SANTA CRUZ BIOTECHNOLOGY, INC.

RFC4 (E-12): sc-28300

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 post-replication 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 IgG_1 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.

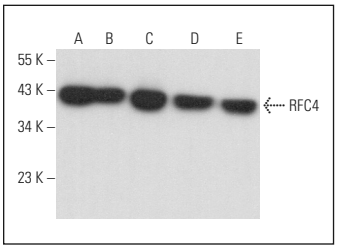
Molecular Weight of RFC4: 37 kDa.

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

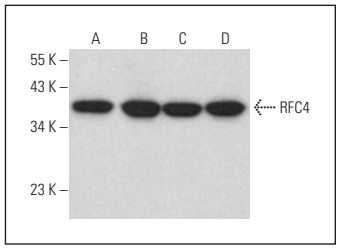
RECOMMENDED SUPPORT REAGENTS

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.

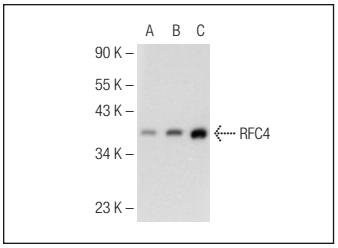
DATA



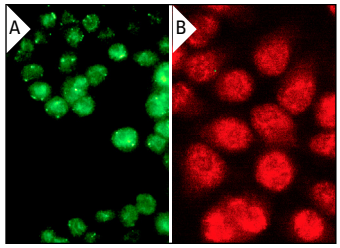
RFC4 (E-12): sc-28300. Western blot analysis of RFC4 expression in HeLa (**A**), MCF7 (**B**) and K-562 (**C**) nuclear extracts and A549 (**D**) and 3T3-L1 (**E**) whole cell lysates.



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.