环指蛋白 8 抗体

产品货号： mlR9173

英文名称： RNF8

中文名称： 环指蛋白 8 抗体

别　　名： C3HC4 type zinc finger protein; E3 ubiquitin protein ligase RNF8; E3 ubiquitin-protein ligase RNF8; Ring finger protein (C3HC4 type) 8; RING finger protein 8; RNF 8; RNF8; RNF8_HUMAN; UBC13/UEV interacting ring finger protein.

研究领域： 细胞生物　免疫学　信号转导　转录调节因子　表观遗传学

抗体来源： Rabbit

克隆类型： Polyclonal

交叉反应： Human, Mouse, Rat, Dog, Pig, Horse,

产品应用： WB=1:500-2000 ELISA=1:500-1000 IHC-P=1:400-800 IHC-F=1:400-800 IF=1:50-200 （石蜡切片需做抗原修复）
not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.

分 子 量： 55kDa

细胞定位： 细胞核

性　　状： Lyophilized or Liquid

浓　　度： 1mg/ml

免 疫 原： KLH conjugated synthetic peptide derived from human RNF8:331-430/485

亚　　型： IgG

纯化方法： affinity purified by Protein A

储 存 液： 0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.

保存条件： Store at -20 癈 for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20 癈. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 癈.

PubMed： PubMed

产品介绍： The RING finger motif is a specialized DNA-binding zinc finger domain found in many transcriptional regulatory proteins. The ring finger protein (RNF) family includes any protein containing the signature RING finger motif. RNF8 is a ubiquitously expressed nuclear RING finger protein that acts as an E3 ubiquitin-protein ligase. It is required for the ubiquitination of some nuclear proteins and promotes their subsequent degradation. The heterodimeric ubiquitin-conjugating enzyme UBC13 interacts with RNF8, and they co-localize in the nucleus. RNF8 may regulate mediation of UBC13 polyubiquitylation by elongating the ubiquitin chains. RNF8 also binds to Retinoid X receptor alpha (RXR?, a member of the steroid hormone receptor superfamily. It increases RXR?mediated transactivation of the RXR?responsive element (RXRE) promoter in a dose-dependent manner, suggesting that RNF8 is a regulator of RXR?mediated transcriptional activity.

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. In addition to its function in damage signaling, also plays a role in higher-order chromatin structure by mediating extensive chromatin decondensation. Involved in the activation of ATM by promoting histone H2B ubiquitination, which indirectly triggers histone H4 'Lys-16' acetylation (H4K16ac), establishing a chromatin environment that promotes efficient activation of ATM kinase. Required in the testis, where it plays a role in the replacement of histones during spermatogenesis. At uncapped telomeres, promotes the joining of deprotected chromosome ends by inducing H2A ubiquitination and TP53BP1 recruitment, suggesting that it may enhance cancer development by aggraving telomere-induced genome instability in case of telomeric crisis. Promotes the assembly of RAD51 at DNA DSBs in the absence of BRCA1 and TP53BP1 Also involved in class switch recombination in immune system, via its role in regulation of DSBs repair. May be required for proper exit from mitosis after spindle checkpoint activation and may regulate cytokinesis. May play a role in the regulation of RXRA-mediated transcriptional activity. Not involved in RXRA ubiquitination by UBE2E2.

Subunit:

Homodimer. Forms a E2-E3 ubiquitin ligase complex composed of the RNF8 homodimer and a E2 heterodimer of UBE2N and UBE2V2. Interacts with class III E2s, including UBE2E1, UBE2E2, and UBE2E3 and with UBE2N. Interacts with RXRA. Interacts (via FHA domain) with ATM-phosphorylated MDC1. Interacts (via FHA domain) with 'Thr-4827' phosphorylated HERC2 (via C-terminus). Interacts (via FHA domain) with phosphorylated human herpesvirus 1 ICP0 protein; leading to RNF8 degradation by the proteasome.

Subcellular Location:

Nucleus. Midbody. Following DNA double-strand breaks, recruited to the sites of damage. During prophase, concomitant with nuclear envelope breakdown, localizes throughout the cell, with a dotted pattern. In telophase, again in the nucleus and also with a discrete dotted pattern in the cytoplasm. In late telophase and during cytokinesis, localizes in the midbody of the tubulin bridge joining the daughter cells. Does not seem to be associated with condensed chromosomes at any time during the cell cycle.

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.

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.

Similarity:

Belongs to the RNF8 family.

Contains 1 FHA domain.

Contains 1 RING-type zinc finger.

SWISS:

O76064

Gene ID:

9025

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

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