

## Product datasheet for **RN210589**

### **Rnf168 (NM\_001127597) Rat Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Rnf168 (NM_001127597) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Rnf168
Synonyms:	MGC188789
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:** >RN210589 representing NM\_001127597  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAAGATGGCTGCACCTAAAACTCCATCCCTTCTAGCGGAATGTCAGTGGGGATCTGCATGGAAA  
 TCCTCGTAGAGCCTGTTACCCTACCTTGCAACCACACGCTCTGTAACCCATGCTTCCAATCGACTGTTGA  
 AAAGGCCAATTTATGCTGTCCTTCTGTGCGCCGCGGGTCTCTTCGTGGACTCGGTACCATACCCGAAGA  
 AATTCTCTGGTCAATACAGACCTGTGGGAGATTATCAAAGCACTATGCAAAGGAATGCAAGCTTAGAA  
 TCTCTGGACAAGAATCAAAGGAAATCGTTGATGAGTACCAGCCAGTTCGTCTACTCAGTAAACCTGGGGA  
 GTTGAGGCGAGAATGAAGAGGAGATAAGCAAGGTGGAGGCTGAGCGACAAGCCAGCAAGGAAGAGGAA  
 AACAAAGCCAGTGAAGGAGTACATACAGAGACTGCTGGCCGAGGAGGAGGAGGAGAAAAGGCGGACGG  
 AGAGAAGACGAAGTGAAGTGGAGGAGCAGCTGAGGGGCGATGAGGAGCTGGCGAGGAGGCTGAGCACCAG  
 CATCAACAGTAACTACGAGAGAAATATCTTGGCATCTCCTTTGAGTTCAGAAAAATCAGATCCCCTCACA  
 AACAGTCACAGAAGAAAAATACGAACAAACAAAAAACTTTGGAGATATTCAAAGATACTTGTCACCTA  
 AGTCAAAGCCTGGGACAGCATGGGCATGTAAAAGTGAAGATGGAGAAGACATGTGCAAGTCTAAGGAAAC  
 AGACAGTAGTGACACGAAGAGCCCTGTGTTGCAAGACACAGACGTTGAAGAAAGCATGCCAACACATTCT  
 CCTCAGACCTGCCAGAACTCAAGGGCAAGGTCGGGAGCCTTTGACAGAGATGCCTGTGCCATGGCTAT  
 GTGCAAGGAATGCTGAACAGTGCCTTGAGGGAAAAGCTGAAGCAGTGTCAACCAATCCTGATGATTCATG  
 TATTGTAATGATGGTGGACCTAGAGCCATAGTTTCTAACTCTAAGGAAGCTGCAGTTAAGCCTCCTACC  
 AAGATAGAAAACGAAGAGTATTCTGTGTCAGGTGTGACCCAGTTAACTGGGGCAACGGAGTTCCAACAG  
 AGAGCAGAGTGTACGACTTACTAGTCGGAAAAGAGATTTCCGAAAGAGAAAACCGAATCTGTGTTTGA  
 AGAAGTCATGGATCCATGCTTTTCTGCAAAAAGAAAGAAAATATTCATCACATCCTCCTTAGATCAAGAA  
 GAAACAGAAAGTGAATTTTACACAAAAGTATAGATTTGGAACATATGCTTTTTCGAGAGACATAAGCAAG  
 AAGAACAGGACAGGTTGTTAGCATTACAACCTCAAAAAGAGGAGATAAAGAAAAAATGGTGCCAAACCG  
 GCAGAAAGGATCCCAGATCAGTACCAGCTGCGCACATCTTACCCCCAGACGGGTTGCTGAATGGACAG  
 AGGAAGAATGTCAAAGATAGGAACTCCCCAAAGCAAACTGCAGATCGTTCAAATCTCAGAGGAGCAGGA  
 AAGGTGAATACTGGGAGACCTTCGAAAGCACTTGAAGGGTTCAGTTAATGGAACGAAGTGCCAACTCC  
 TAGGAAAGATAGTTGTAATGTATCTAAACGTGCCTGTCCCCTACAGCACAGAAGTGCACAGAAAAGCATT  
 CTTCAAATGTTTCAGAGG**TAA**

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** Sgfl-Mlul

**ACCN:** NM\_001127597

**Insert Size:** 1701 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).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u>NM_001127597.2, NP_001121069.2</u>
<b>RefSeq Size:</b>	3311 bp
<b>RefSeq ORF:</b>	1701 bp
<b>Locus ID:</b>	690043
<b>UniProt ID:</b>	<u>B2RYR0</u>
<b>Cytogenetics:</b>	11q22
<b>Gene Summary:</b>	<p>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]</p>