Anti-RNF8 Antibody

Description	The protein encoded by this gene contains a RING finger motif and an FHA domain. This protein has been shown to interact with several class II ubiquitin-conjugating enzymes (E2), including UBE2E1/UBCH6, UBE2E2, and UBE2E3, and may act as an ubiquitin ligase (E3) in the ubiquitination of certain nuclear proteins. This protein is also known to play a role in the DNA damage response and depletion of this protein causes cell growth inhibition and cell cycle arrest. Alternative splicing results in multiple transcript variants.

Model	STJ116018
Host	Rabbit
Reactivity	Human
Applications	IF, WB
Immunogen	Recombinant fusion protein containing a sequence corresponding to amino acids 1-260 of human RNF8 (NP_003949.1).
Gene ID	9025
Gene Symbol	RNF8
Dilution range	WB 1:500 - 1:2000 IF 1:50 - 1:200
Tissue Specificity	Ubiquitous, In fetal tissues, highest expression in brain, thymus and liver, In adult tissues, highest levels in brain and testis, lowest levels in peripheral blood cells
Purification	Affinity purification
Note	For Research Use Only (RUO).

Protein Name	E3 ubiquitin-protein ligase RNF8 hRNF8
Molecular Weight	55.518 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Storage Instruction	Store at -20C. Avoid freeze / thaw cycles.
Database Links	HGNC:10071OMIM:611685Reactome:R-HSA-5693565
Alternative Names	E3 ubiquitin-protein ligase RNF8 hRNF8
Function	E3 ubiquitin-protein ligase that plays a key role in DNA damage signaling via 2 distinct roles: by mediating the 'Lys-63'-linked ubiquitination of histones H2A and H2AX and promoting the recruitment of DNA repair proteins at double-strand breaks (DSBs) sites, and by catalyzing 'Lys-48'-linked ubiquitination to remove target proteins from DNA damage sites, Following DNA DSBs, it is recruited to the sites of damage by ATM-phosphorylated MDC1 and catalyzes the 'Lys-63'-linked ubiquitination of histones H2A and H2AX, thereby promoting the formation of TP53BP1 and BRCA1 ionizing radiation-induced foci (IRIF), Also controls the recruitment of UIMC1-BRCC3 (RAP80-BRCC36) and PAXIP1/PTIP to DNA damage sites, Also recruited at DNA interstrand cross-links (ICLs) sites and catalyzes '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, Promotes the formation of 'Lys-63'-linked polyubiquitin chains via interactions with the specific ubiquitin-conjugating UBE2N/UBC13 and ubiquitinates non-histone substrates such as PCNA, Substrates that are polyubiquitinated at 'Lys-63' are usually not targeted for degradation, Also catalyzes the formation of 'Lys-48'-linked polyubiquitin chains via interaction with the ubiquitin-conjugating UBE2L6/UBCH8, leading to degradation of substrate proteins such as CHEK2, JMJD2A/KDM4A and KU80/XRCC5: it is still unclear how the preference toward 'Lys-48'- versus 'Lys-63'-linked ubiquitination is regulated but it could be due to RNF8 ability to interact with specific E2 specific ligases, For instance, interaction with phosphorylated HERC2 promotes the association between RNF8 and UBE2N/UBC13 and favors the specific formation of 'Lys-63'-linked ubiquitin chains, Promotes non-homologous end joining (NHEJ) by promoting the 'Lys-48'-linked ubiquitination and degradation the of KU80/XRCC5, Following DNA damage, mediates the ubiquitination and degradation of JMJD2A/KDM4A in collaboration with RNF168, leading to unmask H4K20me2 mark and promote the recruitment of TP53BP1 at DNA damage sites ,
Cellular Localization	Nucleus,
Post-translational Modifications	Autoubiquitinated through 'Lys-48' and 'Lys-63' of ubiquitin, 'Lys-63' polyubiquitination is mediated by UBE2N, 'Lys-29'-type polyubiquitination is also observed, but it doesn't require its own functional RING-type zinc finger,

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