

## Product datasheet for **MC219044**

### **Rnf168 (NM\_027355) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Rnf168 (NM_027355) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Rnf168
Synonyms:	3110001H15Rik
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**Fully Sequenced ORF:** >MC219044 representing NM\_027355  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAAGATGGCTGCACCTAAAACCTCCATCCCTTCTTAGCCGAATGTCAGTGGGGATCTGTATGGAAA  
 TCCTCCTAGAGCCTGTAACCCCTACCTTGAACCCACACGCTCTGTAACCCATGCTTCCAGTCCACTGTTGA  
 AAAGGCCAATCTATGCTGTCCCTTCTGTGTCGCGCCGGTCTCTTCGTGGACTCGGTACCATACCCGAAGA  
 AATTCTCTGGTCAATACAGACCTGTGGGAGATTATCAAAAACTATGCAAAGGAATGCAAGCTTAGAA  
 TCTCTGGACAAGAATCAAAGGAAATCATTGATGAGTGCCAGCCAGTTCGTGCGCTCAGTGAACCTGGGGA  
 GTTGAGGCGAGAATGAAGAGGAGATAAGCAGGGTGGAGGCTGAGCGACAAGCCAGCAAGGAAGAGGAA  
 AACAAAGCCAGTGAGGAGTACATCCAGAGATTGTTGGCTGAGGAGGAGGAGGAGAAAAGACAGAGAG  
 AAAAAAGAAGAAGTGAGATGGAAGAACAGCTGAGAGGCGATGAAGAACTGGCTAGGAGCCTGAGCACCAG  
 TATCAACAGCAACTATGAGAGAAATACCTTGGCTTCTCCTTTGAGTTCAGAAAAATCAGATCCAGTCACA  
 AACAAAGTCCCAGAAGAAAAATACAAGTAAACAAAAACCTTTGGAGATATTCAAAAAATTTGTACACCTA  
 AGTTGAAGCCTGGGACCCCTTGGCATGTAAGGCTGAGCTTGAGGAAGACATCTGCAAGTCTAAGGAAAC  
 TGATAGGAGTGACACGAAGAGCCCTGTGTTGCAAGACACAGAAATTGAAAAAATATACCAACACTTTCT  
 CCTCAGACCTGCCTGGAAACTCAAGAACAAGGTTCCGGAGTCTTCTGCAGGGATACCCGGGCCACAGTTAT  
 GTGTAGGAGACTAAAGAGTCCCTTGAGGAAAAAGTTGAAACAGTATCAACCAGTCCTGATGATTTATG  
 TATTGTAATGATGATGGACCTAGAGCCACAGTTTTTACTCTAATGAAGCTGCAGTTAACTCTTCTAGT  
 AAAATAGAAAAAGAAATACTCTGTGACAGGTGTCGCCAGTTAACTGGGGCAACAGAGTTCCAACAG  
 AGAGTAGAGTGTATCACTTACTAGTTGAAGAAGAGATTTCCGACAGAGAAAACCAGGAATCTGTATTTGA  
 AGAAGTCATGGATCCATGTTTTCTGCAAAAAGAAAGAAAAATTCATCGAATCCTCCTCAGATCAAGAA  
 GAAACAGAAGTGAATTTTACAAAAAACTGATAGATTTGGAACATATGCTTTTTGAGAGACATAAGCAAG  
 AAGAGCAGGACAGATTGTTAGCATTACAACCTCAGAAAAGAGGTAGATAAAGAGCAAAATGGTGCCAAACCG  
 GCAGAAAGGATCCCAGATCAGTACCAGCTACGCACACCCTCACCCAGACAGGCTGTGAATAGACAA  
 AGGAAGAATCCAAGATAGGAACTCCCTACAGCAAACTAATGCAGATCACTCAAATCTCCGAGGAACA  
 CAAAAGGTGACTATTGGGAGCCCTTAAAAACACATGGAAGGATTCAGTTAATGGAACAAAGATGCCAAC  
 TTCTACTCAAGATAATTGTAATGTATCTAAAAGTGCTATACCGTACAGCATAGAAAGTCCCAGAGAAGC  
 ATTGTTCAAATGTTTCAGAGAT**TAA**

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-MluI
- ACCN:** NM\_027355
- Insert Size:** 1704 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

**Reconstitution Method:**

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_027355.2](#), [NP\\_081631.2](#)

**RefSeq Size:** 4468 bp

**RefSeq ORF:** 1704 bp

**Locus ID:** 70238

**UniProt ID:** [Q80XJ2](#)

**Cytogenetics:** 16 B3

**Gene Summary:** 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 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).[UniProtKB/Swiss-Prot Function]