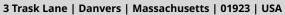
RNF40 Antibody Cell Signaling 0rders: 877-616-CELL (2355) orders@cellsignal.com Support: 877-678-TECH (8324) Web: info@cellsignal.com



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

Applications: W, IP	Reactivity: H R	Sensitivity: Endogenous	MW (kDa): 130	Source/Isotype: Rabbit	UniProt ID: #075150	Entrez-Gene Id: 9810
Product Usage Information	2	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		RNF40 Antibody recognizes endogenous levels of total RNF40 protein. This antibody does not cross- react with RNF20.				
Source / Purification		Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro610 of human RNF40 protein. Antibodies are purified by protein A and peptide affinity chromatography.				
Background		In mammalian cells, the significance of histone H2B ubiquitination in chromatin epigenetics came from the identification of the budding yeast protein Bre1 (1,2). Together with the ubiquitin-conjugating enzyme Rad6, Bre1 serves as the E3 ligase in the monoubiquitination of the yeast histone H2B within transcribed regions of chromatin (1-3). Subsequently, the mammalian orthologs of yeast Bre1, RNF20 and RNF40, were identified (4,5). These two proteins form a tight heterodimer that acts as the major E3 ligase responsible for histone H2B monoubiquitination at Lys120 in mammalian cells, a modification linked to RNA Pol II-dependent transcription elongation in undamaged cells. Researchers have shown that DNA double-strand breaks (DSBs) are also capable of inducing monoubiquitination of H2B. This process depends upon the recruitment to DSB sites, as well as ATM-dependent phosphorylation of the RNF20-RNF40 heterodimer, thus highlighting a role for this E3 ligase in DSB repair pathways (6). Indeed, investigators have shown that loss of RNF20-RNF40 function promotes replication stress and chromosomal instability, which may constitute an early step in malignant transformation that precedes cell invasion (7).				
Background References		1. Wood, A. et al. (2003) <i>Mol Cell</i> 11, 267-74. 2. Hwang, W.W. et al. (2003) <i>Mol Cell</i> 11, 261-6. 3. Kao, C.F. et al. (2004) <i>Genes Dev</i> 18, 184-95. 4. Kim, J. et al. (2005) <i>Mol Cell</i> 20, 759-70. 5. Zhu, B. et al. (2005) <i>Mol Cell</i> 20, 601-11. 6. Moyal, L. et al. (2011) <i>Mol Cell</i> 41, 529-42. 7. Chernikova, S.B. et al. (2012) <i>Cancer Res</i> , Epub ahead of print.				
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		W: Western Blotting IP: Immunoprecipitation				
Cross-Reactivity Key		H: Human R: Rat				
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