**Table S1 List of the primers in this article**

|  |  |
| --- | --- |
| Primer name | Sequence （5’ to 3’） |
| pBSE402-640-FP | TCGAAGTAGTGATTGTGGGAAGAACAATCGGGCAGTTTTAGAGCTAGAAATAGC |
| pBSE402-640-RP | TTCTAGCTCTAAAACACATACTTGTGGATGCTAGCAATCTCTTAGTCGACTCTAC |
| 640-Cas1-FP | CAATGAATTAGGGGCTTTGTTTAG |
| 640-Cas1-RP | CCGACGCTAACCTATATGAGTTT |
| 640-Cas2-FP | GGCATTGAAAGGGAAGGTATC |
| 640-Cas2-RP | GTTGTACTGATGTACCAAATTGTTAC |
| Cas-FP | GACCACGACGGGGATTACAA |
| Cas-RP | CCTCGTCGACAATGTTGCC |
| *Vir*-FP | TCGGGCACCGTCAGCTTGACG |
| *Vir*-RP | GTTAAGAAGATCGCCTATTGT |

**Table S2 Hairy roots induction frequency at different cotyl sites by *A. rhizogenes* strain K599**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Injection site | Accession name | *Citrullus* genus | No. of plants  (two true leaf stage) | No. of plants with hairy roots | Hairy roots induction  Proportion (%) |
| Epicotyl | Calhoun Gray | CL-cultivar | 21 | 6 | 28.57 |
| G5F | CL-cultivar | 18 | 12 | 66.67 |
| Changmibao | CL-cultivar | 20 | 7 | 35.00 |
| Hypocotyl | Calhoun Gray | CL-cultivar | 21 | 9 | 42.86 |
| G5F | CL-cultivar | 18 | 13 | 72.22 |
| Changmibao | CL-cultivar | 20 | 13 | 65.00 |

**Table S3 Hairy roots induction frequency at different developmental stages by *A. rhizogenes* strain K599**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Plant development stage | Accession name | *Citrullus* genus | No. of plants | No. of plants with hairy roots | Hairy roots induction  proportion (%) |
| Cotyledon stage | Calhoun Gray | CL-cultivar | 10 | 5 | 60.00 |
| G5F | CL-cultivar | 10 | 5 | 50.00 |
| Changmibao | CL-cultivar | 10 | 4 | 40.00 |
| Two true leaf stage | Calhoun Gray | CL-cultivar | 10 | 7 | 70.00 |
| G5F | CL-cultivar | 9 | 8 | 88.89 |
| Changmibao | CL-cultivar | 9 | 6 | 66.67 |
| Four true leaf stage | Calhoun Gray | CL-cultivar | 10 | 6 | 60.00 |
| G5F | CL-cultivar | 7 | 6 | 85.71 |
| Changmibao | CL-cultivar | 9 | 5 | 55.56 |

**Table S4 Hairy roots induction frequency at different accessions by *A. rhizogenes* strain K599**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Accession name | *Citrullus* genus | No. of plants  (two true leaf stage) | No. of plants with  hairy roots | Hairy roots induction  proportion (%) |
| Calhoun Gray | CL\_cultivar | 21 | 14 | 66.67 |
| G5F | CL\_cultivar | 18 | 14 | 77.78 |
| Changmibao | CL\_cultivar | 20 | 15 | 75.00 |
| Baiguazi | CL\_landrace | 20 | 14 | 70.00 |
| Qingbaojin | CL\_landrace | 19 | 12 | 63.16 |
| Taojin | CL\_landrace | 21 | 11 | 52.38 |
| PI185635 | CM | 17 | 13 | 76.47 |
| PI186975 | CM | 16 | 13 | 81.25 |
| PI542119 | CA | 13 | 5 | 38.46 |
| PI185636 | CA | 22 | 12 | 54.55 |
| YL | CA | 16 | 7 | 43.75 |