

**Diversity and validation of microsatellite markers in *Saltol*-QTL region in contrasting rice genotypes for salt tolerance at the early vegetative stage**

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**Supplementary Table 1.** List of germplasm with plant growth, ion content in shoot, tolerance reaction (based on SES score) and their assignment to UPGMA clusters based on data on phenotypic traits under salt stress

| Sl no | Common name *       | Status of germplasm | Dry wt (mg) | Na <sup>+</sup> conc. (µg mg <sup>-1</sup> ) | K <sup>+</sup> conc. (µg mg <sup>-1</sup> ) | Shoot length (cm) | Increment of shoot (%) | Root length (cm) | Na <sup>+</sup> -K <sup>+</sup> ratio in shoot | Salt-tolerance reaction | Cluster position |
|-------|---------------------|---------------------|-------------|--|---|-------------------|------------------------|------------------|--|-------------------------|------------------|
| 1     | Rupshal             | LR                  | 46.40       | 91.52  | 236.67                                      | 31.51             | 48.35                  | 16.19            | 0.39   | MT                      | I                |
| 2     | Matla               | LR                  | 38.18       | 70.52  | 218.67                                      | 24.05             | 33.68                  | 14.09            | 0.33   | MT                      |                  |
| 3     | Murishal            | LR                  | 36.00       | 79.52  | 238.92                                      | 26.25             | 40.57                  | 16.05            | 0.33   | MT                      |                  |
| 4     | Kumrogour (AC43233) | LR                  | 28.04       | 85.52  | 198.42                                      | 24.90             | 36.64                  | 11.66            | 0.44   | MT                      |                  |
| 5     | Kanakchur (AC43231) | LR                  | 43.10       | 93.77  | 205.17                                      | 29.35             | 59.54                  | 10.93            | 0.46   | MS                      | II               |
| 6     | Kalomota (AC43216)  | LR                  | 29.20       | 102.77                                       | 243.42                                      | 28.17             | 43.76                  | 12.81            | 0.43   | MS                      |                  |
| 7     | Sadamota (AC43221)  | LR                  | 31.20       | 97.52  | 223.17                                      | 27.05             | 41.24                  | 13.15            | 0.44   | MS                      |                  |
| 8     | Nadashal (AC43225)  | LR                  | 32.20       | 117.77                                       | 214.17                                      | 26.51             | 40.32                  | 11.52            | 0.56   | MS                      |                  |
| 9     | Patnai (AC43220)    | LR                  | 59.10       | 54.77  | 252.42                                      | 33.79             | 51.37                  | 13.43            | 0.22   | MT                      | III              |
| 10    | SR 26B              | CV                  | 52.00       | 70.52  | 270.42                                      | 31.55             | 52.64                  | 14.95            | 0.26   | MT                      |                  |
| 11    | Hasawi              | LR                  | 40.53       | 56.27  | 245.67                                      | 30.47             | 45.58                  | 12.06            | 0.23   | MT                      |                  |
| 12    | Kamini              | LR                  | 31.60       | 71.27  | 283.92                                      | 29.23             | 59.47                  | 13.32            | 0.25   | MT                      |                  |
| 13    | FL496               | RIL                 | 42.00       | 66.77  | 304.17                                      | 28.85             | 55.15                  | 15.40            | 0.22   | T                       |                  |
| 14    | FL478               | RIL                 | 58.64       | 58.52  | 297.42                                      | 29.44             | 59.80                  | 10.74            | 0.20   | T                       |                  |





|            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |   |  |  |
|------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---|--|--|
|            |      |      |      | 9    | 3    |      |      | 3    |      | 5    | 7    | 9    | 4    |      | 5    |      | 1    | 6    | 6    | 2    | 5    |      |      |      |      |      |      |      |      |   |  |  |
| Salibahana | 2.35 | 4.6  | 5.74 | 5.18 | 3.74 | 7.52 | 2.02 | 2.18 | 2.91 | 5.89 | 3.64 | 3.92 | 1.84 | 4.72 | 3.28 | 4.03 | 1.53 | 2.71 | 6.49 | 4.89 | 2.94 | 5.44 | 1.82 | 1.83 | 2.27 | 0    |      |      |      |   |  |  |
| Haynath    | 2.43 | 5.64 | 6.81 | 6.28 | 4.31 | 8.64 | 1.55 | 2.94 | 3.66 | 7    | 4.81 | 5.1  | 1.88 | 5.99 | 4.35 | 5.16 | 1.04 | 3.59 | 7.69 | 5.91 | 3.71 | 6.63 | 2.77 | 2.83 | 2.84 | 1.83 | 0    |      |      |   |  |  |
| PokAC41585 | 3.6  | 6    | 7.11 | 6.6  | 4.61 | 8.92 | 1.85 | 3.11 | 3.82 | 7.27 | 4.84 | 5.26 | 1.76 | 6.13 | 4.7  | 5.41 | 1.14 | 3.6  | 7.97 | 6.22 | 3.97 | 6.89 | 2.81 | 3.02 | 3.09 | 2.01 | 0.65 | 0    |      |   |  |  |
| Hasawi     | 1.21 | 2.18 | 3.66 | 2.84 | 2.44 | 5.41 | 2.79 | 2.3  | 1.9  | 3.68 | 2.38 | 1.97 | 3.72 | 2.89 | 1.12 | 1.65 | 3.69 | 3.03 | 4.22 | 2.49 | 1.84 | 3.48 | 2.8  | 1.59 | 2.15 | 2.7  | 3.69 | 4.03 | 0    |   |  |  |
| CheAC39389 | 1.76 | 1.77 | 2.69 | 2.15 | 2.68 | 4.33 | 3.96 | 3.31 | 2.66 | 2.68 | 1.74 | 0.53 | 4.73 | 1.34 | 1.84 | 1.12 | 4.95 | 4.04 | 3.29 | 1.61 | 2.84 | 2.5  | 3.39 | 2.65 | 3.51 | 3.85 | 5.04 | 5.24 | 1.76 | 0 |  |  |

**Supplementary Table 3.** Primers in the *Saltol* QTL region tested for polymorphism in rice genotypes

| Primer name | Marker position on Chromosome 1 (Mb)/ gene bank accession | Motif               | Forward (5'-3')           | Reverse (5'-3')         | Polymorphism (%) / reaction | Number of alleles | Size range of alleles (bp) | PIC  | MI   |
|-------------|---|---------------------|---------------------------|-------------------------|-----------------------------|-------------------|----------------------------|------|------|
| RM10682     | 10.8  | (AG) <sub>17</sub>  | CCATTTGCAGTATGAACCATGC    | ATCATGCAATAGCCGGTAGAGG  | 100                         | 4                 | 180-220                    | 0.37 | 0.43 |
| RM8094      | 11.2  | (AT) <sub>31</sub>  | AAGTTTGTACACATCGTATACA    | CGCGACCAGTACTACTACTA    | 66                          | 2                 | 170-210                    | 0.17 | 0.13 |
| RM10719     | 11.35   | (CCG) <sub>8</sub>  | GAGGACGAAGGAGAAGGACAAGG   | CGAGCCCATCTGATGTGAGACC  | 100                         | 3                 | 160-490                    | 0.30 | 0.38 |
| RM10720     | 11.4  | (TA) <sub>34</sub>  | GCAAACGTCTACGTGAGAAACAAGC | GCATGTGGTGCCTTAACATTTGG | 100                         | 4                 | 185-250                    | 0.30 | 0.30 |
| RM10745     | 11.7  | (TATG) <sub>9</sub> | TGACGAATTGACACACCGAGTACG  | ACTTCACCGTCGGCAACATGG   | 100                         | 4                 | 190-205                    | 0.34 | 0.34 |
| RM10772     | 12.1  | (AAG) <sub>16</sub> | GCACACCATGCAAATCAATGC     | CAGAAACCTCATCTCCACCTTCC | 100                         | 4                 | 385-430                    | 0.26 | 0.28 |
| RM10777     | 12.25   | (AAG) <sub>9</sub>  | GTACGTAAACGCGGAAGGTGACG   | CGACGTACGAGATGCCGATCC   | 100                         | 5                 | 180-230                    | 0.30 | 0.30 |
| RM3412      | 11.5  | (CT) <sub>17</sub>  | AAAGCAGGTTTTCTCTCTCC      | CCCATGTGCAATGTGTCTTC    | 100                         | 6                 | 200-270                    | 0.29 | 0.32 |
| RM23        | 10.7  | -                   | CATTGGAGTGGAGGCTGG        | GTCAGGCTTCTGCCATTCTC    | NCR                         | -                 | -                          | -    | -    |
| RM10711     | 11.15   | (GAG) <sub>9</sub>  | GCTTCGATCGATGAGAAAGTAGAGG | GAATCTCCCATCCTTCCCTTCC  | NCR                         | -                 | -                          | -    | -    |





**Supplementary Table 5.** Allelic diversity using microsatellite markers at the *Saltol* QTL region (and the region adjacent to it) of parents and derived lines from Annapurna × FL 478.

|                      | Microsatellite primers                     |        |        |        |         |         |         |         |         |       |        |         |      |
|----------------------|--|--------|--------|--------|---------|---------|---------|---------|---------|-------|--------|---------|------|
|                      | RM6515                                     | RM1287 | RM8094 | RM3412 | RM10740 | RM10772 | RM10773 | RM10777 | RM10780 | RM140 | RM7075 | RM11008 | RM24 |
|                      | Position on short arm of chromosome 1 (Mb) |        |        |        |         |         |         |         |         |       |        |         |      |
|                      | 3.1  | 10.8   | 11.2   | 11.5   | 11.6    | 12.1    | 12.15   | 12.25   | 12.25   | 12.4  | 15.1   | 18      | 18.9 |
|                      | Band position (bp) in agarose gel          |        |        |        |         |         |         |         |         |       |        |         |      |
| A allele (Annapurna) | 220  | 22     | 280    | 220    | 240     | 490     | 400     | 190     | 360     | 310   | 180    | 220     | 160  |
| B allele (FL478)     | 200  | 200    | 190    | 200    | 220     | 390     | 450     | 200     | 310     | 295   | 150    | 240     | 140  |
| Breeding lines       |  |        |        |        |         |         |         |         |         |       |        |         |      |
| AF1                  | A  | B      | B      | B      | B       | B       | B       | B       | B       | B     | B      | B       | B    |
| AF2                  | A  | A      | A      | A      | A       | C       | A       | A       | A       | A     | A      | A       | A    |
| AF3                  | A  | B      | B      | B      | B       | B       | B       | B       | B       | B     | B      | B       | B    |
| AF4                  | B  | A      | A      | A      | A       | C       | A       | C       | A       | A     | A      | A       | A    |
| AF5                  | A  | B      | C      | C      | A       | C       | B       | C       | C       | A     | C      | B       | B    |
| AF6                  | A  | A      | A      | B      | B       | B       | B       | B       | B       | B     | B      | B       | B    |
| AF7                  | A  | A      | C      | C      | A       | B       | B       | C       | B       | B     | C      | A       | A    |
| AF8                  | A  | B      | B      | B      | B       | B       | B       | C       | B       | B     | B      | B       | B    |
| AF9                  | C  | A      | A      | A      | A       | A       | A       | A       | A       | A     | A      | A       | A    |
| AF10                 | A  | A      | A      | A      | C       | C       | C       | A       | C       | C     | C      | A       | A    |
| AF11                 | B  | B      | B      | B      | B       | B       | B       | B       | B       | B     | B      | B       | B    |
| AF12                 | C  | B      | B      | B      | B       | B       | C       | B       | B       | B     | B      | B       | B    |
| AF13                 | C  | A      | A      | A      | A       | A       | A       | A       | A       | U     | A      | A       | A    |
| AF14                 | C  | A      | A      | B      | A       | C       | B       | A       | C       | B     | C      | B       | A    |
| AF15                 | C  | C      | C      | B      | B       | C       | B       | C       | C       | B     | C      | B       | C    |
| AF16                 | A  | C      | C      | A      | B       | B       | B       | B       | B       | B     | C      | B       | B    |
| AF17                 | B  | B      | B      | B      | B       | B       | B       | B       | B       | B     | B      | B       | B    |
| AF18                 | C  | A      | A      | A      | A       | C       | A       | A       | A       | A     | A      | A       | A    |

|      |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AF19 | A | B | B | B | B | B | B | B | B | B | B | B | B |
| AF20 | A | B | A | A | B | B | B | B | B | B | B | B | B |
| AF21 | B | C | B | C | B | C | C | B | C | B | C | A | A |
| AF22 | A | A | A | A | A | B | B | B | B | B | B | B | B |
| AF23 | A | B | A | A | A | B | B | B | B | B | B | A | B |
| AF24 | A | B | C | A | A | B | B | C | B | B | B | B | A |
| AF25 | A | B | B | A | A | B | B | B | B | B | B | B | B |
| AF26 | A | A | A | A | A | A | A | A | A | A | C | B | C |
| AF27 | A | C | A | A | A | B | B | B | B | B | B | B | B |
| AF28 | B | B | B | B | B | B | B | B | B | B | B | B | B |
| AF29 | C | B | B | B | B | B | B | B | B | B | B | B | B |
| AF30 | C | C | B | A | B | B | B | B | B | B | B | B | B |
| AF31 | A | B | B | B | B | B | B | B | B | B | B | B | B |
| AF32 | A | B | B | B | C | B | B | B | B | B | B | B | B |
| AF33 | B | A | A | A | A | C | B | A | A | A | A | B | A |
| AF34 | A | A | A | A | A | B | B | B | B | B | B | A | B |
| AF35 | C | A | A | A | A | B | B | B | B | B | B | B | B |
| AF36 | B | A | A | A | A | B | B | C | B | B | B | B | B |
| AF37 | A | A | A | A | A | B | B | B | B | B | B | B | B |

Footnote: A: Annapurna allele, B: FL478 allele, C: heterozygote for both the alleles, U: unidentified /no reaction

**Supplementary Table 6.** Phenotypic description of derived lines from Annapurna × FL478 cross under salinity stress (at 6-8 dSm<sup>-1</sup>).

|       | Genotypes              | SES score | Survival (%) | Plant height (cm) | Maturity duration (days) | Yield under stress (g sq. m <sup>-1</sup> ) |
|-------|------------------------|-----------|--------------|-------------------|--------------------------|---|
| ANN   | Annapurna              | 9         | 30           | 81                | 105                      | 130   |
| FL478 | FL 478                 | 3         | 80           | 98                | 115                      | 190   |
| AF1   | CR 2815-4-23-5-S-2-1-1 | 3         | 90           | 84.3              | 102                      | 662   |
| AF2   | CR 2815-2-4-2-1-1-1    | 3         | 95           | 85.3              | 103                      | 685   |
| AF3   | CR 2815-4-23-5-S-1-1-1 | 3         | 92           | 85.3              | 104                      | 650   |



|      |                        |   |     |      |     |     |
|------|------------------------|---|-----|------|-----|-----|
| AF4  | CR 2815-5-1-3-5-1-2-1  | 3 | 100 | 86   | 109 | 695 |
| AF5  | CR 2815-4-27-4-S-1-1-1 | 3 | 100 | 82.3 | 110 | 632 |
| AF6  | CR 2815-5-6-1-S-1-1-1  | 5 | 80  | 73.7 | 111 | 174 |
| AF7  | AC35319                | 3 | 80  | 135  | 113 | 315 |
| AF8  | CR 2815-5-6-1-S-1-1-1  | 5 | 80  | 73.7 | 111 | 174 |
| AF9  | CR 2815-4-23-1-S-2-1-1 | 5 | 99  | 75.7 | 109 | 446 |
| AF10 | CR 2815-5-1-3-S-1-2-1  | 3 | 100 | 86   | 109 | 737 |
| AF11 | CR 2815-4-3-1-1-1-1    | 5 | 100 | 82.7 | 107 | 425 |
| AF12 | CR 2815-4-26-1-S-5-2-1 | 3 | 86  | 75.7 | 103 | 507 |
| AF13 | CR 2815-2-4-2-1-1-1    | 3 | 95  | 85.3 | 103 | 690 |
| AF14 | CR 2815-2-4-2-2-1-1    | 3 | 93  | 82.3 | 105 | 680 |
| AF15 | CR 2815-4-25-1-S-4-1-1 | 5 | 98  | 73.7 | 106 | 443 |
| AF16 | CR 2815-4-27-4-S-2-1-1 | 3 | 100 | 82.3 | 108 | 595 |
| AF17 | CR 2815-4-26-5-S-2-1-1 | 3 | 98  | 85.3 | 105 | 535 |
| AF18 | CR 2815-5-1-3-S-1-2-2  | 3 | 95  | 88   | 108 | 683 |
| AF19 | CR 2815-4-23-8-S-4-2-1 | 5 | 78  | 70   | 105 | 203 |
| AF20 | CR 2815-3-12-1-1-1-1   | 5 | 92  | 67.3 | 111 | 229 |
| AF21 | CR 2815-2-3-2-2-1-1    | 5 | 82  | 82.6 | 103 | 135 |
| AF22 | CR 2815-4-23-7-S-1-2-1 | 5 | 100 | 71.3 | 107 | 371 |
| AF23 | CR 2815-4-23-7-S-1-1-1 | 5 | 91  | 75   | 105 | 275 |
| AF24 | CR 2815-4-3-1-1-1-2    | 5 | 100 | 82.7 | 107 | 425 |
| AF25 | CR 2815-4-23-5-1-1-1   | 5 | 86  | 72   | 112 | 345 |
| AF26 | CR 2815-4-26-1-S-2-2-1 | 3 | 87  | 91   | 110 | 568 |
| AF27 | CR 2815-4-27-4-1-1-1   | 3 | 100 | 84.7 | 107 | 511 |
| AF28 | CR-2815-4-7-1-1-1-1    | 3 | 97  | 81.7 | 105 | 641 |
| AF29 | CR 2815-4-7-2-1-1-1    | 3 | 95  | 84.3 | 107 | 622 |
| AF30 | CR 2815-4-23-1-S-2-1-1 | 5 | 99  | 75.7 | 109 | 446 |
| AF31 | CR 2815-4-23-1-S-3-1-1 | 5 | 88  | 75.3 | 111 | 402 |
| AF32 | CR 2815-4-23-7-S-2-1-1 | 5 | 95  | 73.5 | 107 | 426 |
| AF33 | CR 2815- 4-26-2-1-1-1  | 3 | 97  | 84.3 | 110 | 722 |

|      |                        |   |     |      |     |     |
|------|------------------------|---|-----|------|-----|-----|
| AF34 | CR 2815-4-26-1-S-4-1-1 | 3 | 100 | 77   | 107 | 672 |
| AF35 | CR 2815-4-27-4-S-2-1-1 | 3 | 100 | 82.3 | 108 | 595 |
| AF36 | CR 2815-4-23-1-S-4-1-1 | 5 | 95  | 72.7 | 107 | 435 |
| AF37 | CR 2815-4-23-5-1-1-2   | 5 | 88  | 68   | 110 | 237 |

**supplementary Table 7.** List of microsatellite primers located inside and adjacent to the *Saltol* QTL region (1.0 Mb-25 Mb) on the short arm of chromosome 1, tested for polymorphism between Annapurna and FL 478.

|    | Primer  | Forward (5'-3')           | Reverse (5'-3')            |
|----|---------|---------------------------|----------------------------|
| 1  | RM10715 | GTAATCCATGCGATGGGACACG    | AGCGCGCATAATCCCTACTTTGG    |
| 2  | RM10716 | CCTTCTTGCCGCCAACCTAGTCC   | TTTGGCTGACATGACGCCTACG     |
| 3  | RM10718 | TAACTCGCCACCGATGATTTTCG   | CGACCAACGTGCAATAGTACAAGC   |
| 4  | RM10719 | GAGGACGAAGGAGAAGGACAAGG   | CGAGCCCATCTGATGTGAGACC     |
| 5  | RM10720 | GCAAACGTCTACGTGAGAAACAAGC | GCATGTGGTGCCTTAACATTTGG    |
| 6  | RM10724 | ACATTTCCAGGTTTGACTACGC    | TGTAAGTCTGGTCAAGCATTGAGG   |
| 7  | RM10725 | TGAGGCTACTTACCTACGATGTGC  | GTCTGACCGCACACATAACACC     |
| 8  | RM10726 | TGAGGCTACTTACCTACGATGTGC  | GTCTGACCGCACACATAACACC     |
| 9  | RM10727 | GCCACTTATCAAAGGACGGTTCC   | CGTGACGCCTTGGCAAATAGG      |
| 10 | RM10738 | CGTGCGAATGCGTGAGCTACC     | CAATGCCCTAAGCAACCAGATACTCC |
| 11 | RM10739 | CGTGCGAATGCGTGAGCTACC     | CAATGCCCTAAGCAACCAGATACTCC |
| 12 | RM10740 | TGATGGATCTCTGAGGTGTAAGAGC | TGCACTAATCTTTCTGCCACAGC    |
| 13 | RM10741 | AGGTCGCCTGAGTTTCATACCC    | TGTGCGGTTTAAGATAGAGTGAGC   |
| 14 | RM10742 | GTAGGAGCTCCACGCTAGTTTCC   | ACAACCTGGAAGGTACGGACAGG    |
| 15 | RM10744 | CCACGCACCCAGTATATCACACC   | ACATGCGCCCTCACTCTACG       |
| 16 | RM10745 | TGACGAATTGACACACCGAGTACG  | ACTTCACCGTCGGCAACATGG      |
| 17 | RM10746 | ATGACTCTTCGCCATTCCATAGC   | ACCATGGTCAGCCATCACTAGG     |
| 18 | RM10747 | TTTACCATTTCGTGCGCATTGG    | CAAACGCATCAAGCCATGAGACC    |
| 19 | RM10748 | CATCGGTGACCACCTTCTCC      | CCTGTCATCTATCTCCCTCAAGC    |
| 20 | RM10749 | CGATGTAGTCGATGTGGATCAGG   | TATGGTCGGATCAGCGTAAGTCC    |
| 21 | RM10750 | GTACGTAAATCGGGCGCTGACG    | GCTTGTGAGGCCTAATTTGAGTTGC  |
| 22 | RM10754 | GCAGTAGCAGCGGTAGGAGTAGC   | CCTGCTGCCTTGAATTGAACC      |
| 23 | RM10757 | GGCGTAGTTATGGTAGAGATTTTCG | AACAAATCTAGCGGCTGTTTCC     |
| 24 | RM10763 | AGATGTCGCCTGATCTTGCATCG   | GATCGACCAGGTTGCATTAACAGC   |
| 25 | RM10764 | AGATGTCGCCTGATCTTGCATCG   | GATCGACCAGGTTGCATTAACAGC   |
| 26 | RM10765 | AACCTGGTCGATCCGATAGC      | GGTTCCCAACCAGGATTAAGC      |
| 27 | RM10766 | CCGACCGACCAAAGATGATTTATCC | ACGTGCCAGCTGCAAGCTAATCC    |
| 28 | RM10770 | AATTTGCAGTTGGCATGGTTGG    | ATGGATGGGAATCCACGTATAGAGC  |
| 29 | RM10771 | AGCATCGTCTCGATGTTACAG     | CGAGTAGTTGTTGTCAGTTTGTACC  |
| 30 | RM10772 | GCACACCATGCAAAATCAATGC    | CAGAAACCTCATCTCCACCTTCC    |
| 31 | RM10773 | CCACCTATAGAAATAGGTCCATGC  | TAGAACATGTCACCATCCAAGG     |

|    |          |                            |                            |
|----|----------|----------------------------|----------------------------|
| 32 | RM10774  | GGTCTAGCAGCTCTCCCTTCG      | GCGATTTAGGAGCGTTTGTAAGG    |
| 33 | RM10776  | CCACGGTCAACAGAGAGATTCC     | TTTCACCGACGAGGCTATCG       |
| 34 | RM10777  | GTACGTAAACGCGGAAGGTGACG    | CGACGTACGAGATGCCGATCC      |
| 35 | RM10778  | CCTATATTACGCATGGCAACAACC   | AAAGAGGTGCATATCCTTCCATGC   |
| 36 | RM10779  | TATGTTGTCGCCCTTCAGAAAGC    | AGGAAGACTCCTTCGACGTTGC     |
| 37 | RM10780  | CTTGCAACAAGAGATGATGATGAGC  | CATGCTGAGAAATAGTACGCTTGG   |
| 38 | RM10782  | CTACTGATATGCCCCGTACCAACG   | CCAAACTGGAGTAGTATTAGGTGTGG |
| 39 | RM10791  | TCTTCAAGAACCGTGAACGTTTGG   | CTAATCGTCCCATTTCGCCTACACC  |
| 40 | RM10793  | GACTTGCCAACCTCTTCAATTCCG   | TCGTCGAGTAGCTTCCCTCTTACC   |
| 41 | RM8115   | TATATAGTAAATTTGTTTGGTGTAGG | ACAGATGGATATTATAAGAAGTAACA |
| 42 | RM10800  | CGTACGCCCTCACATCACCTTTCC   | CTCTCCGGGAGCTCACTTGTCC     |
| 43 | RM10825  | GGACACAAGTCCATGATCCTATCC   | GTTTCCTTCCATCCTTGTTC       |
| 44 | RM10843  | CACCTCTTCTGCCTCCTATCATGC   | GTTTCTTCGCGAAATCGTGTGG     |
| 45 | RM10884  | CAGGCTTGACGGACGACTCC       | ACGAACGTGAACGAGCTAGGG      |
| 46 | RM10871  | TGAGGCTGTAACGTAGACGATGAACC | AAGCCTGCTAGAGAGGCCCAACC    |
| 47 | RM10927  | TGGATCCCCTAATCCAAATGC      | GAAAGACTCCTTCCAATGTTAGGC   |
| 48 | RM6711   | TAGTGATAGGGGTGGTGTGG       | TTACAAGCATGGGAGTTGGG       |
| 49 | RM3252   | GGTAACTTTGTTCCCATGCC       | GGTCAATCATGCATGCAAGC       |
| 50 | RM10115  | ACAAGACGAGGTAACACGCAAGC    | GCGAAGGATCAACGATGATATGG    |
| 51 | RM575    | CAATTTCCATAGGCTGCATG       | GCTTGGGTTAGCGACGAC         |
| 52 | RM3412 b | TCATGATGGATCTCTGAGGTG      | GGGAGGATGCACTAATCTTTC      |
| 53 | RM10287  | GTATTCCTTGCTGCTGCTGATGG    | GACTGGAGATGTGATCGGAAACC    |
| 54 | RM11008  | TTTGATGGTCATTAGCCTCTGG     | ATCAACCTTGCATGCTGTCTTCC    |
| 55 | RM11300  | GGTGAGGGAGGTACCGAACTAGG    | AACTAGGGCGCTGGGAGAGG       |
| 56 | RM1349   | CGTTCCAATATTCAGACACAG      | TTTCCATCTCGAGAAGCTC        |
| 57 | RM7643   | TCCTCCTATTCGGTCGAAAC       | ACCAACGAAATACCGGCAC        |
| 56 | RM11757  | GCTTGTTGCCTGTGAACAGTAGC    | TGTCAGCATGCAACATCAATCC     |
| 59 | RM11874  | CCACTAGCAGATGATCACAGACG    | GAGCACCTCATAAGGGTTTCAGC    |
| 60 | RM472    | CCATGGCCTGAGAGAGAGAG       | AGCTAAATGGCCATACGGTG       |
| 61 | RM3482   | TTGTTGTCAAGCTACGGTGG       | CTGCTTCGTGATGTTGTTGG       |