

# RFC2 (H-184): sc-20994

## 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. RFC2, the third-largest subunit of the RFC complex, exhibits ATP binding which makes it important for both DNA replication and checkpoint function. The human RFC2 gene maps to chromosome 7q11.23 and encodes the RFC2 subunit. RFC2 has been associated with Williams-Beuren syndrome, a rare multi-system developmental disorder caused by the deletion of contiguous genes at 7q11.23.

## REFERENCES

- Cullmann, G., et al. 1995. Characterization of the five replication factor C genes of *Saccharomyces cerevisiae*. *Mol. Cell. Biol.* 15: 4661-4671.
- Osborne, L.R., et al. 1996. Identification of genes from a 500-kb region at 7q11.23 that is commonly deleted in Williams syndrome patients. *Genomics* 36: 328-336.
- Beckwith, W.H., et al. 1998. Destabilized PCNA trimers suppress defective RFC1 proteins *in vivo* and *in vitro*. *Biochem.* 37: 3711-3722.
- 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.
- Green, C.M., et al. 2000. A novel Rad24 checkpoint protein complex closely related to replication factor C. *Curr. Biol.* 10: 39-42.
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- Online Mendelian Inheritance in Man, OMIM™ 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 600404. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: RFC2 (human) mapping to 7q11.23; Rfc2 (mouse) mapping to 5 G2.

## SOURCE

RFC2 (H-184) is a rabbit polyclonal antibody raised against amino acids 171-354 mapping at the C-terminus of RFC2 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.

## APPLICATIONS

RFC2 (H-184) is recommended for detection of RFC2 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).

RFC2 (H-184) is also recommended for detection of RFC2 in additional species, including canine, bovine, porcine and avian.

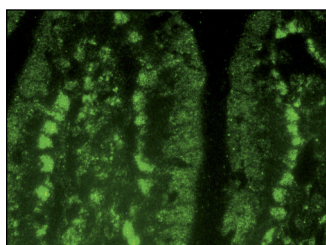
Suitable for use as control antibody for RFC2 siRNA (h): sc-37633, RFC2 siRNA (m): sc-37634, RFC2 shRNA Plasmid (h): sc-37633-SH, RFC2 shRNA Plasmid (m): sc-37634-SH, RFC2 shRNA (h) Lentiviral Particles: sc-37633-V and RFC2 shRNA (m) Lentiviral Particles: sc-37634-V.

Molecular Weight of RFC2: 40 kDa.

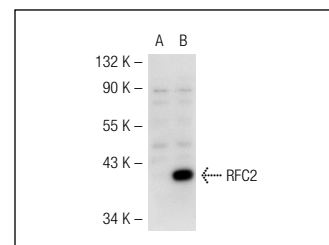
## RECOMMENDED SECONDARY REAGENTS

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



RFC2 (H-184): sc-20994. Immunofluorescence staining of normal mouse intestine frozen section showing nuclear staining.



RFC2 (H-184): sc-20994. Western blot analysis of RFC2 expression in non-transfected: sc-117752 (A) and mouse RFC2 transfected: sc-123084 (B) 293T whole cell lysates.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.