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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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SANTA CRUZ BIOTECHNOLOGY, INC.

RPA 32 kDa subunit (MA34): sc-53496

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 a major damage-recognition protein involved in the early stages of nucleotide excision repair. It can also play a role in telomere maintenance. The C-terminus of RPA 32 can specfically intereact 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.

CHROMOSOMAL LOCATION

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

SOURCE

RPA 32 kDa subunit (MA34) is a mouse monoclonal antibody raised against RPA 32 kDa subunit of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RPA 32 kDa subunit (MA34) is available conjugated to Alexa Fluor® 647 (sc-53496 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

RPA 32 kDa subunit (MA34) 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

Molecular Weight of RPA 32 kDa subunit: 32 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, T-47D cell lysate: sc-2293 or MCF7 whole cell lysate: sc-2206.

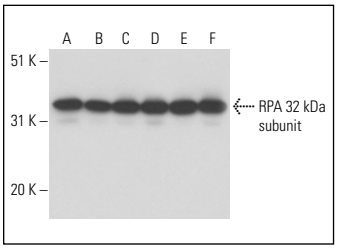
RESEARCH USE

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

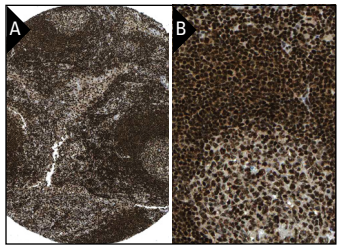
STORAGE

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

DATA



RPA 32 kDa subunit (MA34): sc-53496. Western blot analysis of RPA 32 kDa subunit expression in HeLa (**A**), T-47D (**B**), MCF7 (**C**) and Saos-2 (**D**) whole cell lysates and Ramos (**E**) and HeLa (**F**) nuclear extracts.



RPA 32 kDa subunit (MA34): sc-53496. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of lymphoid cells at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Chai, G., et al. 2008. HDAC inhibitors act with 5-aza-2'-deoxycytidine to inhibit cell proliferation by suppressing removal of incorporated abases in lung cancer cells. PLoS ONE 3: e2445.
2. Sousa, M.M., et al. 2013. An inverse switch in DNA base excision and strand break repair contributes to melphalan resistance in multiple myeloma cells. PLoS ONE 8: e55493.
3. Bakr, A., et al. 2016. Functional crosstalk between DNA damage response proteins 53BP1 and BRCA1 regulates double strand break repair choice. Radiother. Oncol. 119: 276-281.
4. Mansour, W.Y., et al. 2018. Loss of PTEN-assisted G_2/M checkpoint impedes homologous recombination repair and enhances radio-curability and PARP inhibitor treatment response in prostate cancer. Sci. Rep. 8: 3947.
5. Hou, T., et al. 2020. SIRT6 coordinates with CHD4 to promote chromatin relaxation and DNA repair. Nucleic Acids Res. 48: 2982-3000.
6. Meyer, F., et al. 2020. Prevention of DNA replication stress by Chk1 leads to chemoresistance despite a DNA repair defect in homologous recombination in breast cancer. Cells 9: 238.
7. Bakr, A., et al. 2021. ID3 promotes homologous recombination via non-transcriptional and transcriptional mechanisms and its loss confers sensitivity to PARP inhibition. Nucleic Acids Res. 49: 11666-11689.
8. Papadopoulos, D., et al. 2021. MYCN recruits the nuclear exosome complex to RNA polymerase II to prevent transcription-replication conflicts. Mol. Cell. E-published.

CONJUGATES

See **RPA 32 kDa subunit (9H8): sc-56770** for RPA 32 kDa subunit antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.