

# RFC4 (H-183): sc-20996

## 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. Specifically, RFC4 plays a role in checkpoint regulation. RFC4 is a component of BASC (for BRCA1-associated genome surveillance complex) which serves as a sensor for abnormal DNA structures and/or as a regulator of the postreplication repair process. The human RFC4 gene maps to chromosome 3q27.3 and encodes the RFC4 subunit.

## CHROMOSOMAL LOCATION

Genetic locus: RFC4 (human) mapping to 3q27.3; Rfc4 (mouse) mapping to 16 B1.

## SOURCE

RFC4 (H-183) is a rabbit polyclonal antibody raised against amino acids 181-363 mapping at the C-terminus of RFC4 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

RFC4 (H-183) is recommended for detection of RFC4 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).

RFC4 (H-183) is also recommended for detection of RFC4 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for RFC4 siRNA (h): sc-36406, RFC4 siRNA (m): sc-36407, RFC4 shRNA Plasmid (h): sc-36406-SH, RFC4 shRNA Plasmid (m): sc-36407-SH, RFC4 shRNA (h) Lentiviral Particles: sc-36406-V and RFC4 shRNA (m) Lentiviral Particles: sc-36407-V.

Molecular Weight of RFC4: 37 kDa.

Positive Controls: RFC4 (h): 293T Lysate: sc-173395, HeLa whole cell lysate: sc-2200 or LNCaP cell lysate: sc-2231.

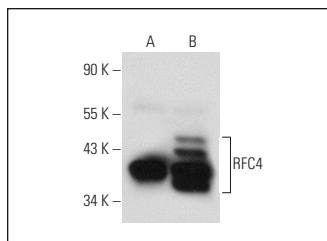
## STORAGE

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

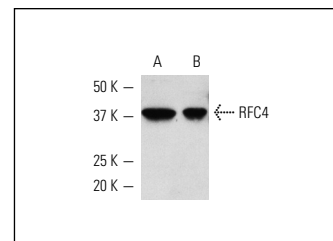
## RESEARCH USE

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

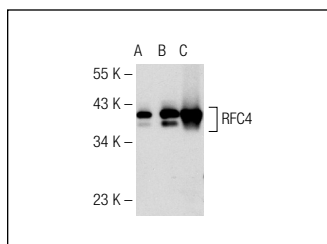
## DATA



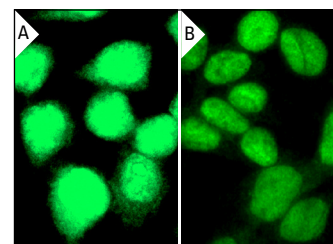
RFC4 (H-183): sc-20996. Western blot analysis of RFC4 expression in non-transfected 293T: sc-117752 (A) and human RFC4 transfected: sc-173395 (B) 293T whole cell lysates.



RFC4 (H-183): sc-20996. Western blot analysis of RFC4 expression in HeLa (A) and LNCaP (B) whole cell lysates.



RFC4 (H-183): sc-20996. Western blot analysis of RFC4 expression in non-transfected 293T: sc-117752 (A), human RFC4 transfected 293T: sc-173481 (B) and HeLa (C) whole cell lysates.



RFC4 (H-183): sc-20996. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (B).

## SELECT PRODUCT CITATIONS

- Shiomi, Y., et al. 2007. A second proliferating cell nuclear antigen loader complex, Ctf18-replication factor C, stimulates DNA polymerase  $\eta$  activity. *J. Biol. Chem.* 282: 20906-20914.
- Mocquet, V., et al. 2008. Sequential recruitment of the repair factors during NER: the role of XPG in initiating the resynthesis step. *EMBO J.* 27: 155-167.
- Murakami, T., et al. 2010. Stable interaction between the human proliferating cell nuclear antigen loader complex Ctf18-replication factor C (RFC) and DNA polymerase  $\epsilon$  is mediated by the cohesion-specific subunits, Ctf18, Dcc1, and Ctf8. *J. Biol. Chem.* 285: 34608-34615.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **RFC4 (C-9): sc-28301** or **RFC4 (E-12): sc-28300**, our highly recommended monoclonal alternatives to RFC4 (H-183).