SANTA CRUZ BIOTECHNOLOGY, INC.

Rad9B (Q-12): sc-109413

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The Power to Question

BACKGROUND

DNA damage or incomplete replication of DNA results in the inhibition of cell cycle progression at the G_1 to S or G_2 to M phase checkpoints by conserved regulatory mechanisms. Rad9B (RAD9 homolog B) is a 426 amino acid cell cycle checkpoint control protein that is expressed in testis and skeletal muscle. Belonging to the Rad9 family, Rad9B Interacts with Hus1, Hus1B, Rad1, Rad9 and Rad17. Rad9B and Rad9 share extensive amino acid homology throughout their entire sequences, suggesting similar biochemical reactions. Rad9 associates with anti-apoptotic Bcl-2 family proteins Bcl-2 and Bcl-x_L, 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. Rad9B exists as five alternatively spliced isoforms that are encoded by a gene located on human chromosome 12q24.11.

REFERENCES

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3. Kostrub, C.F., et al. 1998. Hus1p, a conserved fission yeast checkpoint protein, interacts with Rad1p and is phosphorylated in response to DNA damage. EMBO J. 17: 2055-2066.
4. St. Onge, R.P., et al. 1999. The human G_2 checkpoint control protein hRad9 is a nuclear phosphoprotein that forms complexes with hRad1 and hHus1. Mol. Biol. Cell 10: 1985-1995.
5. Komatsu, K., et al. 2000. Human homologue of *S. pombe* Rad9 interacts with Bcl-2/Bcl-x_L and promotes apoptosis. Nat. Cell. Biol. 2: 1-6.
6. Dufault, V.M., et al. 2003. Identification and characterization of Rad9B, a paralog of the RAD9 checkpoint gene. Genomics 82: 644-651.
7. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 608368: World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
8. Abdu, U. et al. 2007. An essential role for *Drosophila* Hus1 in somatic and meiotic DNA damage responses. J. Cell Sci. 120: 1042-1049.
9. Sierant, M.L., et al. 2010. The Rad9A checkpoint protein is required for nuclear localization of the claspin adaptor protein. Cell Cycle 9: 548-556.

CHROMOSOMAL LOCATION

Genetic locus: RAD9B (human) mapping to 12q24.11.

SOURCE

Rad9B (Q-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Rad9B of human origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-109413 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rad9B (Q-12) is recommended for detection of Rad9B of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other Rad family members.

Rad9B (Q-12) is also recommended for detection of Rad9B in additional species, including canine.

Suitable for use as control antibody for Rad9B siRNA (h): sc-95745, Rad9B shRNA Plasmid (h): sc-95745-SH and Rad9B shRNA (h) Lentiviral Particles: sc-95745-V.

Molecular Weight of Rad9B: 48 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.