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RNF168 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP17270b

Product Information

Application	WB, E
Primary Accession	Q8IYW5
Other Accession	NP_689830.2
Reactivity	Human
Predicted	Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB37281
Calculated MW	65020
Antigen Region	468-496

Additional Information

Gene ID	165918
Other Names	E3 ubiquitin-protein ligase RNF168, hRNF168, 632-, RING finger protein 168, RNF168
Target/Specificity	This RNF168 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 468-496 amino acids from the C-terminal region of human RNF168.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	RNF168 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RNF168 {ECO:0000255|HAMAP-Rule:MF_03066}
Function	E3 ubiquitin-protein ligase required for accumulation of repair proteins to sites of DNA damage. Acts with UBE2N/UBC13 to amplify the RNF8-dependent

histone ubiquitination. Recruited to sites of DNA damage at double-strand breaks (DSBs) by binding to ubiquitinated histone H2A and H2AX and amplifies the RNF8-dependent H2A ubiquitination, promoting the formation of 'Lys-63'-linked ubiquitin conjugates. This leads to concentrate ubiquitinated histones H2A and H2AX at DNA lesions to the threshold required for recruitment of TP53BP1 and BRCA1. Also recruited at DNA interstrand cross-links (ICLs) sites and promotes accumulation of 'Lys-63'-linked ubiquitination of histones H2A and H2AX, leading to recruitment of FAAP20/C1orf86 and Fanconi anemia (FA) complex, followed by interstrand cross-link repair. H2A ubiquitination also mediates the ATM-dependent transcriptional silencing at regions flanking DSBs in cis, a mechanism to avoid collision between transcription and repair intermediates. Also involved in class switch recombination in immune system, via its role in regulation of DSBs repair. Following DNA damage, promotes the ubiquitination and degradation of JMJD2A/KDM4A in collaboration with RNF8, leading to unmask H4K20me2 mark and promote the recruitment of TP53BP1 at DNA damage sites. Not able to initiate 'Lys-63'-linked ubiquitination in vitro; possibly due to partial occlusion of the UBE2N/UBC13-binding region. Catalyzes monoubiquitination of 'Lys-13' and 'Lys-15' of nucleosomal histone H2A (H2AK13Ub and H2AK15Ub, respectively).

Cellular Location

Nucleus {ECO:0000255|HAMAP-Rule:MF_03066, ECO:0000269|PubMed:19203578, ECO:0000269|PubMed:19203579, ECO:0000269|PubMed:19500350, ECO:0000269|PubMed:21041483, ECO:0000269|PubMed:22742833}. Note=Localizes to double-strand breaks (DSBs) sites of DNA damage. {ECO:0000255|HAMAP-Rule:MF_03066}

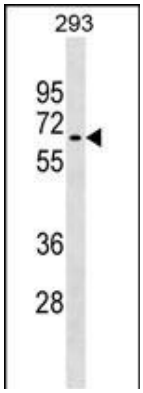
Background

The complex repair response elicited by DNA double-strand breaks (DSBs) includes recruitment of several DNA repair proteins and ubiquitination of H2A-type histones (see MIM 142720). RNF168 is an E3 ubiquitin ligase critical for DSB repair (Stewart et al., 2009 [PubMed 19203578]).

References

Lilley, C.E., et al. EMBO J. 29(5):943-955(2010)
Noon, A.T., et al. Nat. Cell Biol. 12(2):177-184(2010)
Ramachandran, S., et al. Proc. Natl. Acad. Sci. U.S.A. 107(2):809-814(2010)
Doil, C., et al. Cell 136(3):435-446(2009)
Stewart, G.S., et al. Cell 136(3):420-434(2009)

Images



RNF168 Antibody (C-term) (Cat. #AP17270b) western blot analysis in 293 cell line lysates (35ug/lane).This demonstrates the RNF168 antibody detected the RNF168 protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.