SANTA CRUZ BIOTECHNOLOGY, INC.

Rad18 (79B1048): sc-52949

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The RING-type zinc finger protein Rad18 is essential in post-replication repair of damaged DNA and contributes to the maintenance of genomic stability. Rad18 maintains chromosomal DNA with the Rad54-dependent DNA repair pathway and recruits ubiquitin-conjugating enzymes in the Rad6 pathway. Rad18 functions in gap-filling of a daughter strand on replication of damaged DNA and is localized in the nucleus.

REFERENCES

1. Tateishi, S., et al. 2000. Dysfunction of human Rad18 results in defective postreplication repair and hypersensitivity to multiple mutagens. Proc. Natl. Acad. Sci. USA 97: 7927-7932.
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3. Hoege, C., et al. 2002. RAD6-dependent DNA repair is linked to modification of PCNA by ubiquitin and SUMO. Nature 419: 135-41.
4. Yamashita, Y.M., et al. 2002. Rad18 and Rad54 cooperatively contribute to maintenance of genomic stability in vertebrate cells. EMBO J. 21: 5558-5566.
5. Tateishi, S., et al. 2003. Enhanced genomic instability and defective postreplication repair in Rad18 knockout mouse embryonic stem cells. Mol. Cell. Biol. 23: 474-481.
6. Watanabe, K., et al. 2004. Rad18 guides poleta to replication stalling sites through physical interaction and PCNA monoubiquitination. EMBO J. 23: 3886-3896.
7. Nikiforov, A., et al. 2004. DNA damage-induced accumulation of Rad18 protein at stalled replication forks in mammalian cells involves upstream protein phosphorylation. Biochem. Biophys. Res. Commun. 323: 831-837.
8. SWISS-PROT/TrEMBL (Q9NS91). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: RAD18 (human) mapping to 3p25-p24; Rad18 (mouse) mapping to 6 F.

SOURCE

Rad18 (79B1048) is a mouse monoclonal antibody raised against amino acids 402-414 of Rad1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Rad18 (79B1048) is recommended for detection of Rad18 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Rad18 siRNA (h): sc-72142.

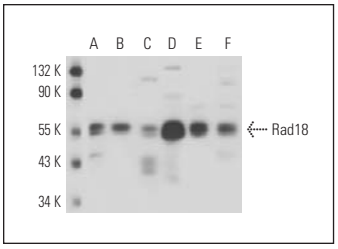
Molecular Weight of Rad18: 75 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 nuclear extract: sc-2130 or UV-treated HeLa nuclear extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Rad18 (79B1048): sc-52949. Western blot analysis of Rad18 expression in HeLa (**A**), UV-treated HeLa (**B**), HL-60 (**C**), MCF7 (**D**), K-562 (**E**) and HEL 92.1.7 (**F**) nuclear extracts.

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.