

## Product datasheet for **MR208516**

### **Rnf168 (NM\_027355) Mouse Tagged ORF Clone**

#### **Product data:**

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



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**ORF Nucleotide Sequence:**

>MR208516 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGAAATCCTCCTAGAGCCTGTAACCCTACCTTGAACCCACACGCTCTGTAACCCATGCTTCCAGTCCA  
 CTGTTGAAAAGGCCAATCTATGCTGTCCCTTCTGTGTCGCCGGTCTCTTCGTGGACTCGGTACCATAC  
 CCGAAGAAATCTCTGGTCAATACAGACCTGTGGGAGATTATTCAAAAACTATGCAAAGGAATGCAAG  
 CTTAGAATCTCTGGACAAGAATCAAAGGAAATCATTGATGAGTGCCAGCCAGTTCGTGGCTCAGTGAAC  
 CTGGGGAGTTGAGGCGAGAATATGAAGAGGAGATAAGCAGGGTGGAGGCTGAGCGACAAGCCAGCAAGGA  
 AGAGGAAAACAAAGCCAGTGAGGAGTACATCCAGAGATTGTTGGCTGAGGAGGAGGAGGAGAGAAAAGA  
 CAGAGAGAAAAAGAAGAAGTGAAGTGAAGAAGTGAAGTGAAGAAGTGAAGAAGTGAAGAAGTGAAGAAGT  
 GCACCAGTATCAACAGCAACTATGAGAGAAATACCTTGGCTTCTCCTTTGAGTTCAGAAAAATCAGATCC  
 AGTCACAAAACAGTCCCAGAAGAAAAACAAGTAAACAAAAAACCTTTGGAGATATTCAAAAATATTTG  
 TCACCTAAGTTGAAGCCTGGGACCGCCTTGGCATGTAAGGCTGAGCTTGAGGAAGACATCTGCAAGTCTA  
 AGGAAACTGATAGGAGTGACACGAAGAGCCCTGTGTTGCAAGACACAGAAATGAAAAAATATACCAAC  
 ACTTTCTCCTCAGACCTGCCTGGAACCTCAAGAACAAGTTTCGGAGTCTTCTGCAGGGATACCCGGGCCA  
 CAGTTATGTGTAGGAGACTAAAGAGTCCCTTGGGGAAAAGTTGAAACAGTATCAACCAGTCTGATG  
 ATTTATGTATTGTAATGATGATGGACCTAGAGCCACAGTTTTTTACTCTAATGAAGCTGCGATTAATTC  
 TTCTAGTAAATAGAAAATGAAGAATACTCTGTGACAGGTGTGCCCAGTTAACTGGGGCAACAGAGTT  
 CCAACAGAGAGTAGAGTGTATCACTTACTAGTTGAAGAAGAGATTTCCGACAGAGAAAACCAGGAATCTG  
 TATTTGAAGAAGTCATGGATCCATGTTTTTCTGCAAAAAGAAGGAAAATATTCATCGAATCCTCCTCAGA  
 TCAAGAAGAAACAGAAGTGAATTTTACACAAAAACTGATAGATTTGGAACATATGCTTTTTGAGAGACAT  
 AAGCAAGAAGAGCAGGACAGATTGTTAGCATTACAACCTCAGAAAAGAGGTAGATAAAGAGCAAAATGTTGC  
 CAAACCGGCAGAAAGGATCCCAGATCAGTACCAGCTACGCACACCCTCACCCAGACAGGCTGCTGAA  
 TAGACAAAGGAAGAATTCCAAAGATAGGAACCTCCTACAGCAAACTAATGCAGATCACTCAAATCTCCG  
 AGGAACACAAAAGGTGACTATTGGGAGCCCTTAAAAACACATGGAAGGATTCAGTTAATGGAACAAAGA  
 TGCCAACCTTACTCAAGATAATTGTAATGTATCTAAAAGTGCCTATACCGTA

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR208516 protein sequence  
 Red=Cloning site Green=Tags(s)

MEILLEPVTLPNHTLCNPFQSTVEKANLCCPFRRRVSSWTRYHTRRNSLVNTDLWEIIQKHYAKECK  
 LRISGQESKEIIDECQPVRRLSEPGELRREYEEIISRVEAERQASKEEENKASEEYIQRLLAEEEEEER  
 QREKRRSEMEEQLRGDEELARSLSTSINSNYERNLASPLSSRSDPVTNKSQKKNTSKQKTFGDIQKYL  
 SPKLPKPGTALACKAELEEDIKSKETDRSDTKSPVLQDTEIEKNIPTLSPQTCLETQEQGSSESSAGIPGP  
 QLCVGDTKESLEGKVVSTSPDDLIVNDDGPRATVFYSNEAAVNSSSKIENEEYSVTGVPQLTGGNRV  
 PTESRVYHLLVEEISDRENQESVFEEVMDPCFSAKRRKIFIESSDQEETEVENFTQKLIDLEHMLFERH  
 KQEEQDRLLALQLQKEVDKEQMVPNRQKSPDQYQLRTPSPDRLLNRQRKNSKDRNSLQQTNADHSKSP  
 RNTKGDYWEFPKNTWKDSVNGTKMPTSTQDNCNVSKSAYTV

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_027355

**ORF Size:** 1596 bp

**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**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\\_027355.1](#), [NP\\_081631.1](#)

**RefSeq Size:** 4468 bp

**RefSeq ORF:** 1704 bp

**Locus ID:** 70238

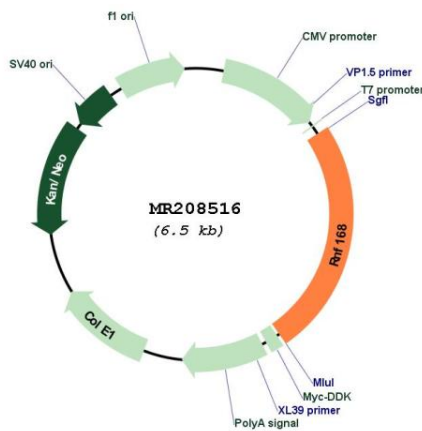
**UniProt ID:** [Q80XJ2](#)

**Cytogenetics:** 16 B3

**MW:** 61 kDa

**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]

**Product images:**



Circular map for MR208516