

Supplemental Table1. Amplification and polymorphism detection with primer sets designed on the basis of candidate scaffolds

| Scaffold      | Sh-linked SNPs       |                                              |                               |       | Primer  |                           |         |                           | SegA |      |        |      | Seg3 |      |        |      | Seg4 |      |        |      | Name of marker           |
|---------------|----------------------|----------------------------------------------|-------------------------------|-------|---------|---------------------------|---------|---------------------------|------|------|--------|------|------|------|--------|------|------|------|--------|------|--------------------------|
|               | Scaffold length (bp) | Number of SNP sites covering four categories | Number of un-fitted SNP sites | Index | Forward | 5'-3' (Sequence)          | Reverse | 5'-3' (Sequence)          | Amp. | AluI | HaeIII | MspI | Amp. | AluI | HaeIII | MspI | Amp. | AluI | HaeIII | MspI |                          |
|               |                      |                                              |                               |       |         |                           |         |                           | +    | -    | -      | -    | +    | +    | -      | -    | +    | +    | -      | -    |                          |
| Fes_sc0042587 | 3700                 | 11                                           | 0                             | 1.000 | N1321   | ACCTCAGTCTTGTATTCGACCTC   | N1322   | CTCTAGTGCCTTGTCCACATGAGT  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0027977 | 7813                 | 28                                           | 2                             | 0.933 | N1323   | TTGGGGATTGCTAGTGTGTTA     | N1324   | AAAGGTAAAGACGCTCAAACCAAC  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0009902 | 21184                | 13                                           | 1                             | 0.929 | N1325   | TAGTGATGATCATGGAGGAGGTGT  | N1326   | TAATCAACAAACAAAGGCTCCGATA | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0023069 | 8961                 | 61                                           | 6                             | 0.910 | N1327   | ATAGGTGAGAGTGGATCTCCTTGG  | N1328   | ATTGGTAGTGACAAATTCACAGGT  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0023738 | 18257                | 79                                           | 11                            | 0.878 | N1329   | AGTTTTTGGAACTATGGGTGGTGT  | N1330   | AGCCCAAAATTGACCTAGAAGAC   | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0009355 | 38967                | 75                                           | 12                            | 0.862 | N1331   | AAGAATGAAGAAGCAAGAGTGCT   | N1332   | TGATATTGAAGGCCTCCATCTGA   | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0012458 | 17542                | 171                                          | 29                            | 0.855 | N1333   | GTTGAGCCACAGCTATGACTAGA   | N1334   | CAGCCCTAGTACAAAACCTGAGT   | +    | +    | -      | -    | +    | +    | -      | -    | +    | +    | -      | -    | STS-0012458              |
| Fes_sc0005589 | 35650                | 356                                          | 67                            | 0.842 | N1335   | TTGCTTTTGACGTCGTGTGAGTA   | N1336   | TCTCTGTAGAAGTGGCAAGTGG    | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0007596 | 34881                | 95                                           | 18                            | 0.841 | N1337   | CGGATATCAAGACCAAGATTACCC  | N1338   | CAACATATCATTGGTTCGTGGAAT  | +    | +    | -      | +    | +    | +    | -      | -    | +    | +    | -      | +    | STS-0007596              |
| Fes_sc0009952 | 38572                | 63                                           | 12                            | 0.840 | N1339   | CAGTGCAGTCATCAATGTAGTTCG  | N1340   | ATTGTTGTTAACGGCCATTTTCTT  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0003558 | 39809                | 68                                           | 13                            | 0.840 | N1341   | ATGCAAAAACGTGCTATTTACCTA  | N1342   | GACACGTTACAAAGTGCCTACTGG  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0032968 | 5934                 | 41                                           | 8                             | 0.837 | N1343   | AGGAAGAGAACAAGGTCGCTCTTA  | N1344   | TGGACTACTTGCCAAGCATCTTAC  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0032852 | 5968                 | 15                                           | 3                             | 0.833 | N1345   | AAGATGAGAAGAAGGGGTGTGTTT  | N1346   | TCCCTAACCTGCAAAAACATCTACA | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0005496 | 38936                | 169                                          | 34                            | 0.833 | N1347   | TCCAAGGTTAAAACGTAACAAACA  | N1348   | TCCACCTCTATCTCCATGCTCTT   | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0020215 | 21542                | 64                                           | 14                            | 0.821 | N1349   | CGGAACCTCATAGTCCCCTTAGAA  | N1350   | CATCATCAGCTGTCTCCTCCTCTA  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0029994 | 6887                 | 66                                           | 15                            | 0.815 | N1351   | AGGGTTGTGTAAGCCATGACTCA   | N1352   | ATCTTCGTAAGGCCTTTGTTTCG   | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0011452 | 18921                | 104                                          | 24                            | 0.813 | N1353   | ACTGATGGCCCTTTGTAAGTTC    | N1354   | CCGTAATGATTGACCGATAGAA    | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0012358 | 17654                | 204                                          | 48                            | 0.810 | N1355   | AATAGGTGTCACATTTGGTTGGTG  | N1356   | CTCTTTCACCCCATCTACCTTCAT  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0013167 | 16683                | 17                                           | 4                             | 0.810 | N1357   | AAAGAAGGAGAGGGGAAGAGAAAA  | N1358   | ACAACCATCCTCGATTAAGTCACA  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0010550 | 32675                | 264                                          | 63                            | 0.807 | N1359   | ACTCTCAGGGTCCGATTTGTTAAG  | N1360   | AAAGGAAGAACCAACCAAGAAG    | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0024135 | 8449                 | 54                                           | 13                            | 0.806 | N1361   | TCCCATTAGACCTCCTTTATCAGC  | N1362   | AACCAAAAAGATGTTGCCTTTTGT  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0009284 | 22324                | 195                                          | 47                            | 0.806 | N1363   | TGTAGCCCTTGAGAGAAGAGTGTG  | N1364   | CAAAATATTGACCGATCCATTTGA  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0000207 | 152832               | 223                                          | 54                            | 0.805 | N1365   | TTCTTCACGGATGACTTGACTCTC  | N1366   | AACCCATTGGCTAATGTCATCTTT  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0002966 | 43140                | 294                                          | 72                            | 0.803 | N1367   | AATTTGTTTCCGTTTACGTCGTTT  | N1368   | TTTGTGTTTCCCACTGTTTGTCT   | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0004974 | 33637                | 12                                           | 3                             | 0.800 | N1369   | AGAACTTCAACCTCAGCCTCAACT  | N1370   | ACATGGAATAGGAGGATCATTGGT  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0005004 | 33516                | 27                                           | 7                             | 0.794 | N1371   | TACTGCACAATAACTACGCGGTTT  | N1372   | ATATAAGGGAACCAAGCAGCAGAC  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0009032 | 40122                | 23                                           | 6                             | 0.793 | N1373   | GAGATGTGAGGAGAGAGGGAACC   | N1374   | AGCCTCGTAACATTGCAACATAAA  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0011090 | 19423                | 15                                           | 4                             | 0.789 | N1375   | TGCCACCAATGTTCTAGGAGTAAA  | N1376   | AAATCCAGAGGAGTCTTGTGTGAC  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0001805 | 62237                | 666                                          | 178                           | 0.789 | N1377   | AGGCAGAAAGAGAGATTTGTGTG   | N1378   | CTGCTTCTTTTATTGTTTCGAGCA  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0014148 | 15785                | 149                                          | 40                            | 0.788 | N1379   | ATTTGGGACAAATGAAAGAACAAT  | N1380   | TTAAGCTCAAAGTGGCCATAAACA  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0009740 | 29705                | 140                                          | 38                            | 0.787 | N1381   | AGATGAATACAAGACGGCATTTCA  | N1382   | CGGGTAGTCTCTCATACGTCTT    | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0020759 | 10290                | 11                                           | 3                             | 0.786 | N1383   | ACAGGTCAAGATAGAGCATTGCAG  | N1384   | TCTACATACGACTCTGGCGACTC   | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0006685 | 42813                | 205                                          | 56                            | 0.785 | N1385   | GCAGTCTAACAGGTGAGCATCTA   | N1386   | GGTCATCAAGACAAGCATAACAC   | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0002319 | 77685                | 417                                          | 114                           | 0.785 | N1387   | GAAAGATGAGCCTGTATCCCACT   | N1388   | CGAACCAAGGACTATGGTGAAC    | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0022315 | 9366                 | 18                                           | 5                             | 0.783 | N1389   | GAAATGCGAAAAGGAAGAAGTGT   | N1390   | AACCGTCTCAAAACTTAAAGGTC   | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0013658 | 16144                | 43                                           | 12                            | 0.782 | N1391   | GTTGTAGGAGGTGGACAAAGACCT  | N1392   | AAAGCTGGACTCATACCATCCTTC  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0013163 | 16687                | 161                                          | 45                            | 0.782 | N1393   | AAACGGTGTCTAGGACAAGGAAAG  | N1394   | AGACATCGACGAAAAACAACAAA   | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0006185 | 29393                | 46                                           | 13                            | 0.780 | N1395   | CGGAAGCTCAAAAACAACAACATC  | N1396   | AAGACCGAGAAAACGAAGAAATTG  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0007811 | 43587                | 312                                          | 89                            | 0.778 | N1397   | TCACGAAACCTAATCTTCTCCTC   | N1398   | CTTGATGAACCTGGGGTAGAGTTT  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0058516 | 1595                 | 21                                           | 6                             | 0.778 | N1399   | TGCCTTTGCTATGAAACCTAATGA  | N1400   | TATCTCCCAAGATTGTTTCCAT    | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0007304 | 26473                | 200                                          | 58                            | 0.775 | N1401   | ACTTGGCTCTAATCCAGTGTTC    | N1402   | GGGGCGTTAGCTAGTTATCTTTGA  | +    | -    | +      | +    | +    | -    | -      | -    | +    | -    | -      | +    | STS-0007304 <sup>a</sup> |
| Fes_sc0006886 | 27470                | 246                                          | 72                            | 0.774 | N1403   | AAAGATAACCGGCACAAATGTTTT  | N1404   | TTCTTGGCTTCTTCTGGCCTCAT   | +    | -    | +      | +    | +    | -    | +      | -    | +    | -    | +      | -    | STS-0006886              |
| Fes_sc0011278 | 19135                | 78                                           | 23                            | 0.772 | N1405   | AAGGTGGATGTCAAAGGTTCTAGC  | N1406   | GTTTCACTAGGGCCATCTCATCTT  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0036732 | 4839                 | 44                                           | 13                            | 0.772 | N1407   | CAGAACTGGACTGCTTCCATTA    | N1408   | GAAAGAGAAGGCGATGAAGAAGAC  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0014155 | 43792                | 159                                          | 48                            | 0.768 | N1409   | GTCAAGATGAGAGGAGTGATCGAA  | N1410   | CTTACACCGAACCACTAAAAATCC  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0013840 | 30706                | 171                                          | 52                            | 0.767 | N1411   | GTATGGACAGAGGTGCACAAAAAC  | N1412   | TACATTGCACCTTATGAGCTTGGT  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0003180 | 41922                | 160                                          | 49                            | 0.766 | N1413   | AAACTTGGCACGAGATTTGTGTTA  | N1414   | GTTTACCATATGCTCTGTGTTTCG  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0009336 | 37494                | 13                                           | 4                             | 0.765 | N1415   | AGGAAGGTTTTGAGTTGGAGTTG   | N1416   | GATAGACGCGATTTGTGCTATCAC  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0054172 | 1859                 | 16                                           | 5                             | 0.762 | N1417   | ATATTTCCATCAAAGGGTTGAAGA  | N1418   | AGCAGGAGGTGGAACATAAACTTC  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |
| Fes_sc0037667 | 4522                 | 19                                           | 6                             | 0.760 | N1419   | AATGGGTCTTTCGAAGTAAAGTTGG | N1420   | TGTCGAACCTATAGGAGTCTTTGC  | +    | -    | -      | -    |      |      |        |      |      |      |        |      |                          |

+ Amplified fragments or detectable polymorphism; - no polymorphism; ± poor amplification and polymorphism detection (weak band or >2 bands); blank, not tested.  
<sup>a</sup> STS-0007304 showed polymorphic bands without any digestions.