

FILE S1**Supporting Methods**

Isolation and sequences determination of the genomic DNA for *F3'5'H* genes: For the isolation of *F3'5'H* pseudo-gene, $\beta^3'5'h2$, inverse PCR was carried out with primers No. 1 and 7 for the 1st, and No. 2 and 8 for the 2nd amplification using as a template self-ligated genomic DNA from 'JKP' which had been digested by *MboI*. Primers No.7 and 8 were based on the highly conserved region among P450 or *F3'5'H* genes. The product was cloned and its sequence enabled the design of primers No. 9, 10 and 11, which were used in inverse PCR (with primers No. 2 and 9 for the 1st and No. 10 and 11 for the 2nd amplification) on self-ligated *XbaI*-digested genomic DNA of 'JKP'. The sequence of the resulting 5 kb product provided information to design primers No. 12 and 13 that were used in PCR reactions on genomic DNA from 'JKP' and '72218' to compare their $\beta^3'5'h2$ alleles (primers No. 5 and 12 for the 1st and No. 5 and 13 for the 2nd amplification). The third copy of *F3'5'H* pseudo-gene, $\beta^3'5'h3$, was isolated after a series of inverse PCR reactions that yielded sequence to design primers that were used in subsequent rounds. Inverse PCRs were done on *HincII*-digested genomic DNA followed by self-ligation with primers No. 14 and 15 and then self-ligated *EcoRI*-digested DNA with a primer set of No. 16 and 17 for the 1st followed by a set of No. 17 and 18 for the 2nd amplification. The penultimate round of inverse PCR was performed on *HindIII*-digested and self-ligated DNA with primers No. 18 and 19 for the 1st, and No. 20 and 21 for the 2nd amplifications. Finally, primers could be designed (No. 22 and 23 for the 1st and No. 18 and 24 for the 2nd amplification) to amplify $\beta^3'5'h3$ from both 'JKP' and '72218' genomic DNAs as templates (see Figure S1). The extension time in all PCRs was 5 min.