

Supporting Information Table S1 Information of 188 SSR markers used in linkage analysis of *mn2-m1* in this study

| Marker | Name ^a | Motif | Chr. Bin | Forward Primer (5'-3') | Reverse Primer (5'-3') | Physical Position (bp) | P |
|-----------|-------------------|-------|----------|----------------------------|----------------------------|------------------------|---|
| bnlg1014 | | AG | 1.01 | CACGCTGTTTCAGACAGGAA | CGCCTGTGATTGCACTACAC | 7079849-7080009 | |
| umc1071 | | TACGA | 1.01 | AGGAAGACACGAGAGACACCGTAG | GTGGTTGTTCGAGTTCGTCTGATT | 7878600-7878713 | |
| umc2226 | | TGG | 1.02 | TGCTGTGCAGTTCTTGCTTCTTAC | AGCTTCACGCTCTTCTAGACCAAA | 22057442-22057529 | |
| bnlg1484 | | AG | 1.03 | GTAAAAGACGACGACATTCCG | GACGTGCACTCCGTTTAACA | 35267947-35268064 | |
| umc1479 | | AGA | 1.03 | CTGGCTCTTCAAGTGTAAGGAGG | GGCCTTTTTCTTAGCTTCCTCATC | 43358230-43358427 | |
| bnlg1866 | | AG | 1.03 | CCCAGCGCATGTCAACTCT | CCCCGGTAATTCAGTGGATA | 51903802-51903914 | |
| umc1917 | | CTG | 1.04 | ACTTCCACTTCACCAGCCTTTTC | GGAAAGAAGAGCCGCTTGGT | 63745297-63745438 | |
| umc2228 | | AGC | 1.04 | GTGAGGTGAAAATGAAGCTGGAAC | ACCATACCTCTCTGAACATGAGCC | 75378258-75378414 | |
| umc2025 | | AGCT | 1.05 | CGCCGTAGTATTTGGTAGCAGAAG | TCTACCGCTCCTTCGTCCAGTA | 93193678-93193806 | |
| bnlg1057 | | AG | 1.06 | TTCACCGCCTCACATGAC | GCAACGCTAGCTAGCTTTG | 192990681-192990924 | |
| umc1122 | | CGT | 1.06 | CACAACCTCCATCAGAGGACAGAGA | CTGCTACGACATACGCAAGGC | 204149535-204149696 | |
| bnlg1556 | | AG | 1.07 | ACCGACCTAAGCTATGGGCT | CCGGTTATAAACACAGCCGT | 211390201-211390353 | |
| umc1245 | | AGCAG | 1.07 | TGGTTATGTGCATGATTTTTCTG | CATGCGTCTGATCTTCAGAATGTT | 233337336-233337481 | |
| phi423298 | | CCG | 1.08 | GGGCTGCTACTTTGACAAGGAC | CCTCCATCATCCGCTGGTA | 237684047-237684180 | |
| umc2240 | | AC | 1.08 | CGCCTTTGTAACCCAGACTCATTA | CGGATGTTGCCAAGTACATCATATC | 252138180-252138322 | |
| phi011 | | AGC | 1.09 | TGTTGCTCGGTCACCATAACC | GCACACACACAGGACGACAGT | 262992745-262992972 | |
| umc1774 | | GT | 1.1 | ATGGGACTATGCATGGTATTTTGG | TACACCATACGTCACCAGGTTTAC | 283221017-283221170 | |
| umc1553 | | AG | 1.11 | TGAATGGAAGAGAAGGGAAATCTG | GCTCTGTACATCCTTAGCGACACA | 292175969-292176125 | |
| phi064 | | ATCC | 1.11 | CCGAATTGAAATAGCTGCGAGAACCT | ACAATGAACGGTGGTTATCAACACGC | 302190922-302191019 | |
| umc1819 | | CAAC | 1.12 | GCTGCTCTAAAATCATGCTGATAAAA | TATTCAGCAATGTATCCCCCTGT | 304071538-304071643 | |
| umc1605 | | GGC | 1.12 | GGAGAAGCACGCCTTCGTATAG | CCAGGAGAGAAATCAACAAAGCAT | 304199039-304199185 | |
| phi402893 | | AGC | 2 | GCCAAGCTCAGGGTCAAG | CACGAGCGTTATTCGCTGT | 475294-475514 | |

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| umc2246 | | CCTCCT | 2 | AGGCTCCAGCTCTAGGGGAGT | GTGAACTGTGTAGCGTGGAGTTGT | 957610-957755 | |
| phi96100 | | ACCT | 2.01 | AGGAGGACCCCAACTCCTG | TTGACGAGCCATCGTAT | 2812985-2813263 | |
| umc1165 | | TA | 2.01 | TATCTTCAGACCCAAACATCGTCC | GTCGATTGATTTCCCGATGTTAAA | 4004896-4005045 | |
| phi098 | | AG | 2.02 | GAGATCACCGGCTAGTTAGAGGA | GTATGGTTGGGTACCCGTCTTTCTA | 4277584-4277719 | |
| umc1261 | | TG | 2.02 | AGAAGTGCGTATGCTACAGTGGTG | CCTAGTGGTGGAGTTCTAGGCAA | 13851568-13851677 | |
| umc1518 | | TAT | 2.02 | TAGCTCCTTTGCGCTATTCACTCT | GGCAGTGTTTTCTTTTGAAGTGCT | 15192178-15192258 | |
| umc1185 | | GC | 2.03 | AGTAAAAGAGGCAAGGACTACGGC | GCGGCGATATATAACGAGTTGT | 22071419-22071554 | |
| bnlg2248 | | AG | 2.03 | CCACCACATCCGTTACATCA | ACTTTGACACCGGCGAATAC | 24435557-24435800 | |
| umc1024 | | GA | 2.04 | CCTTTTTTCGCCTCGCTTTTTTAT | TCGTCTGCTCCAATCATACTGTG | 30533723-30533894 | |
| bnlg1175 | | AG | 2.04 | ACTTGACGGTCTCGCTTAT | GCACTCCATCGCTATCTTCC | 44208669-44208837 | |
| bnlg1909 | | AG | 2.05 | CCTGACCCTGTTCTGAAAA | GTGTGTCTGGAGCTGTTCTGA | 49590702-49590872 | |
| umc1003 | | TAAA | 2.05 | AATAGATTGAATAAGACGTTGCC | TGTTCCAATGCTTTTGTACCTCTA | 111723292-111723409 | |
| umc1658 | | AC | 2.06 | AGAGATGGGGTAGAAATAGACGGC | CTCTCTGCTTTCTTCTCTTTCG | 168257146-168257281 | |
| nc003 | | AG | 2.06 | ACCCTTGCTTTACTGAAACACAACAGG | GCACACCGTGTGGCTGGTTC | 179168084-179168191 | |
| bnlg1633 | | AG | 2.07 | GTACCTCCAGGTTTACGCCA | TCAACTTCTCATGCACCCAT | 204817082-204817244 | |
| bnlg2077 | | AG | 2.07 | GACCAGAGGATGGGGAAATT | GTAGGCACATGCACATGAGG | 208916522-208916661 | |
| umc1526 | | TCG | 2.08 | TTTTACAAGCGTGAGAGCAAGAAA | AACTGTCTGGAACAAGAAACCGAG | 215376801-215376913 | |
| bnlg1940 | | AG | 2.08 | CCTTTTGTTCAGGCCGTTA | CAGCAGCCTGATGATGAACA | 225870808-225871022 | |
| bnlg1520 | | AG | 2.09 | TCCTCTTGCTCTCCATGTCC | ACAGCTGCGTAGCTTCTTCC | 230692469-230692638 | |
| umc1736 | | GCAT | 2.09 | CCATCCACCACTAGAAAAGAGAGGA | TTAATCGATCGAGAGGTGCTTTTC | 237891744-237891883 | |
| phi101049 | | AGAT | 2.1 | CCGGGAACCTTGTTTCATCG | CCACGTCCATGATCACACC | 243421854-243422090 | |
| umc2105 | | CCAT | 3 | ACATACATAGGCTCCCTTTTTCCG | TCCCGTGACACTCTCTTTCTCTCT | 751829-751988 | |
| umc2255 | | AGCA | 3.01 | GCTACGCTTAAGTATCACGGCAAC | CTGCTGAGGAGAAGTGATCCTGTT | 1001831-1001943 | |
| umc1394 | | AT | 3.01 | CCCGAGTCAGAAAAACATTCATT | CCTAACCTGAAGAAGGGAGGTCAT | 1699025-1699118 | |
| phi104127 | | ACCG | 3.01 | CTTTGCTGCTGCTTCCTACG | AACCAGTGACGTACACAAAGCA | 2712196-2712351 | |

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| umc1458 | | GCT | 3.02 | CCAATAAACAAATCATCTCCCCCT | TGCTATGCTATGTACAGGGACAGG | 3949519-3949609 | |
| umc1183 | | AG | 3.02 | GCATGTACACAACACAACCTTCA | ATGTCATTTTTGGCTTCTCGAAAT | 4148936-4149092 | |
| bnlg1325 | | AG | 3.03 | CTAAATGCGCAGCAGTAGCA | TGCTCTGCAACAACTTGAGG | 4749806-4749976 | |
| bnlg1523 | | AG | 3.03 | GAGCACAGCTAGGCCAAAAGG | CTCGCACGCTCTCTCTTCTT | 5053195-5053386 | |
| bnlg1904 | | AG | 3.04 | AGGAGCATGCACTTGGTTCT | ACTCAACTGATGGCCGATCT | 9812103-9812278 | |
| nc030 | | CT | 3.04 | CCCCTTGTCTTTCTTCCCTCC | CGATTAGATTGGGGTGCG | 17163486-17163588 | |
| umc1655 | | ACT | 3.04 | ACGCAAGTACAAAATTACTGCGGA | ATTAACGGCATGCTTGTAGCCTAA | 25809000-25809150 | |
| umc1600 | | TAA | 3.05 | CATATTGATAGGCTAGGCCAAATGGC | CAATACAAGTTTGGTCCCAAATAAGC | 126925142-126925291 | |
| bnlg1505 | | AG | 3.05 | GAAAGACAAGGCCAAGTTGG | GCTTCTGAACTGGATCGGAG | 153033814-153033982 | |
| bnlg1798 | | AG | 3.06 | AAGTTGGTGGTGCCAAGAAG | AAAAGGTCCACGTGAACAGG | 178090575-178090672 | |
| umc2268 | | CGC | 3.06 | ATCTCCCCACAGATCTCGCC | CTTGAAGGACTCCTGCTTGATCTC | 184712987-184713117 | |
| umc1399 | | CTAG | 3.07 | GCTCTATGTTATTCTTCAATCGGGC | GGTCGGTCGGTACTCTGCTCTA | 201469527-201469639 | |
| umc1844 | | TC | 3.08 | GGCATGGGTCTCTCATAAAGTCAT | CGACGTATATGGCTGAGAACCCTA | 210465572-210465707 | |
| bnlg1108 | | AG | 3.08 | GGATTCCTTTATGACGGGGT | AGTACAACCAAGGCATCGG | 214571759-214571894 | |
| umc1320 | | GAAC | 3.08 | TGCGAAATCTGTATACCATAGGCA | CTCTTTTAGCAGTGTGCCGAATTT | 217221798-217221896 | |
| bnlg1257 | | AG | 3.09 | CGGACGATCTTATGCAAACA | ACGGTCTGCGACAGGATATT | 221547824-221548045 | |
| bnlg1496 | | AG | 3.09 | CTGGGCAGACAGCAACAGTA | AGCCAAAGACATGATGGTCC | 227285747-227285903 | |
| umc1136 | | GCA | 3.1 | CTCTCGTCTCATCACCTTCCCT | CTGCATACAGACATCCAACCAAAG | 234431477-234431614 | |
| phi072 | | AAAC | 4 | ACCGTGCATGATTAATTCTCCAGCCTT | GACAGCGCGCAAATGGATTGAACT | 1284193-1284334 | |
| bnlg1370 | | AG | 4 | TATTTAATTTAGTGTGGAGCTCACG | CGAGGGTCAGTTGTTGCTCT | 2514725-2514928 | |
| umc1276 | | GGC | 4.01 | CTACCTTGTTTCTAGGGCCGTCTA | ACGCAATTATTACTGCCACACGTC | 3674158-3674259 | |
| bnlg1318 | | AG | 4.01 | TTATGTGTGCAGAACGACTCG | AGCATGGCAGAGAAGGTGAT | 5694252-5694398 | |
| umc2150 | | AAG | 4.02 | GTTGTTCACTTTCCAAAACCTTG | GCCTTGTGCTTCTTGGAGTGTT | 6142102-6142221 | |
| umc1509 | | TG | 4.02 | CTTTCTGCAGATTCACCGTTTCTT | TTGGTTCTTTTGACCATAGACAAGC | 6225371-6225498 | |
| nc004 | | AG | 4.03 | TGCGAAGAAGCAGTAGCAAA | TGGAGGTAGAAGACGCACG | 14333261-14333409 | |

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| umc1550 | | CT | 4.03 | CGGGGTAATTGGGTACATAACCTC | GTGCCTCCAACGCCTAGTTTTT | 15973865-15974002 | |
| umc1067 | | GCC | 4.04 | ACTTGTACTACGCAGGACAGTTCG | AGCCTCTGTCTGGATGACTGAAC | 22850799-22850956 | |
| umc1652 | | CCG | 4.04 | GAGAGCAGTAGCACTGACCCTTTC | CACTCGACCTCGATCGGAAC | 27893918-27894062 | |
| nc005 | | CT | 4.05 | CCTCTACTCGCCAGTCGC | TTTGGTCAGATTTGAGCACG | 38554708-38554831 | |
| bnlg1937 | | AG | 4.05 | AATGCTCGGTCCACAGAATC | AACTGGAGCCAAAAGTGGTG | 39883469-39883640 | |
| umc1299 | | AAG | 4.06 | CTTGGGTCTTCTCTCCTATGGGT | CGCTACAAACAAGTGGCGTTAAT | 162657076-162657213 | |
| umc1869 | | GGT | 4.06 | CGAGCGCTCTAGACACGATTTT | GAACTGGAGGAGCGAGCATGTAT | 164543449-164543592 | |
| bnlg1189 | | AG | 4.07 | CGTTACCCATTCTGCTACG | CTTGCTCGTTTCCATTCCAT | 180087254-180087465 | |
| bnlg2162 | | AG | 4.08 | GTCTGCTGCTAGTGGTGGTG | CACCGGCATTGATATCTTT | 189138622-189138794 | |
| umc1051 | | GA | 4.08 | CTGATCTGACTAAGGCCATCAAAC | AATGATCGAAATGCCATTATTTGT | 196012928-196013048 | |
| umc2287 | | CT | 4.09 | CTAGCTAGTAACAGAGCATCGCGG | CTGAGGTGTAGGATCGAGCAAGT | 237006217-237006371 | |
| umc1503 | | GAC | 4.09 | TTCATGACACACAAACCACAGATG | GCACCCTAGCAGACTACAACATCC | 242136560-242136750 | |
| umc1699 | | CA | 4.1 | CTTTTGCTCAAACACGGGAAATAC | AGGCATTGAGCGATATGTTTGT | 243344016-243344151 | |
| umc1050 | | AAT | 4.11 | CGATACACATCCATCTCAGGTAGC | GCCTTTGTACCAATACAAGCCAAG | 245525566-245525668 | |
| bnlg1890 | | AG | 4.11 | ACCGGAACAGACGAGCTCTA | GTCTGCAAAGCAACCTAGC | 245797540-245797668 | |
| umc1253 | | TTC | 5 | GAGGTAGGCGTCGTATGCTCTAAA | AACGTGACTTACAAGGTTGCGTTC | 924533-924633 | |
| bnlg1006 | | AG | 5 | GACCAGCGTGTGATCCC | GGAGACCCCGACTCTCTCTC | 2204781-2205011 | |
| phi024 | | CCT | 5.01 | ACTGTTCCACCAAACCAAGCCGAGA | AGTAGGGGTTGGGGATCTCTCC | 4364137-4364300 | |
| umc1478 | | GGAG | 5.01 | GAAGTCTCTCCTCTCGCGTCTC | CAGTCCCAGACCCTAGCTCAGTC | 4605655-4605792 | |
| umc2115 | | TGCCA | 5.02 | CTGTCTGTCTACCCAACCCAACAG | GGGGATAGGCGTGTGTATGTACTG | 12794913-12795068 | |
| umc2388 | | GCC | 5.02 | GTGAGGGACTGGAAGGAGGTGTA | CTTCCATCGCTTTCGCGTACT | 18632416-18632657 | |
| umc1597 | | CCT | 5.03 | ACAACCGCTGCGTAAACGAAT | AGAGATTAGGCGAGCGAGGG | 20155011-20155117 | |
| umc1274 | | TGC | 5.03 | TTGAGTCTGGTACTGCGTATGAGG | TAGCACTCCAACAGCAAGAGTTTG | 61859104-61859219 | |
| phi109188 | | AAAG | 5.03 | AAGCTCAGAAGCCGGAGC | GGTCATCAAGCTCTCTGATCG | 66605424-66605585 | |
| umc2066 | | TTCTT | 5.04 | ACATGGGCCGATGACTAAGAATAG | CTGAGTACACACATGTCACACAGTTG | 134790483-134790622 | |

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| bnlg2323 | | AG | 5.04 | ACCGTCTCAGCAAAAATGGTC | CCGCCTTCACTATGGTCAAT | 155423208-155423388 | |
| umc2303 | | CGG | 5.05 | AGAAGAAGGTGGAGGTCCAAGACT | CTGGTATCTGATCAGGGTGCG | 183210754-183210909 | |
| umc1155 | | AG | 5.05 | TCTTTTATTGTGCCCGTTGAGATT | CCTGAGGGTGATTTGTCTGTCTCT | 184662385-184662530 | |
| umc1019 | | CT | 5.06 | CCAGCCATGTCTTCTCGTTCTT | AAACAAAGCACCATCAATTCGG | 196011475-196011576 | |
| mmc0481 | | GA | 5.06 | GCACCTGCGAGACTAGG | TGTTTGAGCCGTTCTAGACT | 197724698-197724821 | |
| phi058 | | CCG | 5.07 | AGGTGCTGGACACAGACTTCAAC | ACTGAGATCCAGGCTCCTCTTC | 210408036-210408183 | |
| bnlg1118 | | AG | 5.07 | CAGAGTTGATGAACTGAAAAAGG | CTCTTGCTTCCCCCTAATC | 215859921-215860153 | |
| umc1792 | | CGG | 5.08 | CATGGGACAGCAAGAGACACAG | ACCTTCATCACCTGCAACTACGAC | 218451914-218452029 | |
| umc2143 | | TTC | 5.08 | ACACACAACAGAGCCTTTTGTTC | AAGAAAAGGACACCAAACCAAACA | 219983072-219983220 | |
| umc2307 | | CAG | 5.09 | GTCGACATCGTCTTCCCAAG | GTAGGAAGCCACGTACGGCTC | 221714353-221714565 | |
| umc1153 | | TCA | 5.09 | CAGCATCTATAGCTTGCTTGCATT | TGGGTTTTGTTTGTGTTTGTGTTG | 222667071-222667180 | |
| umc1002 | | TA | 6 | AGCTAGCTATACACCGCCAGG | TCAGTTTGGAAACAGGGAAAAGTA | 1424859-1425004 | |
| bnlg1600 | | AG | 6 | CGATCAGTGCCTGGAGAGTA | TAGGCATGCATTGTCCATTG | 31276710-31276914 | |
| bnlg1538 | | AG | 6.01 | CAGCCGAAGACGAAGCC | GTGGTGAACGAACGAGCAA | 73927627-73927856 | |
| umc1186 | | GCT | 6.01 | TCAAGAACATAATAGGAGGCCAC | AGCCAGCTTGATCTTTAGCATTTG | 85713814-85714029 | |
| umc1083 | | GA | 6.02 | CTTTCCTCTCTGGAGCGTGATTG | ATATGTTGCAGAACCATCCAGGTC | 91334205-91334316 | |
| bnlg2191 | | AG | 6.02 | CACACAATCCCCACAAAAA | CGAAACATCCAGGAAACTGC | 95868219-95868352 | |
| umc1887 | | CGA | 6.03 | CTTGCCATTTTAATTTGGACGTTT | CGAAGTTGCCCAAATAGCTACAGT | 105967402-105967492 | |
| umc1857 | | TAA | 6.04 | TTCCTTGCCAACAAATACAAGGAT | GTCATTGCTTCATCTTGAACCT | 110501317-110501462 | |
| phi031 | | GTAC | 6.04 | GCAACAGGTTACATGAGCTGACGA | CCAGCGTGCTGTTCAGTAGTT | 112978836-112979057 | |
| bnlg1617 | | AG | 6.05 | CGTGCACGGTACAGAAAGAA | AGAAAGCCACGTACCCCTTT | 122796308-122796457 | |
| umc1379 | | GAG | 6.05 | AAGTCGTAGTCAGCGAGGGCTT | GAACCACAGCTATGCTCGCC | 142778091-142778202 | |
| phi025 | | CT | 6.05 | GCAACATCCTGGAGAGCCACTACAAGG | ACAGCCTGTTTTCTGGACAGTGAATC | 150031751-150031967 | |
| umc1762 | | TC | 6.06 | CTTACTCCAGGCACTCCATACCAT | ATCCAGGTGAATGGTGTGTTACGAT | 159108024-159108173 | |
| umc1520 | | GA | 6.06 | AGCAAATATATGAGCAATTAAGAACAGG | GTGTCGCCACCTATAATTTGATGA | 162528019-162528168 | |

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| phi299852 | | AGC | 6.07 | GATGTGGGTGCTACGAGCC | AGATCTCGGAGCTCGGCTA | 166029577-166029687 | |
| umc2165 | | TTC | 6.07 | AGAACACCAAATGGTGACGTTATGT | CTAGCTCGTCTTCCCTGTGGTCT | 168306415-168306573 | |
| phi089 | | ATGC | 6.08 | GAATTGGGAACCAGACCACCCAA | ATTTCCATGGACCATGCCTCGTG | 170403453-170403539 | |
| umc2324 | | CAC | 6.08 | GATCCTCTGTGCGCCAAACACTAAG | AGATGGTGACGATGAGTGATGAAC | 171779778-171779923 | |
| umc1545 | | AAGA | 7 | GAAAACCTGCATCAACAACAAGCTG | ATTGGTTGGTTCTTGCTTCCATTA | 1464029-1464107 | |
| mmc0171 | | GA | 7 | AATCCTACTTGCTGCCAAAGC | CTTTGAGCTTTTTGTGTGGAC | 5207414-5207594 | |
| umc2364 | | GGA | 7.01 | AACCTCAAGATCACCAACATCCTC | CACCCTGCTGTCAGATGGATACTT | 8342910-8343181 | |
| umc1066 | P1 | GCCAGA | 7.01 | ATGGAGCACGTCATCTCAATGG | AGCAGCAGCAACGTCTATGACACT | 11075651-11075794 | P |
| bnlg1094 | P2 | AG | 7.02 | GTGAAGAACGATGACGCAGA | CAGCAACGCTCTCACATTGT | 39161032-39161208 | P |
| umc1433 | | AG | 7.02 | TTGTCAGACAGAACCCACACATTT | TTTTTGGCTTCTTTTGTGTGGAT | 85541908-85541997 | |
| bnlg1805 | | AG | 7.03 | GCCCGTTTGCTAAGAGAATG | TGTTTCGAGCATTTGCTCTTG | 158942590-158942846 | |
| phi114 | | GCCT | 7.03 | CCGAGACCGTCAAGACCATCAA | AGCTCCAAACGATTCTGAACTCGC | 160761101-160761236 | |
| bnlg1666 | | AG | 7.04 | GCTGGTAGCTTTCAGATGGC | TGTCCCTCCTCCAGTTTCAC | 164321068-164321184 | |
| phi328175 | | AGG | 7.04 | GGGAAGTGCTCCTTGACAG | CGGTAGGTGAACGCGGTA | 168545414-168545543 | |
| umc2222 | | AT | 7.05 | CCAACAACCTTGCTACCATAGTCC | TACATGGTCCTGTGACAAACTTGC | 177465624-177465754 | |
| umc2197 | | ACC | 7.05 | CGACCTCTTTGCTGTCTCATTTTT | CAAGCAATTTCCCATCTCATACT | 177955729-177955884 | |
| phi045 | | AAC | 7.05 | CTACTACATGCGATCACGGACCAT | AACCAGTTCAGTCTCCACTGAGT | 179352645-179352790 | |
| umc1139 | | GAC | 8.01 | TTTGTAATATGGCGCTCGAAAACCT | GAAGACGCCTCCAAGATGGATAC | 3221837-3221984 | |
| umc1075 | | ATTGC | 8.01 | GAGAGATGACAGACACATCCTTGG | ACATTTATGATACCGGGAGTTGGA | 4714946-4715086 | |
| bnlg1194 | | AG | 8.02 | GCGTTATTAAGGCAAGCTGC | ACGTGAAGCAGAGGATCCAT | 8759773-8759910 | |
| umc1034 | | GA | 8.02 | GTGTTTCCGTTTCGCTGATTTTAC | TCATCCATGTGACAGAGACGACTT | 20552080-20552200 | |
| umc1904 | | TAAGC | 8.03 | CAGCCACTCGTTTATGGAGGTTTA | TGTTACTAGTCGATCTGATGCCCA | 71472405-71472534 | |
| bnlg1863 | | AG | 8.03 | GGCGTTCGTTTGCCTAAT | CGACACAGTTGACATCAGGG | 93874354-93874483 | |
| umc1858 | | TA | 8.04 | GTTGTTCTCCTTGCTGACCAGTTT | ATCAGCAAATTAAGCAAAGGCAG | 115241780-115241935 | |
| bnlg2046 | | AG | 8.04 | TTGGTGAAACGGTGAAATGA | CTGGTGAGCTTACCCTCTC | 120245684-120245913 | |

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| umc1562 | | TC | 8.05 | CAAAGCAGTACAATATGACCCCAG | CGTACGTCCCATAAAGATGAGAAA | 129742951-129743072 | |
| bnlg1812 | | AG | 8.05 | CGAGAAGACTTGCCTGAACA | TTACGTGCGTCGTCAGAATC | 142736470-142736639 | |
| umc1149 | | AG | 8.06 | TACAGTAGGGATTCTTGCAGCCTC | GTGGGACCTTGTTGCTTCCTTT | 165203613-165203743 | |
| umc2395 | | CGA | 8.06 | ATCACATCTTGCCTTGTCAATTTG | ATGGATTCTTCCGGCCTCTC | 168953977-168954132 | |
| bnlg1823 | | AG | 8.07 | TGTGACTCCATAACCGCACAT | CTCATCATGTTGTACATGGCG | 173024014-173024196 | |
| umc1268 | | GCG | 8.07 | ACGAACAACCTAGCACAGTCCTAAA | CAAGGCGGTTACCAAGTTTACATC | 174293415-174293508 | |
| umc2218 | | TC | 8.08 | CACGGTGCTGTACACAATAAGG | TATCTCGGAAGCGAACGAA | 176060753-176060880 | |
| bnlg1056 | | AG | 8.08 | ATCGTTGTTGGGTACACGGT | ACGGGTAGTGGTGAAGATGC | 177137417-177137506 | |
| phi233376 | | CCG | 8.09 | CCGGCAGTCGATTACTCC | CGAGACCAAGAGAACCCTCA | 179043680-179043819 | |
| umc1279 | | CCT | 9 | GATGAGCTTGACGACGCCTG | CAATCCAATCCGTTGCAGGTC | 1257282-1257379 | |
| umc1867 | | TC | 9.01 | TGGTCTTCTTCGCCGATTAT | ATAAGCTCGTTGATCTCCTCCTCC | 4690756-4690865 | |
| phi028 | | GAA | 9.01 | TCTCGCTGTCTTCGATTAGTACGG | AATGCAGGCGATGGTTCTCCGGCCT | 10912650-10912720 | |
| phi017 | | TAC | 9.02 | CGTTGGCGACCAGGGTGCCTGGAT | TGCAACAGCCATTGATCATCAAAC | 11219882-11219980 | |
| bnlg1372 | | AG | 9.02 | AGCGGTGCTCAAATAGGAG | CGCCGGCTTCCCTCAC | 13848886-13849128 | |
| umc1191 | | CT | 9.03 | AAGTCATTGCCCAAAGTGTTC | ACTCATCACCCCTCCAGAGTGTC | 92001550-92001702 | |
| umc1688 | | GGA | 9.03 | AGCAGTAGCCGCAAGCAGAG | ATCTGGAGCTGCGTGCTGTC | 99140509-99140814 | |
| umc1571 | | CAA | 9.04 | CACCGAGGAGCACGACAGTATTAT | GCACTTCATAACCTCTCTGCAGGT | 109931288-109931375 | |
| bnlg1012 | | AG | 9.04 | GAGTGAGCGTGCGGAGTC | AACAGGCCAAACTCCTCCTC | 118033787-118034005 | |
| umc1657 | | GACGG | 9.05 | ATGGATGAATATGATCCCACGG | GATCCGCACGTAGCTTTTCG | 135492211-135492370 | |
| umc1231 | | GA | 9.05 | CTGTAGGGCTGAGAAAAGAGAGGG | CGACAACCTTAGGAGAACCATGGAG | 135613607-135613715 | |
| umc2345 | | CATC | 9.06 | AAAAAGAGCAGCGGAACGTG | GTCGTGCTGGCTACTCTGCTG | 148178184-148178306 | |
| umc1366 | | TCC | 9.06 | GTCACTCGTCCGCATCGTCT | CCTAACTCTGCAAAGACTGCATGA | 149059685-149059797 | |
| umc1804 | | AG | 9.07 | GCGGCGAGGTTAAAGGAAAA | GGTGTTTAGACACGCAGACACAAC | 152400281-152400368 | |
| umc2099 | | ATGC | 9.07 | AGGTCATCAAGATGCAGAGGGAG | TCAAGGTACGAAGCCTGACGAC | 154861822-154861975 | |
| umc1277 | | AATA | 9.07 | TTTGAGAACGGAAGCAAGTACTCC | ACCAACCAACCACTCCCTTTTAG | 157948237-157948375 | |

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|----------|--|--------|-------|------------------------------|--------------------------|---------------------|--|
| umc1505 | | AAAAC | 9.08 | TTACACAGAAGCCCATTGAAGGT | GGATGGTTGTTGGTGGTGTAGAAT | 158185823-158185987 | |
| phi041 | | AGCC | 10 | TTGGCTCCCAGCGCCGAAA | GATCCAGAGCGATTTGACGGCA | 2229783-2229985 | |
| umc1318 | | GTC | 10.01 | ACTTCGTCTAGTGTCCCTCCGTT | TGCCAGATTAAGCAACACAAGA | 3854317-3854467 | |
| umc2053 | | CGA | 10.01 | ATCTCTCCCTCGCTCTCCTTCTC | AGCAGCAGGTTGGTCTGAATG | 4297670-4297766 | |
| umc1152 | | ATAG | 10.02 | CCGAAGATAACCAAACAATAATAGTAGG | ACTGTACGCCTCCCTTCTC | 4672467-4672637 | |
| phi059 | | ACC | 10.02 | AAGCTAATTAAGGCCGGTCATCCC | TCCGTGTACTCGGCCGACTC | 8782022-8782169 | |
| umc2069 | | GCG | 10.02 | ACAACCTCCTCCACGACCAAAC | GTAGAGGTCCCCTTGTCCCAAT | 10856416-10856766 | |
| bnlg1655 | | AG | 10.03 | ATTAATAATCTTGCTGATGGCG | TTCTGTTCCCGCCTGTACTT | 85291039-85291160 | |
| phi062 | | ACG | 10.04 | CCAACCCGCTAGGCTACTTCAA | ATGCCATGCGTTCGCTCTGTATC | 112727512-112727671 | |
| bnlg2336 | | AG | 10.04 | GGTAGGGGAAAAACATGCA | TGATAAAGTTCCTATTTGTCTGCC | 127158854-127158965 | |
| bnlg1250 | | AG | 10.05 | CCATATATTGCCGTGGAAGG | TTCTTCATGCACACAGTTGC | 133411543-133411744 | |
| umc1506 | | AACA | 10.05 | AAAAGAAACATGTTTCAGTCGAGCG | ATAAAGGTTGGCAAACGTAGCCT | 134476821-134476948 | |
| bnlg1028 | | AG | 10.06 | AGGAAACGAACACAGCAGCT | TGCATAGACAAAACCGACGT | 139930325-139930473 | |
| umc1061 | | TCG | 10.06 | AGCAGGAGTACCCATGAAAGTCC | TATCACAGCACGAAGCGATAGATG | 140378278-140378380 | |
| umc1196 | | CACACG | 10.07 | CGTGCTACTACTGCTACAAAGCGA | AGTCGTTCTGTCTTCCGAAACT | 144424283-144424437 | |
| bnlg1185 | | AG | 10.07 | CGGTCCAGGCAGGTTAATTA | GACTCGAGGACACCGATTTC | 149279000-149279134 | |

^a Marker name used in map-based cloning of *mn2-m1*; Chr., Chromosome; P, Polymorphic both between the two parents and the two DNA pools.