

RFC4 (E-12): sc-28300

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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

RFC4 (E-12) is a mouse monoclonal antibody raised against amino acids 181-363 of RFC4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

RFC4 (E-12) is recommended for detection of RFC4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), 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).

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.

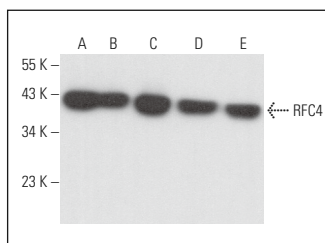
Molecular Weight of RFC4: 37 kDa.

Positive Controls: RFC4 (h3): 293T Lysate: sc-173481, MCF7 nuclear extract: sc-2149 or HeLa nuclear extract: sc-2120.

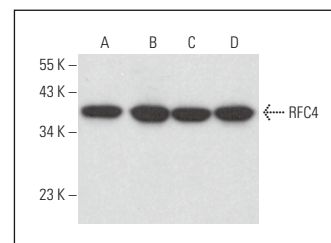
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

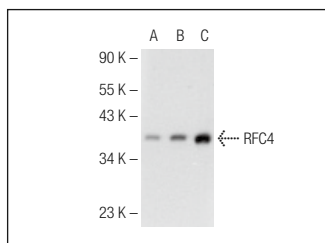
DATA



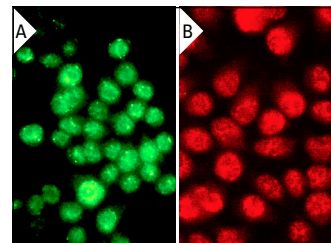
RFC4 (E-12): sc-28300. Western blot analysis of RFC4 expression in HeLa (A), MCF7 (B) and K-562 (C) nuclear extracts and A549 (D) and 3T3-L1 (E) whole cell lysates.



RFC4 (E-12): sc-28300. Western blot analysis of RFC4 expression in MCF7 nuclear extract (A) and MDA-MB-231 (B), HEL 92.1.7 (C) and NCI-H460 (D) whole cell lysates.



RFC4 (E-12): sc-28300. 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 (E-12): sc-28300. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A, B).

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 for detailed protocols and support products.