

Store at -20C  #3427	Rad50 Antibody	
	<b>Orders:</b> 877-616-CELL (2355) orders@cellsignal.com	
	<b>Support:</b> 877-678-TECH (8324)	
	<b>Web:</b> info@cellsignal.com cellsignal.com	
<b>3 Trask Lane   Danvers   Massachusetts   01923   USA</b>		

**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H Mk	Endogenous	153	Rabbit	#Q92878	10111

#### Product Usage Information

#### Application

Western Blotting

#### Dilution

1:1000

#### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

#### Specificity/Sensitivity

Rad50 antibody detects endogenous levels of total Rad50 protein.

#### Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys713 of human Rad50. Antibodies are purified by protein A and peptide affinity chromatography.

#### Background

The DNA repair protein Rad50 is a member of the structural maintenance of chromosomes (SMC) family and plays an important role in cell cycle checkpoint signaling and double-strand break repair in response to DNA damage (1-4). Rad50 forms a complex with Mre11 and NBS1 that becomes activated in response to DNA damage (3). In normal human cells, the MRN complex acts to tether linear DNA molecules, providing a flexible link between DNA ends (1). Genomic instability and cancer have been shown to develop in cells with genetic mutations affecting the proteins in the MRN complex (2). ATM-dependent phosphorylation of Rad50 at Ser635 in response to DNA damage is important in regulating downstream signaling, DNA repair, and checkpoint control (5).

#### Background References

- de Jager, M. et al. (2001) *Mol. Cell* 8, 1129-35.
- Elledge, S.J. (1996) *Science* 274, 1664-1672.
- Lee, J.H. and Lim, D.S. (2006) *FEBS J.* 273, 1630-36.
- Teng, S.C. et al. (2006) *J Mol Histol* 37, 293-9.
- Gatei, M. et al. (2011) *J Biol Chem* 286, 31542-56.

#### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

#### Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

#### Applications Key

**W:** Western Blotting

#### Cross-Reactivity Key

**H:** Human **Mk:** Monkey

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