**S2 Table. Genotypes of M1 to M15 in 24 LYP9 (F1) individuals.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | PH(cm) | M1\* | M2 | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M10 | M11 | M12 | M13 | M14 | M15 | Type |
| H12 | 146 | H | H | H | H | H | H | H | H | P | H | H | H | H | H | H | Type1 (NCO-GC) |
| H15 | 161 | H | H | H | H | H | H | H | H | P | H | H | H | H | H | H | Type1 (NCO-GC) |
| H22 | 165 | H | H | H | H | H | H | H | H | P | H | H | H | H | H | H | Type1 (NCO-GC) |
| H1 | 132 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H2 | 135 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H3 | 139 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H4 | 156 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H6 | 161 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H7 | 163 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H8 | 151 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H9 | 157 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H10 | 136 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H11 | 136 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H13 | 133 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H14 | 155 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H16 | 154 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H19 | 155 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H20 | 144 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H21 | 151 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H23 | 149 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H24 | 160 | H | H | H | H | H | H | H | H | P | P | P | P | P | P | P | Type4 (CO) |
| H17 | 144 | P | P | P | P | P | P | P | H | P | P | P | P | P | P | P | Type8 (CO-GC) |
| H18 | 138 | P | P | P | P | P | P | P | H | P | P | P | P | P | P | P | Type8 (CO-GC) |
| H5 | 156 | H | H | H | H | H | H | H | H | P | P | P | H | P | P | P | Type8 (CO-GC) |
| C1 | 118 | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | Non-recombinant |
| C2 | 106 | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | Non-recombinant |
| C3 | 112 | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | Non-recombinant |

Lines H1 to H24 are 24 tall LYP9 F1 individuals, which were screened from ~1,100,000 LYP9 individuals, and C1 to C3 are three randomly selected F1s with semi-dwarf statures. We detected a total of 3 NCO-GCs, 18 CO s, and 3 CO-GCs in 24 tall LYP9 F1 individuals. DNA was extracted from the flag leaf of each individual, and amplification was carried out by primers listed in S5, then genotypes were identified by Sanger sequencing. P, N and H stand for genotypes of homozygous PA64s, homozygous 93-11 and heterozygous PA64s/93-11, respectively. Two markers (M8 and M9) on the *SD1* gene are marked by grey background. PH, plant height. CO, crossover. NCO-GC, non-crossover gene conversion. CO-GC, crossover associated gene conversion. \* M1 to M15 indicate the 15 markers described in Fig. 2.