

## Product datasheet for **MC224011**

### Smc1a (NM\_019710) Mouse Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Smc1a (NM_019710) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Smc1a
Synonyms:	5830426I24Rik; mKIAA0178; Sb1.8; SMC-1A; Smc1; Smc1alpha; Smc1I1; Smcb
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
Fully Sequenced ORF:	>MC224011 representing NM_019710 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGGTTTCTGAACTGATTGAGATCGAGAACTTAAATCGTACAAGGGTCGACAGATTATCGGACCAT  
TTCAGAGGTTTACCGCCATCATTGGACCAATGGCTCTGGTAAGTCAAATCTCATGGATGCCATCAGCTT  
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GGCAAGCCGGCTGCCAACCGAGCCTTTGTCAAGCATGGTCTACTCGGAGGAGGGTGCAGGACCGTACCT  
TTGCCCGAGTCATTGTAGGGGGCTCTTCTGAGTACAAGATCAACAACAAAGTTGTCCAGTACATGAATA  
CAGTGAAGAGTTAGAGAAGTTGGGCATTCTCATCAAAGCTCGTAACTTCCTCGTCTTCCAGGGTGCAGTG  
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CGACAGGAGAGTAGCCCGCAGCAGCGAAAGGCAGAAAATATGAAAGCATCAAGCGTCTCTACCTGGCT



CTGTGTATGGCCGCTCATTGACCTCTGCCAGCCTACACAAAAGAAGTATCAGATTGCTGTGACCAAGGT  
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 AAGGAGCAACGTGGAGAGCCTGAGACCTTCTTGCCTCTTGACTACCTGGAGGTGAAACCTACTGATGAGA  
 AACTCCGGGAGCTGAAGGGGGCCAAGCTAGTGATTGATGTAATTCGTTATGAACCACTCACATTA  
 AGCTCTGCAGTATGCTTGTGGCAATGCCCTTGTGTGATAATGTGGAGGATGCTCGACGATTGCCTT  
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 CCAGGGAGAAGAGTCAGTGAGTGGTCCAGAGAACATCCAGTATCTATGCTCGAGAGGCCCTCATTGAG  
 ATTGACTACGGTGACCTGTGTGAAGATCTGAAGGATGCACAGGCGGAGGAAGAAATCAAGCAAGAAATGA  
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 CATGGAAAAGCTGGAGAGTGTCCGAGACAAGTCCAGGAGACCTCAGATGAGTTTGAAGCAGCACGAAAG  
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 CTTGGGCCTGAGAATCCTGAAGAGCCCTATTTGGATGGCATCAACTACAACCTGTGTAGCTCCTGGCAAA  
 CGTTTTCCGGCCTATGGACAATTTGTCCAGCGGGGAGAAGACAGTTGCAGCTCTGGCCTGCTTTTTGCCA  
 TCCATAGCTACAAGCCAGCCCCCTTCTCGTCTGGATGAGATTGACGCTGCCTTGATAACACCAACAT  
 TGGCAAGGTGGCAAAATACATCAAGGAACAGTCAACTTGAACCTCCAGGCCATTGTTATCTCTCTCAAG  
 GAGGAATTCTACACCAAGGCTGAGAGCCTCATTGGAGTCTATCCTGAGCAAGGGGACTGTGTGATCAGCA  
 AAGTCTGACTTCGACCTACCAAGTACCCAGATGCCAACCCCAACCCCAATGAACAA**TAG**

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-MluI
- ACCN:** NM\_019710
- Insert Size:** 3702 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\\_019710.2](#), [NP\\_062684.2](#)

**RefSeq Size:** 3980 bp

**RefSeq ORF:** 3702 bp

**Locus ID:** 24061

**UniProt ID:** [Q9CU62](#)

**Cytogenetics:** X F3

**Gene Summary:** Involved in chromosome cohesion during cell cycle and in DNA repair. Involved in DNA repair via its interaction with BRCA1 and its related phosphorylation by ATM, and works as a downstream effector in the ATM/NBS1 branch of S-phase checkpoint (By similarity). Central component of cohesin complex. The cohesin complex is required for the cohesion of sister chromatids after DNA replication. The cohesin complex apparently forms a large proteinaceous ring within which sister chromatids can be trapped. At anaphase, the complex is cleaved and dissociates from chromatin, allowing sister chromatids to segregate. The cohesin complex may also play a role in spindle pole assembly during mitosis. Involved in DNA repair via its interaction with BRCA1 and its related phosphorylation by ATM, or via its phosphorylation by ATR. Works as a downstream effector both in the ATM/NBS1 branch and in the ATR/MSH2 branch of S-phase checkpoint.[UniProtKB/Swiss-Prot Function]