

| PCR reaction  | Primer name          | Primer sequence                |
|---|----------------------|--------------------------------|
| Cloning <i>OPR</i> overexpression constructs ( <i>oxOPRs</i> )                | oxOPR1F              | GGTACCATGGAAAACGGAGAAGCAAACAG  |
|   | oxOPR2F              | GGTACCATGGAAATGGTAAACGCAGAAGC  |
|   | oxOPR3F              | CTCGAGATGACGGCGGCACAAG         |
|   | oxOPR1R              | GGATCCTTAAGCTGTTGATTCGAGGAAAGG |
|   | oxOPR2R              | TCTAGATTAAGCTGTTGATTCAGGGAAGGG |
|   | oxOPR3R              | ATCGATCAGAGGCGGAAAAAGGAG       |
| Cloning <i>OPR</i> knockdown constructs ( <i>kdOPRs</i> )                     | kdOPR1F              | CACCACAATTCAGGGAAAATC          |
|   | kdOPR2F              | TGGTAAACGCAGAAGCAAAA           |
|   | kdOPR1R              | TCCGCCATATAAAGCCCTAA           |
|   | kdOPR2R              | CCATCAAAACCAGCTTCCATAG         |
| Quantitative RT-PCR on WT and <i>OPR</i> knock down lines ( <i>kdOPRs</i> )   | qOPR1F               | ATCCAGGAGCATTAGGGC             |
|   | qOPR2F               | CCAGAAGCATTAGGGCTG             |
|   | qOPR3F               | AAAGCTCGCTTACCTTCACGTT         |
|   | qOPR4F               | CTTCGAATGCACGGAATCG            |
|   | qOPR1R               | CGCTTTCCTCATCGGCAT             |
|   | qOPR2R               | GGCTTCCCTCATTGGCAT             |
|   | qOPR3R               | CATCACTCCCTTGCCTTCCA           |
|   | qOPR4R               | TCCTCCTGCTACTATGAACGTACCT      |
|   | qACTF                | GCTGACCGTATGAGCAAAGAAAT        |
|   | qACTR                | TACTTCCTTTCAGGTGGTGCAA         |
|   | <i>OPR1</i> probe    | GGGAGAAGTACATGCTTGTC           |
|   | <i>OPR2</i> probe    | GGGAGAAATAGCAGCGTGTC           |
|   | <i>OPR3</i> probe    | CACAACCTCGCTACCACGCCTACGG      |
|   | <i>OPR4</i> probe    | TACGCCCATGCGAAAAGCCTTCA        |
|   | <i>Actin</i> probe   | ACAGCACTTGACCAAGCAGCATGA       |
| Semi-quantitative RT-PCR on <i>OPR</i> overexpression lines ( <i>oxOPRs</i> ) | sqOPR1F              | GCCTCACGCTGCCATATATTA          |
|   | sqOPR2F              | TGGTAAACGCAGAAGCAAAA           |
|   | sqOPR3F              | CGGCGTTGGCAGAGTATTAT           |
|   | sqOPR1R              | TCCGCCATATAAAGCCCTAA           |
|   | sqOPR2R              | TGGTAAACGCAGAAGCAAAA           |
|   | sqOPR3R              | GCAAAACAGAGTCTGGAAGGC          |
|   | sqACTF               | CTTACAATTTCCCGCTCTGC           |
| sqACTR  | GTTGGGATGAACCAGAAGGA |                                |
| Amplifying <i>OPR1</i>  | OPR1F                | GACCCCACTGGTTATGTTCTG          |
|   | OPR1R                | ACCTGCAACAACAAGGACACAT         |
| Amplifying <i>OPR2</i>  | OPR2F                | TGGTAAACGCAGAAGCAAAA           |
|   | OPR2R                | GCTCTCTCCGTTGCAGACT            |
|   | OPR2-seq             | TGGTAAACGCAGAAGCAAAA           |
| T-DNA border  | LBa1                 | TGGTTCACGTAGTGGCCATCG          |

**Supplemental Table SI** DNA primer sequences used for cloning oxophytodienoate reductases. Primer sequences to OPR1, OPR2 and OPR3 used for production of over expressing and knock down constructs and gene expression analysis.