

Store at -20C
#8393

Phospho-Rad18 (Ser403) Antibody



Cell Signaling
TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

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Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	80, 90	Rabbit	#Q9NS91	56852

Product Usage Information	Application Western Blotting Immunoprecipitation	Dilution 1:1000 1:50
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	Phospho-Rad18 (Ser403) Antibody recognizes endogenous levels of Rad18 protein only when phosphorylated at Ser403. In some cell types, the antibody cross-reacts with a >200 kDa protein of unknown origin.	
Species predicted to react based on 100% sequence homology:	Monkey	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser403 of human Rad18 protein. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	DNA damage, if not repaired, can lead to genome instability and tumorigenesis. Eukaryotic cells use multiple (sometimes overlapping) signaling pathways to respond to agents that cause various types of DNA lesions. Downstream molecules in DNA repair pathways converge on the sites of DNA damage, resulting in cell cycle arrest and repair or apoptosis (1). Rad18 is an E3 ubiquitin ligase recruited to sites of DNA damage. Along with the E2 ubiquitin ligase Rad6, Rad18 is responsible for monoubiquitination of DNA damage proteins including the replication clamp PCNA and the Fanconi anemia core protein FANCD2. Monoubiquitination of these proteins signals to downstream effector molecules and results in the repair of either post-replication repair lesions via the translesion synthesis (TLS) pathway or DNA double strand breaks via homologous recombination (2-4). Phospho-proteomic studies indicate that Ser403 of Rad18 may be phosphorylated by ATM/ATR in response to DNA damage-inducing agents (5,6).	
Background References	1. Helleday, T. et al. (2008) <i>Nat Rev Cancer</i> 8, 193-204. 2. Huang, J. et al. (2009) <i>Nat Cell Biol</i> 11, 592-603. 3. Song, I.Y. et al. (2010) <i>J Biol Chem</i> 285, 31525-36. 4. Ting, L. et al. (2010) <i>DNA Repair (Amst)</i> 9, 1241-8. 5. Mu, J.J. et al. (2007) <i>J Biol Chem</i> 282, 17330-4. 6. Matsuoka, S. et al. (2007) <i>Science</i> 316, 1160-6.	

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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting IP: Immunoprecipitation
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected

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