

Table S4 - Hilum colors and HD8.386 indel marker analysis results of 86 soybean cultivars.The genotype of each *I* and putative *HC* loci were determined by indel marker analysis.

| No. | Cultivar | Hilum color | HD8.386 | Genotype | No. | Cultivar | Hilum color | HD8.386 | Genotype |
|-----|--------------------------------------|-----------------|----------|---|-----|-------------|-----------------|----------|---|
| 1 | HwangKeum (<i>I</i>) | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 44 | JangYeop | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 2 | Williams 82 (<i>iⁱ</i>) | Black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 45 | JinMi | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 3 | Enrei (<i>I</i>) | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 46 | JinPum | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 4 | AlChan | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> | 47 | JinPum 2 | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 5 | AnPyeong | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 48 | JoNam | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 6 | BaekCheon | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 49 | KeunOl | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 7 | BaekUn | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> | 50 | ManRi | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 8 | BangSa | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> | 51 | ManSu | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 9 | BoGwang | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 52 | MiYang | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 10 | BoSeok | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> | 53 | MuHan | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 11 | BuGwang | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> | 54 | MyeongJu | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 12 | ChengDu 1 | Black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 55 | NamHae | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 13 | DaChae | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 56 | NamPoong | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 14 | DaeHwang | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 57 | PalDal | Black | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 15 | DaeMang | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 58 | PalDo | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 16 | DaeMang 2 | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 59 | PoongSan | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 17 | DaePoong | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> | 60 | PoongWon | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 18 | DaeWon | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 61 | SamNam | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 19 | DaeYang | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 62 | SangWon | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 20 | DaGi | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> | 63 | SeaByeol | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 21 | DaJang | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 64 | SeaOl | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 22 | DaJin | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 65 | SeokYang | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 23 | DanBack | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> | 66 | SeoNam | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 24 | DanMi | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 67 | SeonYu | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 25 | DanWon | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 68 | SinGang | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 26 | DeokKyu | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 69 | SinGi | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 27 | DoReMi | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 70 | SinHwa | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 28 | DuYu | Black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 71 | SinPalDal | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 29 | EunHa | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 72 | SinPalDal 2 | Black | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 30 | GeumGang | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 73 | SinRok | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 31 | GwangAn | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 74 | SoBack | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 32 | GwangGyo | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 75 | SoDam | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 33 | HanNam | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 76 | SoGang | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 34 | HoJang | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 77 | SoHo | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 35 | HoSeo | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> | 78 | SoHwang | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 36 | HwaEom | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 79 | SoJin | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 37 | HwaSeong | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> | 80 | SoMyeong | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 38 | IkSan | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 81 | SongHak | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 39 | IlMi | Brown | Deletion | <i>iⁱ</i> + <i>i^h</i> | 82 | SoRok | Black | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 40 | JangGi | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> | 83 | SoWon | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 41 | JangGyeong | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 84 | TaeGwang | Yellow | - | <i>iⁱ</i> + <i>I^h</i> |
| 42 | JangSu | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> | 85 | WonGwang | Imperfect black | Deletion | <i>iⁱ</i> + <i>i^h</i> |
| 43 | JangWon | Yellow | - | <i>iⁱ</i> + <i>I^h</i> | 86 | WonHwang | Buff | Deletion | <i>iⁱ</i> + <i>i^h</i> |