

# Rad9 (M-389): sc-8324

## BACKGROUND

DNA damage or incomplete replication of DNA results in the inhibition of cell cycle progression at the G<sub>1</sub> to S or G<sub>2</sub> to M phase checkpoints by conserved regulatory mechanisms. Chk1, Rad9 and Hus1 are involved in the signal transduction cascade that regulates cell cycle arrest at the G<sub>2</sub> checkpoint. Chk1 functions as an essential component in the G<sub>2</sub> phase DNA damage checkpoint, as it phosphorylates Cdc25C in response to DNA damage and thereby inhibits mitosis. Two related mammalian proteins, Hus1 and Rad9, share conserved sequence identity and function to the yeast homologs of the same names. *In vivo*, Rad9 is highly phosphorylated and directly associates with two other checkpoint control proteins, Rad1 and Hus1. Additionally, Rad9 associates with anti-apoptotic Bcl-2 family proteins Bcl-2 and Bcl-x<sub>L</sub>, but not with the pro-apoptotic Bax and Bad proteins. Overexpression of Rad9 induces apoptosis and indicates that Rad9 may have an additional role in regulating apoptosis after DNA damage.

## CHROMOSOMAL LOCATION

Genetic locus: RAD9A (human) mapping to 11q13.2; Rad9 (mouse) mapping to 19 A.

## SOURCE

Rad9 (M-389) is a rabbit polyclonal antibody raised against amino acids 1-389 representing full length Rad9 of mouse origin.

## PRODUCT

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

## APPLICATIONS

Rad9 (M-389) is recommended for detection of Rad9 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Rad9 siRNA (h): sc-36364, Rad9 siRNA (m): sc-36365, Rad9 shRNA Plasmid (h): sc-36364-SH, Rad9 shRNA Plasmid (m): sc-36365-SH, Rad9 shRNA (h) Lentiviral Particles: sc-36364-V and Rad9 shRNA (m) Lentiviral Particles: sc-36365-V.

Molecular Weight of Rad9: 65 kDa.

Positive Controls: Rad9 (h): 293T Lysate: sc-113776, HeLa whole cell lysate: sc-2200 or KNRK whole cell lysate: sc-2214.

## STORAGE

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

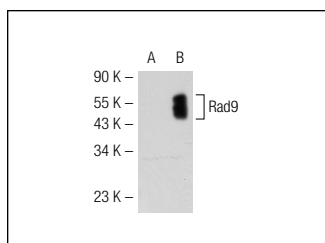
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

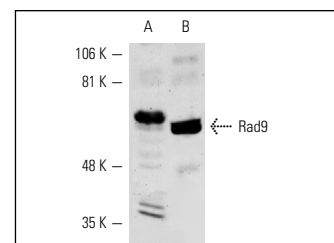
## RESEARCH USE

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

## DATA



Rad9 (M-389): sc-8324. Western blot analysis of Rad9 expression in non-transfected: sc-117752 (A) and human Rad9 transfected: sc-113776 (B) 293T whole cell lysates.



Rad9 (M-389): sc-8324. Western blot analysis of Rad9 expression in HeLa (A) and KNRK (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Lindsey-Boltz, L.A., et al. 2001. Purification and characterization of human DNA damage checkpoint Rad complexes. *Proc. Natl. Acad. Sci. USA* 98: 11236-11241.
- Wang, X., et al. 2004. Involvement of Hus1 in the chain elongation step of DNA replication after exposure to camptothecin or ionizing radiation. *Nucleic Acids Res.* 32: 767-775.
- Wang, L., et al. 2004. Human checkpoint protein hRad9 functions as a negative coregulator to repress androgen receptor transactivation in prostate cancer cells. *Mol. Cell. Biol.* 24: 2202-2213.
- Maniwa Y., et al. 2005. Accumulation of hRad9 protein in the nuclei of nonsmall cell lung carcinoma cells. *Cancer* 103: 126-132.
- Wu, X., et al. 2005. Interaction and colocalization of Rad9/Rad1/Hus1 checkpoint complex with replication protein A in human cells. *Oncogene* 24: 4728-4735.
- Bekker-Jensen, S., et al. 2006. Spatial organization of the mammalian genome surveillance machinery in response to DNA strand breaks. *J. Cell Biol.* 173: 195-206.
- Zhang, L., et al. 2010. Proteolysis of Rad17 by Cdh1/APC regulates checkpoint termination and recovery from genotoxic stress. *EMBO J.* 29: 1726-1737.
- Liu, G., et al. 2012. Replication fork stalling and checkpoint activation by a PKD1 locus mirror repeat polypurine-polypyrimidine (Pu-Py) tract. *J. Biol. Chem.* 287: 33412-33423.



MONOS  
Satisfation  
Guaranteed

Try **Rad9 (B-8): sc-74464** or **Rad9 (A-4): sc-74463**, our highly recommended monoclonal alternatives to Rad9 (M-389).