

SUPPLEMENTARY DATA

FIG. S1. Analysis of RT-PCR products amplified for *zmP4H8* by agarose gel electrophoresis. RT-PCR analysis was performed with control (Lane 1) and treatment (Lane 2) from roots of 3-leaf seedlings; M, DL 2000 (Takara, Japan). RT-PCR products obtained using the primers indicated in Table 1 were analysed following electrophoresis in agarose gels. The PCR was carried out for 40 cycles for both. Only the products of *zmP4H8-4* and *zmP4H8-5* were visible on the gel, and the bands for other variants were very weak and may not be visible in the image shown.

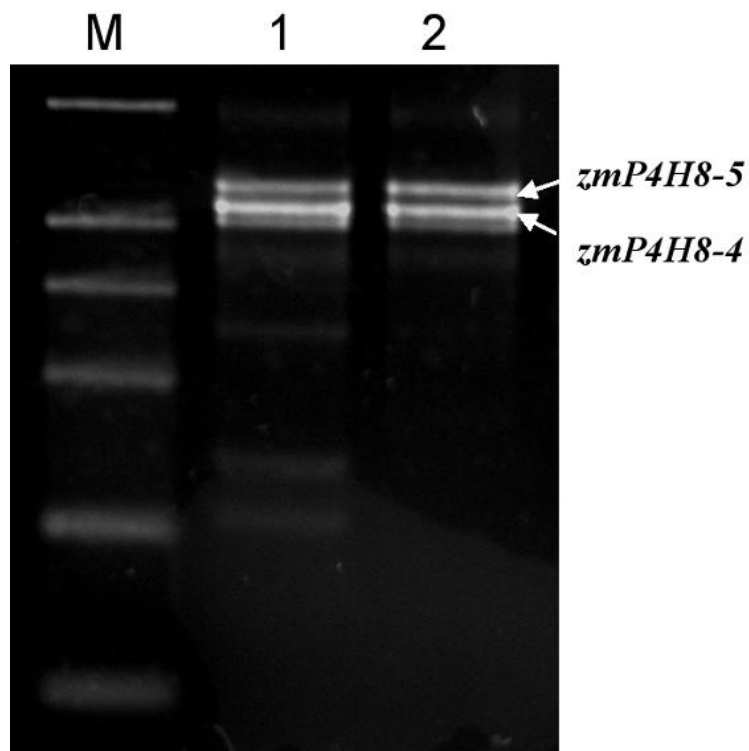


FIG. S2. Sequences at exon–intron junction for all transcripts.

^a Name of gene.

^b Number of NT for small direct repeat at the conjunction of exon/intron.

^c Location of the sequences.

^d The sequences of corresponding cDNA. Sequences highlighted with yellow indicates that they are located in the 5'-exon and the sequences highlighted with the pink indicates that they are located in 3'-exon.

^e The sequences of corresponding DNA. Sequences without highlighting refer to the intron between the two exons.

^f The sequences highlighted in bold and underlined under refer to the small direct repeat of NT.

zmP4H1^a

1NT^b-----Exon1-Exon2^c

CCTTCGACTC GGGGCTAGAG^d

CCTTCGACTC **G**^fTGCGTTCCC.....CGTGCTGCAG **G**GGGCTAGAG^e

0NT-----Exon2-Exon3

CAACTTCCTC TCCAAGGAAG

CAACTTCCTC GTGAGTCCCT.....TTATTCTCAG TCCAAGGAAG

5NT-----Exon3-Exon4

AGGACAGCAG GGTGCGGACA

AGGACAG **GCAGG**TTTAAACAT.....ATATAT **GCAGG**GGTGCAGGACA

2NT-----Exon4-Exon5

ATACCTGTAG AGCAGGGTGA

ATACCTGT **AG**GTACGTATTA.....ACTATCAC **AG**AGCAGGGTGA

0NT-----Exon5-Exon6

TTATGTATCT TTCGGATGTT

TTATGTATCT GTATGTGTTA.....TATTTACTAG TTCGGATGTT

4NT-----Exon6-Exon7

AGCCTGCATG GGTGGATGCCC

AGCCTGCAT **GGTG**ACATTAC.....TTTTCTTTAG **GGTG**GATGCCC

zmP4H2

3NT-----Exon1-Exon2

GGCGCCCCAGGGCGTTCCTG

GGCGCCCCAGGTGGCAATCT.....TGGCTATTAGGGCGTTCCTG

2NT-----Exon2-Exon3

CATCGCGCTGGCCAAGGACA

CATCGCGCTGGTGAGTGCCA.....TGGTTGAAAAGGCCAAGGACA

4NT-----Exon3-Exon4

GAGGAAGCAGGATGAAGTAG

GAGGAAGCAGGTGAGCAGAC.....TACTTGTGAGGATGAAGTAG

3NT-----Exon4-Exon5

CTTCCACCAGAAAATGGCGA

CTTCCACCAGGTACCTCGAA.....GTATGCTCAGAAAATGGCGA

3NT-----Exon5-Exon6

CAATGCAGAGGGGAAGCTAT

CAATGCAGAGGTAGTTTGCT.....CATTCAATAGGGGAAGCTAT

5NT-----Exon6-Exon7

GGATATGCAGTTAAACCGGT

GGATATGCAGGTATATAGCA.....CCTTGTGAGTTAAACCGGT

zmP4H2-1

3NT-----Exon1-Exon2

GGCGCCCCAGGGCGTTCCTG

GGCGCCCCAGGTGGCAATCT.....TGGCTATTAGGGCGTTCCTG

2NT-----Exon2-Exon3

CATCGCGCTGGCCAAGGACA

CATCGCGCTGGTGAGTGCCA.....TGGTTGAAAAGGCCAAGGACA

4NT-----Exon3-Exon4

GAGGAAGCAGGATGAAGTAG

GAGGAAGCAGGTGAGCAGAC.....TACTTGTGAGGATGAAGTAG

3NT-----Exon4-Exon5

CTTCCACCAGAAAATGGCGA

CTTCCACCAGGTACCTCGAA.....GTATGCTCAGAAAATGGCGA

3NT-----Exon5-Exon6

CAATGCAGAGGGGAAGCTAT

CAATGCAGAGGTAGTTTGCT.....CATTCAATAGGGGAAGCTAT

3NT-----Exon6-Exon7

GGATATGCAGGGCCCATGGC

GGATATGCAGGTATATAGCA.....ACGTGACTAGGGCCCATGGC

zmP4H3

4NT-----Exon1-Exon2

CTTCACCCAGGATCCGGAGG

CTTCACCCAGGTACGCGACG.....TGCGGTGCAGGATCCGGAGG

3NT-----Exon2-Exon3

CCCATACCAGATTTTGAGCT

CCCATACCAGGTGATGTCTC.....TCTTGAGCAGATTTTGAGCT

2NT-----Exon3-Exon4

TCAGGACAAGTTCGGGAACAT

TCAGGACAAGGTAACCTTAA.....TGCCAAACAGTTCGGGAACA

2NT-----Exon4-Exon5

TCATGGGGAGCCATTTAATG

TCATGGGGAGGTACTACATA.....TATGTTGCAGCCATTTAATG

3NT-----Exon5-Exon6

AAATCAAAGGTGGCATCTT

AAATCAAAGGGTATGTAGCA.....AATTCCTAGGTGGCATCTT

6NT-----Exon6-Exon7

CCCATACGAGAACAGTGAGA

CCCATACGAGGTGAGTGCAA.....GGTTTACGAGAACAGTGAGA

1NT-----Exon7-Exon8

CATTGACCGGACTTCACTTC

CATTGACCGGTACGTGCTG.....GCTGTGCAGACTTCACTTC

zmP4H4

3NT-----Exon1-Exon2

GGCATCCAAGGATCTTCGTG

GGCATCCAAGGTACACCGCG.....CCGCACGCAGGATCTTCGTG

2NT-----Exon2-Exon3

CGTGACTCTGCCAAGAAAA

CGTGACTCTGGTGAGCGACG.....GATTGAACAGGCCGAAGAAAA

4NT-----Exon3-Exon4

CAAGCGCCAGGACCCGGTGG

CAAGCGCCAGGTACGACCTT.....GGTCGCGCAGGACCCGGTGG

3NT-----Exon4-Exon5

CAACGCCAAGGGTTGGGAGT

CAACGCCAAGGTAGGTGTAG.....TCCGATGCAGGTTGGGAGT

4NT-----Exon5-Exon6

GGATTGGCAGTGAAACCGGT

GGATTGGCAGGTAATTAATC.....GCGCGTGCAGTGAAACCGGT

zmP4H4-1

2NT-----Exon1-Exon2

CGTGACTCTGGCGAAGAAAA

CGTGACTCTGGTGAGCGACG.....GATTGAACAGGCGAAGAAAA

4NT-----Exon2-Exon3

CAAGCGCCAGGACCCGGTGG

CAAGCGCCAGGTACGACCTT.....GGTCGCGCAGGGACCCGGTGG

zmP4H4-2

3NT-----Exon1-Exon2

GGCATCCAAGGATCTTCGTG

GGCATCCAAGGTACACCGCG.....CCGCACGCAGGGATCTTCGTG

2NT-----Exon2-Exon3

CGTGACTCTGGCGAAGAAAA

CGTGACTCTGGTGAGCGACG.....GATTGAACAGGCGAAGAAAA

4NT-----Exon3-Exon4

CAAGCGCCAGGACCCGGTGG

CAAGCGCCAGGTACGACCTT.....GGTCGCGCAGGGACCCGGTGG

3NT-----Exon4-Exon5

CAACGCCAAGGTTGGGAGT

CAACGCCAAGGTAGGTGTAG.....TCCGATGCAGGGTTGGGAGT

zmP4H5

3NT-----Exon1-Exon2

GGGACCTGGGGGAGGGGCTG

GGGACCTGGGGTGAGTCACG.....TTGCGAGCAGGGAGGGGGCTG

1NT-----Exon2-Exon3

CAACTTCCTGTCTAAGGAAG

CAACTTCCTGGTAAAGCAATG.....TTTTTCCTTAGTCTAAGGAAG

2NT-----Exon3-Exon4

ATACCTGTAGATCATGGAGA

ATACCTGTAGGTGTGTGATT.....TGCCTTACAGATCATGGAGA

0NT-----Exon4-Exon5

TGATGTATCTATCAGATGTT

TGATGTATCTGTAAGCACAT.....ATCGGTACAGATCAGATGTT

2NT-----Exon5-Exon6

AGTTTGCATGGGGTTGTCC

AGTTTGCATGGTTAGTTCAA.....ATTCTTGCAGGGGGTTGTCC

2NT-----Exon6-Exon7

CGTACCAAAGATGGATCTCT

CGTACCAAAGGTATATGTTG.....TCTCCTGCAGATGGATCTCT

zmP4H5-1

5NT-----Exon1-Exon2

CCCGCCCCATGGCGCGCAGTGGACC
CCCGCCCCATGGCGCGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC
CCCGCCCCATGGCGCGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC
CCCGCCCCATGGCGCGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC CCCGCCCCATGG
CGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC
CCCGCCCCATGGCGCGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC
CCCGCCCCATGGCGCGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC

1NT-----Exon2-Exon3

CAACTTCCTGTCTAAGGAAG
CAACTTCCTGTGTAAGCAATG.....TTTTCCTTAGTCTAAGGAAG

2NT-----Exon3-Exon4

ATACCTGTAGATCATGGAGA
ATACCTGTAGTGTGTGATT.....TGCCTTACAGATCATGGAGA

0NT-----Exon4-Exon5

TGATGTATCTATCAGATGTT
TGATGTATCTGTAAGCACAT.....ATCGGTACAGATCAGATGTT

2NT-----Exon5-Exon6

AGTTTGCATGGGGTTGTCC
AGTTTGCATGGTTAGTTCAA.....ATTCTTGCAGGGGGTTGTCC

2NT-----Exon6-Exon7

CGTACCAAAGATGGATCTCT
CGTACCAAAGGTATATGTTG.....TCTCCTGCAGATGGATCTCT

zmP4H5-2

5NT-----Exon1-Exon2

CCCGCCCCATGGCGCGCAGTGGACC
CCCGCCCCATGGCGCGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC
CCCGCCCCATGGCGCGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC
CCCGCCCCATGGCGCGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC
CCCGCCCCATGGCGCGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC
CCCGCCCCATGGCGCGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC
CCCGCCCCATGGCGCGCGTTCGCGC-----GAGAGCGCGGCGCGCAGTGGACC

1NT-----Exon2-Exon3

CAACTTCCTGATCATGGAGA
CAACTTCCTGTGTAAGCAATG.....TGCCTTACAGATCATGGAGA

0NT-----Exon3-Exon4

TGATGTATCTATCAGATGTT
TGATGTATCTGTAAGCACAT.....ATCGGTACAGATCAGATGTT

2NT-----Exon4-Exon5

AGTTTGCATGGGGTTGTCC
AGTTTGCATGGTTAGTTCAA.....ATTCTTGCAGGGGGTTGTCC

2NT-----Exon5-Exon6

CGTACCAAAGATGGATCTCT
CGTACCAAAGGTATATGTTG.....TCTCCTGCAGATGGATCTCT

zmP4H6

4NT-----Exon1-Exon2

CGCGCCCCAGGGCGTTCCTG

CGCGCCCCCAGGTGAAATCGT.....CGTCTCGCAGGGGCGTTCCTG

2NT-----Exon2-Exon3

CGTCAGCCTGGCGAAAGGCA

CGTCAGCCTGGTGGGTTGGG.....TGGGTTTCAGGGCGAAAGGCA

3NT-----Exon3-Exon4

CAAGCGCGAGGATGAGATCG

CAAGCGCGAGGTAATCAATC.....CCAACCAAAGGATGAGATCG

2NT-----Exon4-Exon5

CTCCCAGGAAGAAAACGCCGA

CTCCCAGGAAGGTAATCTGCA.....TCTGGTCCAGAAAACGCCGA

3NT-----Exon5-Exon6

AAACGCTGAGGGAAGCCATT

AAACGCTGAGGTACACGACA.....CTGCTTTCAGGGGAAGCCATT

4NT-----Exon6-Exon7

GGCCTGGCAGTGAAGCCAAA

GGCCTGGCAGGTATCTTCTC.....CTCCTTGCAGTGAAGCCAAA

zmP4H6-1

4NT-----Exon1-Exon2

CGCGCCCCAGGGCGTTCCTG

CGCGCCCCCAGGTGAAATCGT.....CGTCTCGCAGGGGCGTTCCTG

2NT-----Exon2-Exon3

CGTCAGCCTGGCGAAAGGCA

CGTCAGCCTGGTGGGTTGGG.....TGGGTTTCAGGGCGAAAGGCA

2NT-----Exon3-Exon4

CTCCCAGGAAGAAAACGCCGA

CTCCCAGGAAGGTAATCTGCA.....TCTGGTCCAGAAAACGCCGA

3NT-----Exon4-Exon5

AAACGCTGAGGGAAGCCATT

AAACGCTGAGGTACACGACA.....CTGCTTTCAGGGGAAGCCATT

4NT-----Exon5-Exon6

GGCCTGGCAGTGAAGCCAAA

GGCCTGGCAGGTATCTTCTC.....CTCCTTGCAGTGAAGCCAAA

zmP4H6-2

4NT-----Exon1-Exon2

CGCGCCCCAGGGCGTTCCTG

CGCGCCCCCAGGTGAAATCGT.....CGTCTCGCAGGGGCGTTCCTG

2NT-----Exon2-Exon3

CGTCAGCCTGGCGAAAGGCA

CGTCAGCCTGGTGGGTTGGG.....TGGGTTTCAGGGCGAAAGGCA

3NT-----Exon3-Exon4

CAAGCGCGAGGATGAGATCG

CAAGCGCGAGGTAATCAATC.....CCAACCAAAGGATGAGATCG

3NT-----Exon4-Exon5

ACATTTCTCCCGGCGCCAGCGAGTT

ACATTTCTCCCGGAAGGTAAT-----CTGAAGCTCGGCGCCAGCGA

ACATTTCTCCCGGAAGGTAAT-----CTGAAGCTCGGCGCCAGCGA

ACATTTCTCCCGGAAGGTAAT-----CTGAAGCTCGGCGCCAGCGA

ACATTTCTCCCGGAAGGTAAT-----CTGAAGCTCGGCGCCAGCGA

3NT-----Exon5-Exon6

AAACGCTGAGGGAAGCCATT

AAACGCTAGGTACACGACA.....CTGCTTTCAGGGGAAGCCATT

4NT-----Exon6-Exon7

GGCCTGGCAGTGAAGCCAAA

GGCCTGCAGGTATCTTCTC.....CTCCTTGCAGTGAAGCCAAA

zmP4H6-3

4NT-----Exon1-Exon2

CGCGCCCCAGGGCGTTCCTG

CGCGCCCCCAGGTGAAATCGT.....CGTCTCGCAGGGGCGTTCCTG

2NT-----Exon2-Exon3

CGTCAGCCTGGCGAAAGGCA

CGTCAGCCTGGTGGGTTGGG.....TGGGTTTCAGGGCGAAAGGCA

3NT-----Exon3-Exon4

CAAGCGCGAGGATGAGATCG

CAAGCGCGAGGTAATCAATC.....CCAACCAAAGGATGAGATCG

2NT-----Exon4-Exon5

CTCCCGGAAGAAAACGCCGA

CTCCCGGAAGGTAAATCTGCA.....TCTGGTCCAGAAAACGCCGA

3NT-----Exon5-Exon6

AAACGCTGAGGGAAGCCATT

AAACGCTAGGTACACGACA.....CTGCTTTCAGGGGAAGCCATT

zmP4H6-4

4NT-----Exon1-Exon2

CGCGCCCCAGGGCGTTCCTG

CGCGCCCCCAGGTGAAATCGT.....CGTCTCGCAGGGGCGTTCCTG

2NT-----Exon2-Exon3

CGTCAGCCTGGCGAAAGGCA

CGTCAGCCTGGTGGGTGGG.....TGGGTTTCAGGGCGAAAGGCA

3NT-----Exon3-Exon4

CAAGCGCGAGGATGAGATCG

CAAGCGCGAGGTAATCAATC.....CCAACCAAAGGATGAGATCG

2NT-----Exon4-Exon5

CTCCCAGGAAGAAAACGCCGA

CTCCCAGGAAGGTAATCTGCA.....TCTGGTCCAGAAAACGCCGA

3NT-----Exon5-Exon6

CTTATGTACCTCAACGCCACAGC

CTTATGTACCTTCACAGATGTC-----CCTCCACGTCAACGCCACAGC

CTTATGTACCTTCACAGATGTC-----CCTCCACGTCAACGCCACAGC

CTTATGTACCTTCACAGATGTC-----CCTCCACGTCAACGCCACAGC

CTTATGTACCTTCACAGATGTC-----CCTCCACGTCAACGCCACAGC

zmP4H7

3NT-----Exon1-Exon2

GGCGCCCCAGGGCGTTCCTG

GGCGCCCCAGGTGGCGATCT.....TGTCTATTAGGGGCGTTCCTG

2NT-----Exon2-Exon3

CATCGCGCTGGCCAAGGACA

CATCGCGCTGGTGAGTGCC.....TTGGTTGAAGGCCAAGGACA

7NT-----Exon3-Exon4

GAAGAAGCAGGTGAAGTAGT

GAAGAAGCAGGTGAGCATAC.....CACCTGTCAGGTGAAAGTAGT

3NT-----Exon4-Exon5

CTTCCACCAGAGAATGGTGA

CTTCCACCAGGTACCTCGAA.....GTATGCTCAGAGAATGGTGA

3NT-----Exon5-Exon6

CAATGCAGAGGGGAAGCTAT

CAATGCAGAGGTAGTGTACT.....CATTCCATAGGGGGAAGCTAT

5NT-----Exon6-Exon7

GGATATGCAGTTAAACCGGT

GGATATTGCAGGTATAGCAGT.....CCTTCTGCAGTTAAACCGGT

zmP4H8

2NT-----Exon1-Exon2

GCGACCTGGG**GGAGGGGCTG**

GCGACCTGG**GG**TGAGTCACG.....TTGGGAGCAG**GGAGGGGCTG**

0NT-----Exon2-Exon3

CCACAACCTC**CTCTCTAAGG**

CAACTTCCTC**GTAAGCAACT.....TTTTCCTTAGTCTAAGGATG**

2NT-----Exon3-Exon4

ATACCCGTAG**ATCATGGTGA**

ATACCCGT**AG**GTGTGTGAAT.....TGCCTTGC**AG**ATCATGGTGA

0NT-----Exon4-Exon5

TGATGTATCT**ATCAGATGTT**

TGATGTATCT**GTAAGTGCAT.....ATGGGTACAGATCAGATGTT**

2NT-----Exon5-Exon6

AGCTTGCATG**GGGGTTGTCC**

AGCTTGCAT**GG**TTAGTTCAA.....GTTCTTGCAG**GGGGTTGTCC**

3NT-----Exon6-Exon7

GGTTTGTAAG**GAACACAGGA**

GGTTTGTA**AGG**TGTTATTAC.....CGATCGCC**AGGAACACAGGA**

0NT-----Exon7-Exon8

TGACACTCAT**TACCCCAACT**

TGACACTCAT**G**TATGCTTTA.....TTCCTTGCAG**TACCCCAACT**

zmP4H8-1

2NT-----Exon1-Exon2

CGCGACCTGGG**GGAGGGGCTG**

CGCGACCTGG**GG**TGAGTCACG.....TTGGGAGCAG**GGAGGGGCTG**

0NT-----Exon2-Exon3

CCACAACCTC**CTCTCTAAGG**

CAACTTCCTC**GTAAGCAACT.....TTTTCCTTAGTCTAAGGATG**

2NT-----Exon3-Exon4

ATACCCGTAG**ATCATGGTGA**

ATACCCGT**AG**GTGTGTGAAT.....TGCCTTGC**AG**ATCATGGTGA

0NT-----Exon4-Exon5

TGATGTATCT**ATCAGATGTT**

TGATGTATCT**GTAAGTGCAT.....ATGGGTACAGATCAGATGTT**

2NT-----Exon5-Exon6

AGCTTGCATG**GGGGTTGTCC**

AGCTTGCAT**GG**TTAGTTCAA.....GTTCTTGCAG**GGGGTTGTCC**

2NT-----Exon6-Exon7

TGGGTTTGTA**AG**ATGGATCTTT

TGGGTTTGTA**AG**GTGTTATT-----TCTCTGC**AG**ATGGATCTTT

zmP4H8-2

2NT-----Exon1-Exon2

GCGACCTGGGGGAGGGGCTG

GCGACCTGGGGGTGAGTCACG.....TTGGGAGCAGGGAGGGGCTG

0NT-----Exon2-Exon3

CCACAACCTCCTCTCTAAGG

CAACTTCCTCGTAAGCAACT.....TTTTCCTTAGTCTAAGGATG

5NT-----Exon3-Exon4

ATTCGAGCAATTGAAGAATTGATAA

ATTCGAGCAATTGAAAAGAGGAT-----GGTTTTGCTTTGAAGAATTGATAA

ATTCGAGCAATTGAAAAGAGGAT-----GGTTTTGCTTTGAAGAATTGATAA

ATTCGAGCAATTGAAAAGAGGAT-----GGTTTTGCTTTGAAGAATTGATAA

ATTCGAGCAATTGAAAAGAGGAT-----GGTTTTGCTTTGAAGAATTGATAA

ATTCGAGCAATTGAAAAGAGGAT-----GGTTTTGCTTTGAAGAATTGATAA

ATTCGAGCAATTGAAAAGAGGAT-----GGTTTTGCTTTGAAGAATTGATAA

zmP4H8-3

2NT-----Exon1-Exon2

CGCGACCTGGGGGAGGGGCTG

CGCGACCTGGGGGTGAGTCACG.....TTGGGAGCAGGGAGGGGCTG

0NT-----Exon2-Exon3

CCACAACCTCCTCTCTAAGG

CAACTTCCTCGTAAGCAACT.....TTTTCCTTAGTCTAAGGATG

4NT-----Exon3-Exon4

GCACTACCGGCAAACCAAAGATGG

GCACTACCGGCAAAAAGCAAGGACAGCAG.....GCCTTCTGTCAAACCAAAGATGG

GCACTACCGGCAAAAAGCAAGGACAGCAG.....GCCTTCTGTCAAACCAAAGATGG

GCACTACCGGCAAAAAGCAAGGACAGCAG.....GCCTTCTGTCAAACCAAAGATGG

GCACTACCGGCAAAAAGCAAGGACAGCAG.....GCCTTCTGTCAAACCAAAGATGG

GCACTACCGGCAAAAAGCAAGGACAGCAG.....GCCTTCTGTCAAACCAAAGATGG

2NT-----Exon4-Exon5

AGCTTGCATGGGGGTTGTCC

AGCTTGCATGGGTTAGTTCAA.....GTTCTTGCAGGGGGTTGTCC

3NT-----Exon5-Exon6

GGTTTGTAAGAACACAGGA

GGTTTGTAAAGGTGTTATTAC.....CGATCGCCAGGAACACAGGA

zmP4H8-4

2NT-----Exon1-Exon2

GCGACCTGGGGGAGGGGCTG

GCGACCTGGGGGGTGAGTCACG.....TTGGGAGCAGGGAGGGGCTG

0NT-----Exon2-Exon3

CCACAACCTCCTCTCTAAGG

CAACTTCCTCGTAAGCAACT.....TTTTCCTTAGTCTAAGGATG

2NT-----Exon3-Exon4

ATACCCGTAGATCATGGTGA

ATACCCGTAGGTGTGTGAAT.....TGCCTTGCAGATCATGGTGA

0NT-----Exon4-Exon5

TGATGTATCTATCAGATGTT

TGATGTATCTGTAAGTGCAT.....ATGGGTACAGATCAGATGTT

2NT-----Exon5-Exon6

AGCTTGCATGGGGGTTGTCC

AGCTTGCATGGTTAGTTCAA.....GTTCTTGCAGGGGGTTGTCC

3NT-----Exon6-Exon7

GGTTTGTAAGGAACACAGGA

GGTTTGTAAGGTGTTATTAC.....CGATCGCCAGGGAACACAGGA

zmP4H8-5

2NT-----Exon1-Exon2

GCGACCTGGGGGAGGGGCTG

GCGACCTGGGGGGTGAGTCACG.....TTGGGAGCAGGGAGGGGCTG

0NT-----Exon2-Exon3

CCACAACCTCCTCTCTAAGG

CAACTTCCTCGTAAGCAACT.....TTTTCCTTAGTCTAAGGATG

2NT-----Exon3-Exon4

ATACCCGTAGATCATGGTGA

ATACCCGTAGGTGTGTGAAT.....TGCCTTGCAGATCATGGTGA

0NT-----Exon4-Exon5

TGATGTATCTATCAGATGTT

TGATGTATCTGTAAGTGCAT.....ATGGGTACAGATCAGATGTT

2NT-----Exon5-Exon6

AGCTTGCATGGGGGTTGTCC

AGCTTGCATGGTTAGTTCAA.....GTTCTTGCAGGGGGTTGTCC

zmP4H9

5NT-----Exon1-Exon2

GCAAACCCAGGGTGTTCCTG

GCAAACCCAGGTAGGCAACC.....TACGGTCCAGGGGTGTTCCTG

1NT-----Exon2-Exon3

GATCTCCCTCGCGAGAGCGG

GATCTCCCTCGTCAAGTCCA.....ATCTTTTCAGGGCGAGAGCGG

4NT-----Exon3-Exon4

GAAGGGCCAGGATCCTATTG

GAAGGGCCAGGTTAGGCCCT.....TTGATGACAGGGATCCTATTG

2NT-----Exon4-Exon5

CTTCCAAAAGAGAATGGTGA

CTTCCAAAAGGTTGTGGTTC.....TTCTAATCAGAGAATGGTGA

3NT-----Exon5-Exon6

CTTGGCTGAGGAGCCCGATG

CTTGGCTGAGGTAAATTTTT.....TTCTTAAAAGGGAGCCCGATG

3NT-----Exon6-Exon7

GGCATTGCAGTGAGACCACG

GGCATTGCAGGTATTGTGTT.....TGTTCCTCAGTGAGACCACG