



RFC4 (h3): 293T Lysate: sc-173481

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.

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. Beckwith, W.H., et al. 1998. Destabilized PCNA trimers suppress defective RFC1 proteins *in vivo* and *in vitro*. *Biochemistry* 37: 3711-3722.
3. 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.
4. Green, C.M., et al. 2000. A novel Rad24 checkpoint protein complex closely related to replication factor C. *Curr. Biol.* 10: 39-42.
5. 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.
6. Krause, S.A., et al. 2001. Loss of cell cycle checkpoint control in *Drosophila* RFC4 mutants. *Mol. Cell. Biol.* 21: 5156-5168.
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CHROMOSOMAL LOCATION

Genetic locus: RFC4 (human) mapping to 3q27.3.

PRODUCT

RFC4 (h3): 293T Lysate represents a lysate of human RFC4 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

RFC4 (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive RFC4 antibodies. Recommended use: 10-20 µl per lane.

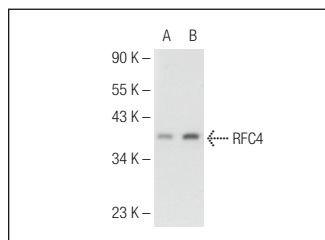
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RFC4 (E-12): sc-28300 is recommended as a positive control antibody for Western Blot analysis of enhanced human RFC4 expression in RFC4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



RFC4 (E-12): sc-28300. Western blot analysis of RFC4 expression in non-transfected: sc-117752 (A) and human RFC4 transfected: sc-173481 (B) 293T whole cell lysates.

PROTOCOLS

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