

**Table S1. The list of primers used in this study.**

| Gene                                 | Primer Sequence           |                           |
|--------------------------------------|---------------------------|---------------------------|
|                                      | Forward (5' to 3')        | Reverse (5' to 3')        |
| <b>For gene editing confirmation</b> |                           |                           |
| OsACS1-genome                        | CTCCTACTCAGCAGCAGCAGCA    | GTAGTCCTGGAACAGCGCGA      |
| OsACS2-genome                        | GTCCGATCATCCTTGCGTGGCTA   | ATTGGCCTTACCTTTCTGAACTCC  |
| <b>For qRT-PCR</b>                   |                           |                           |
| OsACS1                               | GCCTCTTCTGCTGGGTGGAC      | ACATGTTGGCGAAGCAGACG      |
| OsACS2                               | CGCGTCGGCATCATCTACTC      | CGCCACCAGCCGACACTT        |
| OsACS3                               | GGCCTTGCAGAAAACCAG        | CGCCTTGCCTCCCCTTATC       |
| OsACS4                               | AAGGCGATGGCAAGATTCA       | GCCCGTCCTCCACCTCAG        |
| OsACS5                               | GCCGGTAGCTTCAGGGACAA      | GGCGAGGATGAAGGTGAGGA      |
| OsPT2                                | GACGAGACCGCCCAAGAAG       | TTTTCAGTCACTCACGTCGAGAC   |
| OsPT3                                | TGCGACTGCTGTATTCAGTACGT   | ACAAATGCCATCAAATATGAACAGA |
| OsPT6                                | TATAACTGATCGATCGAGACCAGAG | TGGATAGCCAGGCCAGTTATATATC |
| OsSPX1                               | ACATTTGCTGGAGATAGTACCG    | TCTGATGGTTATGATGGGTTTTCT  |
| OsSPX3                               | TGCCGGTACTAGATTGTATGATT   | GTATGTTCTCTACCACGGCATA    |
| OsIPS1                               | CTAAGGTAGGGCAACTTGTATC    | TTATTAGAGCAAGGACCGAAAC    |
| OsPIN2                               | TCTTGCATGTTGCCATTGTT      | AACCGCTGTGCTAAGTATTT      |
| OsPIN10a                             | TGACACGCCTCATCCTCATA      | GATGGACTTCTCGACGATTG      |
| OsIAA1                               | GACAAGTTCTTCTCCCACTTCACCA | CCTCATTGAGCGGCTCTTGGTG    |
| OsIAA8                               | TTCCCTCACGACGGCGACAG      | ATGATGAACCTTGTTCTGCTTC    |
| OsARF1                               | GGAGGACGCGCTGTTCAC        | ATCCGCTGCTCGCCTACCTG      |
| OsYUCCA4                             | CCTCGACCTCTGCAACCACAAT    | CAGGCGGGCCGTATCACC        |
| OsAct1 (internal control)            | TCATAGGAATGGAAGCTGCG      | AGGAGCCAAGGCAGTGATCT      |
| <b>For off-target confirmation</b>   |                           |                           |
| LOC_Os12g03860                       | GCATTTGCTGTAATAACCGTTTCA  | TAATTGGTACAGATAGTGCCTGC   |
| LOC_Os05g07880                       | CAAGGTCCACGTCAAGCTCCAGT   | ACGATCTTCTGGTGGTGCCTG     |
| LOC_Os01g72420                       | GACGACGACGACTGCGAGAT      | AGCTCTGCTTCCGTAGAAC       |
| LOC_Os01g50040                       | ATGCCGGCGGCGAAGAGGT       | CGCTGGTTCGCTGGATCCTCGAG   |
| LOC_Os01g09700                       | ATGGGGCGTGGCCAATTGC       | TCCGGGTGGTACGGAGGTAG      |
| LOC_Os01g59150                       | GATTTCTGCCACCATGAGTGGA    | TGAACATAGCAGTGAAGTCTC     |