**Table S2** Information for allele-specific markers developed from known genes influencing flour color-related traits

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gene | Chromosome | Marker | Allele | Fragment size (bp) | Phenotype |
| Phytoene synthase | 7AL | *YP7A* | *Psy-A1a/Psy-A1c* | 194 | Higha |
| *Psy-A1b* | 213 | Lowa |
|  | 7BL | *YP7B* | *Psy-B1a* | 151 | Higha |
|  |  |  | *Psy-B1b* | 156 | Lowa |
| Phytoene desaturase | 4B | *YP4B-1* | *TaPds-B1b* | 562 | Higha |
| *YP4B-2* | *TaPds-B1a* | 382 | Lowa |
| Lycopene ε-cyclase | 3A | *e-LCY3A-3* | *e-LCY3Aa* | 537 | - |
| *e-LCY3Ab* | 309 & 230 |
| 3B | *YP3B-1* | *Ta**Lcye-B1a* | 635 | - |
| *TaLcye-B1b* | No |
| 1B•1R translocation | 1B•1R | *H20* | Present | 1598 | Higha |
|  |  | Absent | No | Lowa |
| Lipoxygenase | 4BS | *LOX16* | *Lox-B1a* | 489 | Highb |
| *LOX18* | *Lox-B1b* | 791 | Lowb |
| Puroindoline b | 5D | *Pinb-D1b1/2* | *Pinb-D1a*  *Pinb-D1b* | No  250 | - |

a Yellow pigment content, high or low following previous studies

b Enzyme activity, high or low following previous studies

- Unknown