

RFC5 (F-9): sc-376528

BACKGROUND

Replication factor C (RFC) is an essential DNA polymerase accessory protein that is required for numerous aspects of DNA metabolism including DNA replication, DNA repair, and telomere metabolism. RFC is a heteropentameric complex that recognizes a primer on a template DNA, binds to a primer terminus, and loads proliferating cell nuclear antigen (PCNA) onto DNA at primer-template junctions in an ATP-dependent reaction. All five of the RFC subunits share a set of related sequences (RFC boxes) that include nucleotide-binding consensus sequences. Four of the five RFC genes (RFC1, RFC2, RFC3, and RFC4) have consensus ATP-binding motifs. The small RFC proteins, RFC2, RFC3, RFC4 and RFC5, interact with Rad24, whereas the RFC1 subunit does not. The human RFC5 gene maps to chromosome 12q24.23 and encodes the RFC5 subunit. RFC5 and RAD24 are required for DNA damage checkpoint control in the budding yeast *Saccharomyces cerevisiae*. RFC5 is part of a mechanism transducing the DNA damage signal to the activation of the central transducer Rad53.

REFERENCES

1. Cullmann, G., et al. 1995. Characterization of the five replication factor C genes of *Saccharomyces cerevisiae*. *Mol. Cell. Biol.* 15: 4661-4671.
2. Sugimoto, K., et al. 1997. Rfc5, a replication factor C component, is required for regulation of Rad53 protein kinase in the yeast checkpoint pathway. *Mol. Cell. Biol.* 17: 5905-5914.
3. Beckwith, W.H., et al. 1998. Destabilized PCNA trimers suppress defective Rfc1 proteins *in vivo* and *in vitro*. *Biochemistry* 37: 3711-3722.
4. Noskov, V.N., et al. 1998. The RFC2 gene, encoding the third-largest subunit of the replication factor C complex, is required for an S-phase checkpoint in *Saccharomyces cerevisiae*. *Mol. Cell. Biol.* 18: 4914-4923.

CHROMOSOMAL LOCATION

Genetic locus: RFC5 (human) mapping to 12q24.23; Rfc5 (mouse) mapping to 5 F.

SOURCE

RFC5 (F-9) is a mouse monoclonal antibody raised against amino acids 161-340 mapping at the C-terminus of RFC5 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RFC5 (F-9) is available conjugated to agarose (sc-376528 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376528 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376528 PE), fluorescein (sc-376528 FITC), Alexa Fluor[®] 488 (sc-376528 AF488), Alexa Fluor[®] 546 (sc-376528 AF546), Alexa Fluor[®] 594 (sc-376528 AF594) or Alexa Fluor[®] 647 (sc-376528 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376528 AF680) or Alexa Fluor[®] 790 (sc-376528 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

RFC5 (F-9) is recommended for detection of RFC5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for RFC5 siRNA (h): sc-37637, RFC5 siRNA (m): sc-37638, RFC5 shRNA Plasmid (h): sc-37637-SH, RFC5 shRNA Plasmid (m): sc-37638-SH, RFC5 shRNA (h) Lentiviral Particles: sc-37637-V and RFC5 shRNA (m) Lentiviral Particles: sc-37638-V.

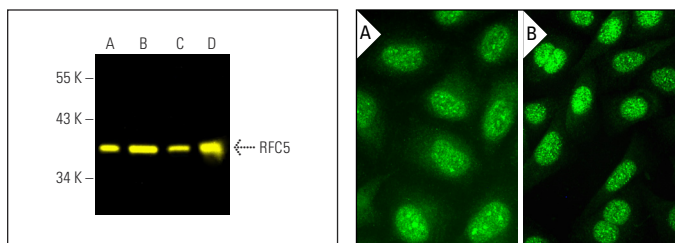
Molecular Weight of RFC5: 38 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, HeLa nuclear extract: sc-2120 or HCT-116 whole cell lysate: sc-364175.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



RFC5 (F-9) Alexa Fluor[®] 488: sc-376528 AF488. Direct fluorescent western blot analysis of RFC5 expression in HeLa nuclear extract (A) and U-698-M (B), HCT-116 (C) and MOLT-4 (D) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214.

RFC5 (F-9): sc-376528. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization (B).

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.