

A

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Amplicon      TATATCCCGGGCGCACGGTCCATCACGCCGGGTAGTTACCGCGGGAAGGCAAGACCGACGCCAAAGACGCTGCGATCATCGCCGATCAGGCCCGGATGCGCCAGACTTGCAGCTCTGCGCCCGGCGATGACATCGCACTGAGCTGCGCATCTGACCAAGCCGACGTTCCGATCTGGTGGCTGATCGGACCCGGGCGATGAACCCGAATGCGCCAGCTGCTGGAATACTTTCGGCGCTGGAACCGCGCTTCGACTACAAAGAGCCGTGCCGCGTG
Probe.RPA     -----GATCGACCCCGGATGCGCCAGACTTGCAGCTGTCGCGCGGATG
Forward.1     -----GACGCTGCGATCATCGCCGATCAGGCCGGATG-----
Forward.2     -----TAGTTACCGCGGGAAGGCAAGACGCA-----
Forward.3     -ATATCCCGGGCGCACGGTCCATCACGCCG-----
Forward.4     -----AGCGAAGCCGACGCCAAGACGCTGCGATCATC-----
Forward.5     -----CGGGCGACGGTCCATCACGCCGGGTAGTTA-----
Forward.6     -----TCGCCGATCAGGCCCGGATGCGCCAGACTTGCA-----
Forward.7     -----ACCGCGGGAAGGCAAGACCGACGCCAAAGACGCT-----
Forward.8     -----AGCCGACGCCAAGACGCTGCGATCATC-----
Forward.RP6rc -----
Reverse.1rc   -----CARCGCACTGAGCTGCGCATCTGACCAAG-----
Reverse.2rc   -----CGACGTTCCGATCTGGTGGCTGATCGGAC-----
Reverse.3rc   -----CGATCGAACCGAATGCGCCGACGCTGTGGA-----
Reverse.4rc   -----GTCGAGCTGCGATCTCGACCAAGCCGAGCTTC-----
Reverse.5rc   -----ACGTTCCGATCTGGTGGCTGATCGGACCCGGGCA-----
Reverse.6rc   -----ACGTTCCGATCTGGTGGCTGATCGGAC-----
Reverse.7rc   -----CGCTTCGACTACAAAGAGCCGTGCCGCGC-----
Reverse.RP4rc.rc -----AGGCAAGACCGACGCCAAAGACGCTGCGATCATC-----

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B

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Amplicon      CTGCTGGAGTTGATTGCGGGGTGACGACGTTGGCCGATGAGGGGAGTACAGTGGGGATCGACCTCAACGCCGGCGCGCGGCTGTCTGATCGCTTCTCATCGCTGCGGGGACGGCGCTGTTTATATCCCGGGCGCACGGTCCATCACGCCGGGTAGTTACCGCGGGAAGGCAAGACCGACGCCAAAGACGCTGCGATCATCGCCGATCAGGCCCGGATGCGCCAGCTGCTGGAATACTTTCGGCGCTGGAACCGCGCTTCGACTACAAAGAGCCGTGCCGCGTG
Probe.RPA2rc  -----TCGCGACGCCAAGACGCTGCGATCATC-----
RPA2.FP1     -----GCTGCTTATATCCCGGGCGCACGGTCCAT-----
RPA2.FP2     -----TCATCGCTGCGGGGACGGCTGCTTATAT-----
RPA2.FP3     -TGCCTGGAGTTGATTGCGGGGTGACGACGTT-----
RPA2.FP4     -----GCAGCGGCTGTTTATATCCCGGGCGCACGGTCCATC-----
RPA2.FP5     -----GCTGCTTATATCCCGGGCGCAC-----
MAP.RPA2.RP1rc.rc -----
RPA2.RP1rc   -----CTGGATCATCGCCGATCAGGCCCGGAT-----
RPA2.RP2rc   -----AGACCTGCGATCATCGCCGATCAGGCCCGGAT-----
RPA2.RP3rc   -----CGACTGACGCTCTGCGCCGCGGATGACAT-----
RPA2.RP4rc   -----ATGACATCGGATCGAGCTCGCATCTGA-----
RPA2.RP5rc   -----GACTTCAGCTCTGCGCCGCGGATGACATCG-----
RPA2.RP6rc   -----AGCTCTGCGCCGCGGATGACAT-----
RPA2.RP7rc   -----TGGATCATCGCCGATCAGGCCCGGAT-----
RPA2.RP8rc   -----ACGCCAAGACGCTGCGATCATCGCCGATC-----
RPA2.RP9rc   -----CTGGATCATCGCCGATCAGGCCCGGAT-----
RPA2.RP10rc  -----ATCATCGCCGATCAGGCCCGGATGCGCCAGACT-----
RPA2.RP11rc  -----CAGACTTGCAGCTCTGCGCCGCGGATGACA-----
RPA2.RP12rc  -----ATCAGGCCGATGCGCCAGACTTGCAGCT-----
RPA2.RP13rc  -----AGACCTGCGATCATCGCCGATCAGGCC-----
RPA2.RP14rc  -----CAGACTTGCAGCTCTGCGCC-----

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C

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Amplicon      GTCGCGTGGTTCGCTGCTGGGTGATCTGACAAATGACGGTTACGAGGTGGTGTGGCAAACTGCTGGGCGGGCTGGAGCCGGTAAGGCCGACCACTTACTGATGTTATTAAACGACGACGCGCAGCGATTGCTCTCGACGGGTGGCCAAACGACGAGCCGCGCTGCTGGAATGATTGCGCGGGTACGACGCTTGGCGATGAGGCGAGGTAC
Probe.RPA3    -----ACGCCGGTAAGCCGACCACTTACTGATGTTTAAACGACGACGCGCAGCGATTGCTCTCGACGGGTGGCCAAACGACGAGCCGCGCTGCTGGAATGATTGCGCGGGTACGACGCTTGGCGATGAGGCGAGGTAC
MAP.RPA3.FP1 -----
MAP.RPA3.FP2 -----GACGGTACGAGGGGTGTGGCCAAACCTGCT-----
MAP.RPA3.FP3 -TCGGCGTGGTTCGCTGCTGGGTGATCTGACAAAT-----
MAP.RPA3.RP1rc -----
MAP.RPA3.RP2rc -----CGATTGCTCTCGACGGGTGGCCAAACGAC-----
MAP.RPA3.RP3rc -----GAGGCCGCGCTGCTGGAATGATTGCGCG-----

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S1 Fig. MAP RPA 1-3 primer and probe sequences. (A) MAP-RPA 1 (nucleotides 483-769; Genbank accession number: AF416985.1): Nine forward primers and eight reverse primers were tested. (B) MAP-RPA 2 (nucleotides 353-645; Genbank accession number: AF416985.1): Six forward primers and fourteen reverse primers were tested. (C) MAP-RPA 3 (nucleotides 182-405; Genbank accession number: AF416985.1): Three forward primers and three reverse primers were tested. QTF are sites of the quencher and fluorophore in the order quencher BHQ1-dt (Q), Tetrahydrofuran (T) and Fam-dT (F). RC is the reverse complementary of the original sequence used in the experiment.