

RFC2 (I-20): sc-16191

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, which is a rare multi-system developmental disorder caused by the deletion of contiguous genes at 7q11.23.

REFERENCES

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2. 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.
3. Beckwith, W.H., et al. 1998. Destabilized PCNA trimers suppress defective Rfc1 proteins *in vivo* and *in vitro*. *Biochem.* 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.
5. Green, C.M., et al. 2000. A novel Rad24 checkpoint protein complex closely related to replication factor C. *Curr. Biol.* 10: 39-42.
6. Schmidt, S.L., et al. 2001. ATP utilization by yeast replication factor C. IV. RFC ATP-binding mutants show defects in DNA replication, DNA repair, and checkpoint regulation. *J. Biol. Chem.* 276: 34792-34800.
7. 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 (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of RFC2 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16191 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RFC2 (I-20) 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), 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 (I-20) is also recommended for detection of RFC2 in additional species, including equine, 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: 41 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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