**Supplementary table 1.** Primers for Real-time PCR and plasmid construction

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| Primer name | Primer sequence | Description |
| SCC3-Cas9-F | GGCAATTGCGCGAGGCACCAACAT | CRISPR-Cas9 |
| SCC3-Cas9-R | AAACATGTTGGTGCCTCGCGCAAT |  |
| REC8-Cas9-F | GGCAGAGCCTTCCGCGCGAGGAGC | CRISPR-Cas9 |
| REC8-Cas9-R | AAACGCTCCTCGCGCGGAAGGCTC |
| SMC1-RT-F | TAAGGGGACGCAGACAATCG | Real-time PCR |
| SMC1-RT-R | GGGCGTAGATGAGGTCCTTG |  |
| SMC3-RT-F | CGTTGTGATCCAGCCCCATT | Real-time PCR |
| SMC3-RT-R | CTGGTCGGAATGTCGTTGCT |
| SCC1-RT-F | ATGTTCTGTCCGCAATGGGT | Real-time PCR |
| SCC1-RT-R | TGTCAACACCCTGAATCGCA |
| SCC3-RT-F | GTTATTCATGCACCGCTATCG | Real-time PCR |
| SCC3-RT-R | CAGGCTTTGCAAGGCAAGAA |  |
| REC8-RT-F | TCCACTCGTACCTCAAGCTA | Real-time PCR |
| REC8-RT-R | GTTGCTAAAACGCATGCTTG |  |
| PAIR2-RT-F | GATCGACGATGGGTTGCCT | Real-time PCR |
| PAIR2-RT-R | AACAAACGGACGCCTGCTC |  |
| PAIR3-RT-F | CAAGAAGAGAACAGGACAGT | Real-time PCR |
| PAIR3-RT-R | GTAGAACGATGAGTAGACAATG |  |
| SGO1-RT-F | TCAATCAGCTGTGCCATCTT | Real-time PCR |
| SGO1-RT-R | CATCTTGCCACCACA AATCA |  |
| ZEP1-RT-F | CAGCAGGATAATGAGCATAA | Real-time PCR |
| ZEP1-RT-R | GGTCTCAGGACTAACCAACT |  |
| SCC3-AD-F | GACGTACCAGATTACGCTCATATGGACGAGACCCTAGCCTCC | Constructing vectors for Y2H experiments |
| SCC3-AD-R | TCTGCAGCTCGAGCTCGATGTCAGCTATTGCTTCCTGATGCCCT |  |
| SCC3-BD-F | ATCTCAGAGGAGGACCTGCATATGGACGAGACCCTAGCCTCC | Constructing vectors for Y2H experiments |
| SCC3-BD-R | GCGGCCGCTGCAGGTCGACGTCAGCTATTGCTTCCTGATGCCCT |  |
| SCC1-AD-F | GACGTACCAGATTACGCTCATATGTTCTACTCGCAGTTCATC | Constructing vectors for Y2H experiments |
| SCC1-AD-R | TCTGCAGCTCGAGCTCGATGTCAGAAATCTGACTTCAGGAGCTT |  |
| SCC1-BD-F | ATCTCAGAGGAGGACCTGCATATGTTCTACTCGCAGTTCATC | Constructing vectors for Y2H experiments |
| SCC1-BD-R | GCGGCCGCTGCAGGTCGACGTCAGAAATCTGACTTCAGGAGCTT |  |
| SMC1-AD-F | GACGTACCAGATTACGCTCATATGGCCGCGGCGGCGGCAGG | Constructing vectors for Y2H experiments |
| SMC1-AD-R | TCTGCAGCTCGAGCTCGATGTCACAAAAGAGGTACTTTAA |  |
| SMC1-BD-F | ATCTCAGAGGAGGACCTGCATATGGCCGCGGCGGCGGCAGG | Constructing vectors for Y2H experiments |
| SMC1-BD-R | GCGGCCGCTGCAGGTCGACGTCACAAAAGAGGTACTTTAA |  |
| SMC3-AD-F | GACGTACCAGATTACGCTCATATGGATGCTGAGCGTGACCA | Constructing vectors for Y2H experiments |
| SMC3-AD-R | TCTGCAGCTCGAGCTCGATGTCAGCTAGCGTTGTGTGTCT |  |
| SMC3-BD-F | ATCTCAGAGGAGGACCTGCATATGGATGCTGAGCGTGACCA | Constructing vectors for Y2H experiments |
| SMC3-BD-R | GCGGCCGCTGCAGGTCGACGTCAGCTAGCGTTGTGTGTCT |  |
| REC8-BD-F | ATCTCAGAGGAGGACCTGCATATGTTCTACTCGCACCAGC | Constructing vectors for Y2H experiments |
| REC8-BD-R | GCGGCCGCTGCAGGTCGACGCATCTTTGGTCCCCTCGAGAT |  |
| SCC3-NE/CE-F | CCCAGGCCTACTAGTGGATCCATGGACGAGACCCTAGCCTCC | Constructing vectors for BiFC experiments |
| SCC3-NE/CE-R | CCCGGGAGCGGTACCCTCGAGTCAGCTATTGCTTCCTGATGCCCT |  |
| REC8-NE/CE-CF  | CCCAGGCCTACTAGTGGATCCATGTTCTACTCGCACCAGC | Constructing vectors for BiFC experiments |
| REC8-NE/CE-R | ATCCCGGGAGCGGTACCCTCCATCTTTGGTCCCCTCGAGAT |  |
| SCC3-Ab-F | GACGACGACGACAAGGCCATGCATGTAAGTGATGGGGAAAA | Antibody production |
| SCC3-Ab-R | GCAGCCGGATCTCAGTGGTGGGCTATTGCTTCCTGATGCCC |  |