A)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Marker** | **Position** | **Location** | **Genotyping Primers (5' – 3’)** | **Restriction** **enzyme** |
| **M1** | 120 | 5' UTR | CTACTCAAATGTCTTCGTCTTAGCCATTTGCG;AGCTCTGAGAGGGACAAGAT | *HhaI* |
|  |  |  |  |  |
| **M2** | 226 | 1st exon | GTCGACAAATTTGGAGAAGGG;CTCCAAATTTGTCGACGCATTTCCTCAGC | *PvuII* |
|  |  |  |  |  |
| **M3** | 746 | Second Intron | CGAAGCTGATCTCATTCTCAGGCTT;CGGCAGTGGTGGCTGGTGACTT | *HhaI* |
|  |  |  |  |  |
| **M4** | 975 | Second Intron | TTGGGTACTGACCTAGTTGG CGGCAGTGGTGGCTGGTGACTT | *NsiI* |
|  |  |  |  |  |
| **M5** | 1502 | Third Exon | CATTCGTTGGTGGAGCAACTTGCT;CTTTGGAGGAATAGTCCAAGT | *XbaI* |

B)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Marker** | ***M. guttatus*****Scaffold 3 Position** | ***M. guttatus*****Transcript** | **Annotation** | **Genotyping Primers** **(5' – 3’)** | **Restriction enzyme** |
| **D1** | 4208660-4210968 | *mgv1a007062m* | GTP-binding protein | GATAAGCCTCAGACTACTAGAC;GCATTTACGGCAGCACTTCGTAC | *AseI* |
|  |  |  |  |  |  |
| **D2** | 4213349-4216303 | *mgv1a006512m* | No functional annotation | GGATAGACTGATAGAACCTG;GAGATAGTTGTTCGCGTATCCTCTG | *BclI* |
|  |  |  |  |  |  |
| **D3** | 4218020-4220275 | *mgv1a006799m* | dihydroflavonol 4-reductase (DFR) | TGCAACTTTGTTCGCTTAAA;TCACCGTTCAGTGTTGGGTA | *ClaI* |
|  |  |  |  |  |  |
| **D4** | 4220577-4223597 | *mgv1a012119m* | Sugar 1-phoshpate guanyl transferase | TGTCCGACAACATACAAGAA;GAGCCTGAAGTACAGGATTG | *in/del*  |