**Table S1.** PCR primers and programs used in the current study

|  |  |  |  |
| --- | --- | --- | --- |
| **Primer code /**  **sequence (5’→3’) a** | **Annealing**  **temp (°C) b** | **Restriction**  **enzyme (°C) c** | **Use of primers** |
| **TAIL-PCR** | NA | NA | TAIL-PCR amplification |
| SP1: ATGCAACTTTCCAAAATTACTTTCGCTAT |  |  |  |
| SP2: GGCAACACTGAGGTCGCAACCATCT |  |  |  |
| SP3: GGCAGCGATGATTCCGACGCGTATT |  |  |  |
| SP4: AATACGCGTCGGAATCATCGCTGCC |  |  |  |
| SP5: AGATGGTTGCGACCTCAGTGTTGCC |  |  |  |
| SP6: ATAGCGAAAGTAATTTTGGAAAGTTGCAT |  |  |  |
| AD: STTGNTASTNCTNTGC |  |  |  |
| **The key primer** |  |  |  |
| ***AvrPii*-J/C-CDS** | 58 | NA | J/C-CDS amplification |
| F: ATGCAACTTTCCAAAATTAC |  |  |  |
| R: TTAGTTGCATTTATGATTA |  |  |  |
| ***AvrPii*-J-FL/GT** | 58 | NA/*Asc* I (37) | J-FL/GT amplification |
| F: TTGGCGCGCCTGGTAGATATCCGCTGAC |  |  | (*AvrPii*-J cloning) |
| R: TTGGCGCGCCCAGATTTGGAACTTTGGT |  |  |  |
| ***AvrPii*-J-RS** | 58 | NA | J-RS amplification |
| F: TGGTAGATATCCGCTGACTGG |  |  | (*AvrPii*-J resequencing) |
| R: TAGCCATTATCCAAGGGTTGCTCCACTCT |  |  |  |
| ***AvrPii*-J-MK1** | 58 | NA | J-MK1 amplification |
| F: GTATAATTCCTTTTCTTCCCTCCTT |  |  | (*AvrPii*-J genotyping) |
| R: CTAATTTAAATCGTGCGCTTTCAGA |  |  |  |
| ***AvrPii*-J-MK2** | 58 | NA | J-MK2 amplification |
| F: TGGTAGATATCCGCTGACTGG |  |  | (*AvrPii*-J genotyping) |
| R: CATATAATGCAATAGCGAAAGTAAT |  |  |  |
| ***AvrPii*-C-FL/RS** | 58 | NA | C-FL/RS amplification |
| F: AAGGCATAATAATTTCGTAAAAAGCGGTCTAA  R:CCTTCCTCCAGCTTCTTGAA |  |  | (*AvrPii*-C resequencing) |
| R: ATGTATGCCTGGCCGTGACAATAACCC |  |  |  |
| ***AvrPii*-C-GT** | 58 | *Asc* I (37) | C-GT amplification |
| F: TTGGCGCGCCTCAGCGGATATTCACC  R:CCTTCCTCCAGCTTCTTGAA |  |  | (*AvrPii*-C cloning) |
| R: TTGGCGCGCCTAGATTTTCAGGGTGC |  |  |  |
| ***AvrPii*-C-MK1** | 58 | NA | C-MK1 amplification |
| F: TCGTTATATTTCCATTGCTATTCAT |  |  | (*AvrPii*-C genotyping) |
| R: TAAAAATGAGTTAAATTATGCGTT |  |  |  |
| ***AvrPii*-C-MK2** | 58 | NA | C-MK2 amplification |
| F: CATAATAATTTCGTAAAAAGCGGTC |  |  | (*AvrPii*-C genotyping) |
| R: CATATAATGCAATAGCGAAAGTAAT |  |  |  |
| **Domain swapping** |  |  |  |
| **Jpro** | 58 | NA | Jpro amplification |
| F: TGGTAGATATCCGCTGAC |  |  |  |
| R: AATTTTGGAGAGTTGCATTTTGGTAAATTGGAA |  |  |  |
| **CCDS+3’** | 58 | NA | CCDS+3’ amplification |
| F: TTCCAATTTACCAAAATGCAACTCTCCAAAATT |  |  |  |
| R: TAGATTTTCAGGGTGC |  |  |  |
| **Jpro-F/CCDS+3’-R** | 58 | *Asc* I (37) | Mai1 construction |
| F: TTGGCGCGCCTGGTAGATATCCGCTGAC |  |  |  |
| R: TTGGCGCGCCTAGATTTTCAGGGTGC |  |  |  |
| **Cpro** | 58 | NA | C-pro amplification |
| F: TCAGCGGATATTCACC |  |  |  |
| R: AATTTTGGAAAGTTGCATTTTGGTAAGTTGGAA |  |  |  |
| **JCDS+3’** | 58 | NA | **JCDS+3’** amplification |
| F: TTCCAACTTACCAAAATGCAACTTTCCAAAATT |  |  |  |
| R: CAGATTTGGAACTTTGGT |  |  |  |
| **Cpro-F/JCDS+3’-R** | 58 | *Asc* I (37) | Mai2 construction |
| F: TTGGCGCGCCTCAGCGGATATTCACC |  |  |  |
| R: TTGGCGCGCCCAGATTTGGAACTTTGGT |  |  |  |
| **J/C-1** | 58 | NA | Mai3 construction |
| F: CATTATATGCAGTCGGAATCGCAGCACTT |  |  |  |
| R: CAATAGCGAAAGTAATTTTGGAGAGTTGCAT |  |  |  |
| **J/C-2** | 58 | NA | Mai4 construction |
| F: CATCTCCGACGTTAAACTTGGACCCCGCA |  |  |  |
| R: GTTGCGACCTCAGTGTTGCCATTTAGGCAGGC |  |  |  |
| **J/C-3** | 58 | NA | Mai5 construction |
| F: ATGCGGCTTCGGCAGCGATGATTCC |  |  |  |
| R: TTGGAGCAATAATAATAAGTCTTGTCGC |  |  |  |
| **Jpro+CDS** | 58 | NA | **Jpro+CDS** amplification |
| F: TGGTAGATATCCGCTGAC |  |  |  |
| R: AGATATCAACTTACATTAGTTGCATTTATGA |  |  |  |
| **C3’** | 58 | NA | **C3’** amplification |
| F: TCATAAATGCAACTAATGTAAGTTGATATCT |  |  |  |
| R: TAGATTTTCAGGGTGC |  |  |  |
| **Jpro+CDS-F/C3’-R** | 58 | *Asc* I (37) | Mai6 construction |
| F: TTGGCGCGCCTGGTAGATATCCGCTGAC |  |  |  |
| R: TTGGCGCGCCTAGATTTTCAGGGTGC |  |  |  |
| **Cpro+CDS** | 58 | NA | **Cpro+CDS** amplification |
| F: TCAGCGGATATTCACC |  |  |  |
| R: CAGATTTTAACTTACATTACTTGCACTTG |  |  |  |
| **J3’** | 58 | NA | **J3’** amplification |
| F: CAAGTGCAAGTAATGTAAGTTAAAATCTG |  |  |  |
| R: CAGATTTGGAACTTTGGT |  |  |  |
| **Cpro+CDS-F/J3’-R** | 58 | *Asc* I (37) | Mai7 construction |
| F: TTGGCGCGCCTCAGCGGATATTCACC |  |  |  |
| R: TTGGCGCGCCCAGATTTGGAACTTTGGT |  |  |  |
| **Others** |  |  |  |
| **HYG** | 58 | NA | Genotyping of |
| F: TTGGCTGGAGCTAGTGGAGGT |  |  | transgenic progeny |
| R: TCTGCTGCTCCATACAAGCCAAC |  |  |  |

Thespecific program for TAIL-PCR system

|  |  |  |
| --- | --- | --- |
| **Reaction round** | **Number of cycle** | **Cycle parameter** |
| I | 1 | 94°C/2 min; 95°C/1 min. |
|  | 5 | 94°C/15 s; 62°C/1 min; 72°C/2 min. |
|  | 1 | 94°C/15 s; 25°C/3 min;  up to 72°C by 0. 2°C/s; 72°C/2 min. |
|  | 15 | 94°C/10 s; 62°C/1 min; 72°C/2 min;  94°C/10 s; 62°C/1 min; 72°C/2 min;  94°C/10 s; 44°C/1 min; 72°C 2 min. |
|  | 1 | 72°C/2 min. |
| II | 15 | 94°C/10 s; 62°C/1 min; 72°C/2 min;  94°C/10 s; 62°C/1 min; 72°C/2 min;  94°C/10 s; 44°C/1 min; 72°C/2 min. |
|  | 1 | 72°C/2 min |
| III | 15 | 94°C/10 s; 62°C/1 min; 72°C/2 min;  94°C/10 s; 62°C/1 min; 72°C/2 min;  94°C/10 s; 44°C/1 min; 72°C/2 min. |
|  | 1 | 72°C/5 min. |

a For transformation test, sequence underlined was responding to the common restriction enzyme *Asc* I for ligating fragments (*AvrPii* and its mutants) into the binary vectors, pBHT2-AscI. F, forward; R, reverse.

b The regular PCR system was initiated by a 95°C/3 min denaturation, followed by 35 cycles of 95°C/15 s, 58°C/15 s, 72°C/1 min and a final extension step of 72°C/2 min. The Tail-PCR system was according to the specific program shown above. Amplicons were electrophoresed through a 1% agarose gel.

c The number shown in parentheses refers to the temperature at which the restriction digestion reaction was run.