

## Product datasheet for **MR209400**

### **Smc5 (BC007174) Mouse Tagged ORF Clone**

#### **Product data:**

|                           |                                        |
|---------------------------|----------------------------------------|
| Product Type:             | Expression Plasmids                    |
| Product Name:             | Smc5 (BC007174) Mouse Tagged ORF Clone |
| Tag:                      | Myc-DDK                                |
| Symbol:                   | Smc5                                   |
| Synonyms:                 | MGC30442, MGC7569, mKIAA0594           |
| Mammalian Cell Selection: | Neomycin                               |
| Vector:                   | pCMV6-Entry (PS100001)                 |
| E. coli Selection:        | Kanamycin (25 ug/mL)                   |



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**ORF Nucleotide  
Sequence:**

&gt;MR209400 ORF sequence

Red=Cloning site Blue=ORF Green=Tags(s)

 TTTTGAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGC**

 ATGAAAGATAATAAAATGCAAAATATGTTGAAAATCATATTTTCATCAAATGACTTAAGAGCCTTTGTGT  
TTGAAAGTCAAGAAGATATGGAGATTTTCCTCAGAGAGGTTTCGTGACAACAAGAAGTTAAGAGTAAATGC  
TGTTATTGCCCAAGATCTCATGTGCAGACAAGCCCTTCAAGATCTCTGAATGACTTAAACAATAT  
GGATTTTTTTCATATCTTCGGGAGTTATTTGATGCACCTGATCCTGTGATGAGTTACCTTTGCTGCCAGT  
ATCATATTCATGAGGTTCTGTGGAACTGAAAGGACCCGAGAAAAGATTGAACGGGTAATACAAGAAAC  
TCGATTAACAATAATTTATACAGCAGAAGAAAAGTATGTGTTAAAACTTCTGTGATTCAAATAAAGTT  
ATTTCTAGTAATACATCCCTGAAAGTAGCCAGTTCCTCACTGTTACTGTGGATCTAGAGCAAAGAAGAC  
ACTTGAAGAGCAGCTAAAGGAAATGAATAGACAACCTGGAAGCAGTGGACTCAGGTTGGCCACCTTGCG  
TGATACCAACAGGCACCTTGAGCTCAAAGACAACGAGCTAAGGCTGAAGAAGAAGGAGCTTCTTGAAAGA  
AAAACCGAGAAAAGGCAGCTGGAGCAGAAAATCAGCTCCAAGCTGGCAAGTATAAGGCTGATGGAACAGG  
ATACTTGAATCTGGAAGAGGAAGAACGAAAAGCAAGTACCAAAATAAAGAAATAAATGTTTCAGAAAGC  
AAAACCTGTTACTGAATTAACAGGCCTTGTAAGATATGCACTTCTTTCAAATTCAAAAAGTTGATTTG  
ATTCTTCAAATACTACAGTGATCTCTGAGAAGAACAGTTAGAAGCAGATTACATGGCGTCATCTTCCC  
AGCTACGCGTCACAGAACAACAATTCATTGAATTGGATGACAACAGACAGAGATTGTTACAGAAGTGCAA  
GGAACCTTATGAAGAAAGCTAGGCAAGTATGCAACCTGAGTGCTGACCAAGCTGTTCCACAAGAATCCAG  
ACACAAGTACCCACCATTCCAAATGGACACAGCTCCTCACCCCATGGCTTTTCAAGATCTCCCAAACA  
CATTGGATGAAATCGATGCATTATTAAGTGAAGAAAGGTCAGAGCTTCGTGCTTACAGGACTGAATCC  
TTCGGTGGTTGAGGAGTACTCAAAAAGAGAAGTAGAAATACAGCAGTTGACCGAAGAAGTGCAGGGGAAG  
AAAGTTGAACTAGATGAATACAGGGAACATTTTCGCAGTGAAAGAAAGGTGGCTGAACCCCTTAAAGG  
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TCTTCATACAGAAAATGAGGAAGATTATGATAAATATGGAATCCGGATTAGAGTAAATTTTCGCAGTAGT  
ACTCAGCTGCATGAATTAACCTCTCATCATCAAAGTGGAGGTGAAAGAAGTGTCTACTATGCTATACT  
TGATGGCACTTCAGGAGCTTAACAGATGTCCCTTCAGAGTAGTCGATGAAATTAACAGGTATGGACCC  
AATTAATGAACGAGAGTATTTGAAATGTTGTGAACACTGCCTGTAAGAGAACACATCCAGTATTTT  
TTCATCACACCGAAGCTTCTACAGAATCTTCTTATTCTGAAAAGATGACAGATTGTTTGTCTACAATG  
GTCCTCATATGCTGGAGCCAAACCGATGGAATTTAAAGGCTTTTCAAAGCGCTCGCGAAGGATAACCTT  
TACTCAACCTCAG

 AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
TGGATTACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

&gt;MR209400 protein sequence

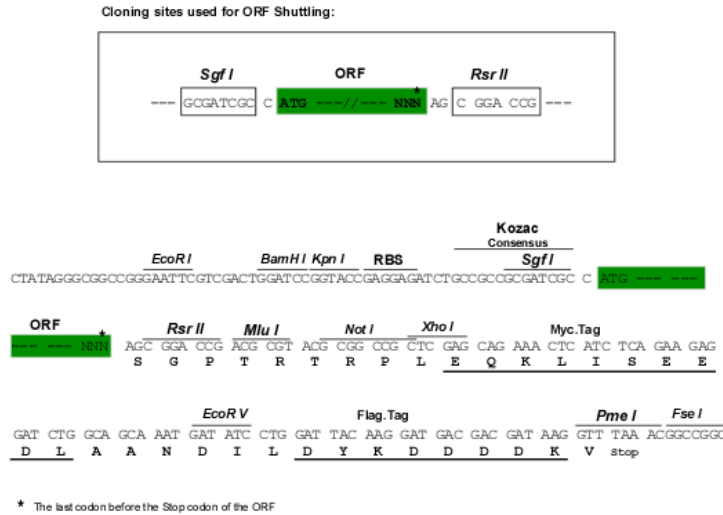
Red=Cloning site Green=Tags(s)

 MKDNKNAKYVENHISSNDLRAVFESQEDMEIFLREVRDNKKLRVNAVIAPKISCADKAPSRSLNDLKQY  
GFFSYLRELFADPDPVMSYLCCQYHIHEVPVGTERTRERIERYIETRLKQIYTAEEKYVLKTSVYSNKV  
ISSNTSLKVAQFLTVTDLEQRRHLEELKEMNRQLEAVDSGLATLRDNRHLELKDNLRLKKKELLER  
KTRKRQLEQKISSKLASIRLMEQDTCNLEEEERKASTIKEINVQKAKLVTEL TGLVKICTSFQIQKVDL  
ILQNTTVISEKNKLEADYMASSQLRVTEQQFIELDDNRQRLQKCKELMKKARQVCNL SADQAVPQEFQ  
TQVPTIPNGHSSPPMAFQDL PNTLDEIDALLTEERSRASCFTGLNPSVVEEYSKREVEIQQLTEELQGK  
KVELDEYRENI SQVKERWLNPLKELVEKINEKFSNFFSSMQCAGEVDLHTENEEDYDKYIRIRVKFRSS  
TQLHELTPHHQSGGERSVSTMLYLMALQELNRCPRFVDEINQGMDPINERRVFMVNTACKENTSQYF  
FITPKLLQNL PYSEKMTVLFVYNGPHMLEPNRWNLKAFQRRRRRITFTQPQ

SGPTRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: Sgfl-RsrII

Cloning Scheme:



ACCN: BC007174

ORF Size: 1833 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [BC007174](#), [AAH07174](#)

RefSeq Size: 3883 bp

RefSeq ORF: 1835 bp

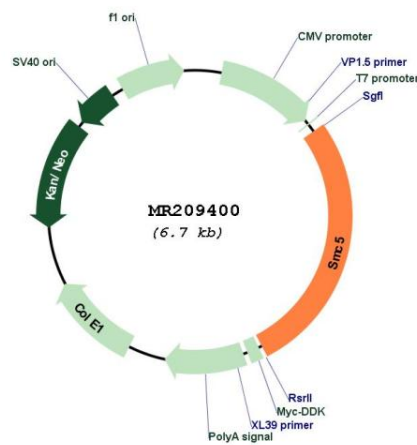
**Locus ID:** 226026

**Cytogenetics:** 19 B

**MW:** 71.5 kDa

**Gene Summary:** Core component of the SMC5-SMC6 complex, a complex involved in repair of DNA double-strand breaks by homologous recombination. The complex may promote sister chromatid homologous recombination by recruiting the SMC1-SMC3 cohesin complex to double-strand breaks. The complex is required for telomere maintenance via recombination and mediates sumoylation of shelterin complex (telosome) components. Required for sister chromatid cohesion during prometaphase and mitotic progression; the function seems to be independent of SMC6 (By similarity).[UniProtKB/Swiss-Prot Function]

## Product images:



Circular map for MR209400