SANTA CRUZ BIOTECHNOLOGY, INC.

Rad17 (H-300): sc-5613

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DNA damage results in the arrest of cell cycle progression, allowing the damaged DNA to be repaired prior to replication. Checkpoints exist at several cell cycle phase transitions to maintain this genetic integrity. Rad9, Rad17, Rad24 and Mec3 are involved in activating the G_1 and G_2 checkpoints. Pol2 (also known as Dun2), encoding the catalytic subunit of DNA polymerase ε, plays a role in activating the S phase checkpoint. The protein kinase Rad53 (also designated Spk1, Mec2 or Sad1) is essential for both G_2 and S phase arrest. Activation of Rad53 is regulated by Mec1 (also known as Esr1 and Sad3), a homolog of the human Atm protein. Pds1 and Mad2 both regulate checkpoints associated with incomplete spindle replication. Dun1, another protein kinase, plays a role in transducing the DNA damage signal.

CHROMOSOMAL LOCATION

Genetic locus: RAD17 (human) mapping to 5q13.2; Rad17 (mouse) mapping to 13 D1.

SOURCE

Rad17 (H-300) is a rabbit polyclonal antibody raised against amino acids 371-670 mapping at the C-terminus of Rad17 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Rad17 (H-300) is recommended for detection of Rad17 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Rad17 (H-300) is also recommended for detection of Rad17 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Rad17 siRNA (h): sc-36358, Rad17 siRNA (m): sc-36359, Rad17 shRNA Plasmid (h): sc-36358-SH, Rad17 shRNA Plasmid (m): sc-36359-SH, Rad17 shRNA (h) Lentiviral Particles: sc-36358-V and Rad17 shRNA (m) Lentiviral Particles: sc-36359-V.

Molecular Weight of Rad17: 75 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat nuclear extract: sc-2132 or K-562 nuclear extract: sc-2130.

RESEARCH USE

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

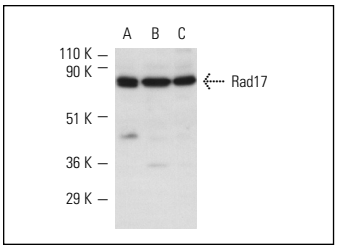
PROTOCOLS

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

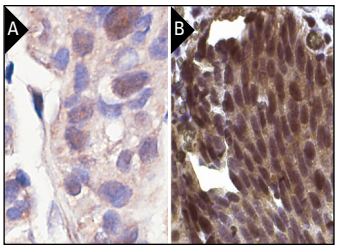
STORAGE

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

DATA



Rad17 (H-300): sc-5613. Western blot analysis of Rad17 expression in Jurkat (**A**), HeLa (**B**), and K-562 (**C**) nuclear extracts.



Rad17 (H-300): sc-5613. Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal human breast tissue showing nuclear staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bladder tissue showing nuclear and cytoplasmic staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Dahm, K., et al. 2002. Colocalization of human Rad17 and PCNA in late S phase of the cell cycle upon replication block. Oncogene 21: 7710-7719.
2. O'Sullivan, R.J., et al. 2010. Reduced histone biosynthesis and chromatin changes arising from a damage signal at telomeres. Nat. Struct. Mol. Biol. 17: 1218-1225.
3. Pérez-Castro, A.J., et al. 2012. Rad9B responds to nucleolar stress through ATR and JNK signalling, and delays the G_1-S transition. J. Cell Sci. 125: 1152-1164.
4. Osterwald, S., et al. 2012. A three-dimensional colocalization RNA interference screening platform to elucidate the alternative lengthening of telomeres pathway. Biotechnol. J. 7: 103-116.
5. Shiomi, Y., et al. 2012. Two different replication factor C proteins, Ctf18 and RFC1, separately control PCNA-CRL4Cdt2-mediated Cdt1 proteolysis during S phase and following UV irradiation. Mol. Cell. Biol. 32: 2279-2288.
6. Zhou, Z., et al. 2013. Regulation of Rad17 protein turnover unveils an impact of Rad17-APC cascade in breast carcinogenesis and treatment. J. Biol. Chem. 288: 18134-18145.
7. O'Sullivan, R.J., et al. 2014. Rapid induction of alternative lengthening of telomeres by depletion of the histone chaperone ASF1. Nat. Struct. Mol. Biol. 21: 167-174.