**Supplemental Table 1. Primers used in this study**

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| **Use** | **Primer name** | **Sequence** |
| **Fine mapping** | IN1-F | AGGGGAAGAAAAACCTGACC |
| IN1-R | CCGCGTGCAGATAAAGTACA |
| WS6-F | ATGATTGCTGGTCCACAGGT |
| WS6-R | TAGCTGCTGGTGAGTTGAGC |
| WS7-F | TGCTTTACTTGAGCAACGTAGG |
| WS7-R | GAGTTGGCGGAAACATGAAT |
| WS10-F | AGCCTGACTCAAGCCATACC |
| WS10-R | ACAACTTGATTCATTTTCTTCGT |
| Jws11-F | TCCATGTCAGTGAAAATCCAA |
| Jws11-R | CGTATACGACAGACAGGGAGGT |
| Jws14-F | ATGAATTTAAGTCGGTCGGTGT |
| Jws14-R | AACCAAGAGAAAGAAGAAAATGC |
| Jws15-F | TGTCCCTGTAGTGGCATTTG |
| Jws15-R | TCTGGAGTTCACCCCACAAG |
| **Genomic DNA cloning and RNA interference** | OsPSS-1-HindIII-F | CCGGCGCGCC**AAGCTT**TTGCGA  TGCTCTGTTTTATGCT |
| OsPSS-1-PstI-R | GGGGATCCGTCGAC**CTGCAG**CC  TATCATCAATCAGCCAACCA |
| OsPSS-1-RNAi1-  KpnI-F | TTACTTCTGCACTA**GGTACC**GGA  GGTCAATGGTCATCACAAA |
| OsPSS-1-RNAi1-  KpnI-R | TAGAGCTCAGGCCT**GGTACC**TGG  GCAATAACAAACTCATCAA |
| OsPSS-1-RNAi2-  BamHI-F | GAATTCCCGG**GGATCC**GGAGGTC  AATGGTCATCACAAA |
| OsPSS-1-RNAi2-  BamHI-R | CGTAGTCGAC**GGATCC**TGGGCA  ATAACAAACTCATCAA |
| **Binary vector construction** | OsPSS-1-Pro-EcoRI-F | CCATGATTAC**GAATTC**TCATCCC  ACCCTTTATGCGAA |
| OsPSS-1-Pro-NcoI-R | CTCAGATCTA**CCATGG**GGTGATA  ATTCTTAGCAGCTTAT |
| 1305OsPSS-1-GFP-  SmaI-F | TCGAGGACCGGT**CCCGGG**ATGG  AGGTCAATGGTCATCACA |
| 1305OsPSS-1-GFP-  SmaI-R | CACCATGGATCC**CCCGGG**TAGC  CTTTTCCTTATCATTG |
| **Transient expression vector construction** | OsPSS-1-GFP-  BamHI-F | CGGTCCCGGG**GGATCC**ATGGAG  GTCAATGGTCATCACA |
| OsPSS-1-GFP-  BamHI-R | TGCTCACCAT**GGATCC**TAGCCTT  TTCCTTATCATTG |
| GFP -OsPSS-1  BgIII-F | CGAGCTGTAC**AGATCT**ATGGAGG  TCAATGGTCATCACA |
| GFP -OsPSS-1  BgIII-R | GGCCGCTTTA**AGATCT**TAGCCTT  TTCCTTATCATTG |
| C2domain-BgIII-F | CGAGCTGTAC**AGATCT**TGCACTG  AACCCCTAGGCCTGAA |
| C2domain-BgIII-R | GGCCGCTTTA**AGATCT**CTAACAG  CCCAGCAGCTCCACT |
| **RT-PCR and qRT-PCR** | RTcF1 | CGTGATGATGCTAGGCAATTTA |
| RTcR1 | CATCAAAAAGGATCTCATAAACA |
| ActinF | TGGAACTGGTATGGTCAAGGC |
| ActinR | AGTCTCATGGATACCCGCAG |
| qOsPSS-1-F | GGTATTTGGGCTGGAATGAAGA |
| qOsPSS-1-R | ACCACTCATCTTTGTCCCACTG |
| qOsExo70A1-F | GTTGCTGAAATCCTGTTGCC |
| qOsExo70A1-R | TACGCTCTTGTTTTCCTTCA |
| qOsExo70A3-F | GCAAGCCCTACAAAATAACT |
| qOsExo70A3-R | TGAAACCCCACTGCTGCTAA |
| qOsExo70B1-F | ACACCCTTGGTTCCTCTATC |
| qOsExo70B1-R | CACGGAGATAGTTCATCACAT |
| qOsExo70B2-F | TGCGACTTGAGGATGTGAGA |
| qOsExo70B2-R | AACTGTTTAGCCTGGGTGGG |
| qOsExo70D1-F | CTCCTGAGGGCAATGAGAAT |
| qOsExo70D1-R | GTGCCGCATCCTTGTAGAGT |
| qOsExo70D2-F | GACGCCACTTGCTGCTCATA |
| qOsExo70D2-R | CGCTTCAAGTAATCATCACCAA |
| qOsExo70E1-F | CCACCGGCGAACTTTTGACA |
| qOsExo70E1-R | GTGGCGACTGAAAATGATGC |
| qOsExo70F1-F | ATCGTCCGAGAAGCTGTTCC |
| qOsExo70F1-R | TCCCCACCGGGCAACGCTCT |
| qOsExo70G1-F | TCTTGAGTCCGAGCGACAGC |
| qOsExo70G1-R | AAACGCAGGAGCTTAATGGG |
| qOsExo70G2-F | TCAAGAGGGTGGTGGATGGT |
| qOsExo70G2-R | GTGAGCACAGAGCGATACGG |
| qOsExo70H2-F | TGAGGCTGGTCGGTTTCTGT |
| qOsExo70H2-R | TGCCCTACAACACCAGCGTC |
| qOsExo70H3-F | AGCCCTTGACCGCATAAACC |
| qOsExo70H3-R | TGTTGTTCGCCATGAAGAGG |
| qSec3a-F | TGTCCCAAGCAAAGGATGAA |
| qSec3a-R | AAATGCGTAACCACTCATCC |
| qSec3b-F | TGTGGAGATGGCTATGTGGG |
| qSec3b-R | GTCTTTCTGAATGGCAACTT |
| qSec5-F | CGTGGGAACATTAGAAAAGG |
| qSec5-R | CCTCCATTGACTTGTAAAGC |
| qSec6-F | GTTGCTACGAACTTTCATCA |
| qSec6-R | AACGCTGACAGTTTGAAGGA |
| qSec8-F | CATACCTGACCAAGGGATTT |
| qSec8-R | ACAAAAGCCAATAGCCCATC |
| qSec10-F | CGATGGCAGAATGTGCTAAA |
| qSec10-R | CCTCCTCACCAAGAACAACT |
| qSec15a-F | GATTCCCGTGTCACAAGCAG |
| qsec15a-R | AAATCCTCGTAATGAAGTCT |
| qSec15b-F | CTCATTCCACTCGCCTCCAT |
| qSec15b-R | CTTCATTTTCACGATGCTCC |
| qExo84a-F | AGACCGACAACTTCGACCCC |
| qExo84a-R | CATAAACACTTCTACGCATC |
| qExo84b-F | CCAACTGGCATTCGTCCTTT |
| qExo84b-R | TCATCCATTGTAGAACCACC |