouse) mapping to 11 B5.

SOURCE

RPA 70 kDa subunit (H-300) is a rabbit polyclonal antibody raised against amino acids 317-616 of RPA 70 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25376 X, 200 µg/0.1 ml.

APPLICATIONS

RPA 70 kDa subunit (H-300) is recommended for detection of RPA 70 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RPA 70 kDa subunit (H-300) is also recommended for detection of RPA 70 kDa subunit in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for RPA 70 kDa subunit siRNA (h): sc-37163, RPA 70 kDa subunit siRNA (m): sc-38231, RPA 70 kDa subunit shRNA Plasmid (h): sc-37163-SH, RPA 70 kDa subunit shRNA Plasmid (m): sc-38231-SH, RPA 70 kDa subunit shRNA (h) Lentiviral Particles: sc-37163-V and RPA 70 kDa subunit shRNA (m) Lentiviral Particles: sc-38231-V.

RPA 70 kDa subunit (H-300) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

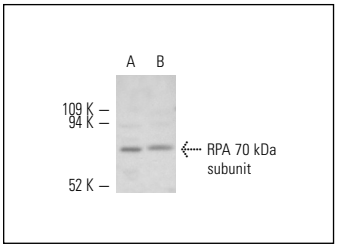
Molecular Weight of RPA 70 kDa subunit: 70 kDa.

Positive Controls: SW480 nuclear extract: sc-2155.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



RPA 70 kDa subunit (H-300): sc-25376. Western blot analysis of RPA 70 kDa subunit expression in SW480 (**A**) and K-562 (**B**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Rampakakis, E., et al. 2008. Ku is involved in cell growth, DNA replication and G_1-S transition. J. Cell Sci. 121: 590-600.
2. Balakrishnan, L., et al. 2010. Histone H4 lysine 20 mono- and tri-methylation define distinct biological processes in SV40 minichromosomes. Cell Cycle 9: 1320-1332.
3. Liu, G., et al. 2012. Replication fork stalling and checkpoint activation by a PKD1 locus mirror repeat polypurine-polypyrimidine (Pu-Py) tract. J. Biol. Chem. 287: 33412-33423.

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.