



RFC4 (m): 293T Lysate: sc-123086

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., Fien, K., Kobayashi, R. and Stillman, B. 1995. Characterization of the five replication factor C genes of *Saccharomyces cerevisiae*. *Mol. Cell. Biol.* 15: 4661-4671.
2. Beckwith, W.H., Sun, Q., Bosso, R., Gerik, K.J., Burgers, P.M. and McAlear, M.A. 1998. Destabilized PCNA trimers suppress defective RFC1 proteins *in vivo* and *in vitro*. *Biochemistry* 37: 3711-3722.
3. Noskov, V.N., Araki, H. and Sugino, A. 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., Erdjument-Bromage, H., Tempst, P. and Lowndes, N.F. 2000. A novel Rad24 checkpoint protein complex closely related to replication factor C. *Curr. Biol.* 10: 39-42.
5. Schmidt, S.L., Pautz, A.L. and Burgers, P.M. 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., Loupart, M.L., Vass, S., Schoenfelder, S., Harrison, S. and Heck, M.M. 2001. Loss of cell cycle checkpoint control in *Drosophila* RFC4 mutants. *Mol. Cell. Biol.* 21: 5156-5168.
7. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 102577. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: *Rfc4* (mouse) mapping to 16 B1.

PRODUCT

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

APPLICATIONS

RFC4 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse 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.

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.

PROTOCOLS

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