Additional file 2. Putative cis-acting regulatory elements identified in the *Mpc1* promoters. Promoter analysis was performed using New PLACE database. “+” – coding strand, “–” – template strand.

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>promoter_TaMpc1-A2
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GGACTTGTCATAGAAATTTGGCTGCATCCGAGCTGCCGGCGATGTATGACGGCGAAGAAACGGCCGCGCTGTGCATCCCGATTCATTGA
ACACATGGAGCTTTCCTAGCCTTTTGGTCCATCTACCTCTAGAGAGAAGTGTCGATCACGATGACCATGGCTGAGGGTGCTAAGCAGGT
CCACGTAGACGCGCTACTGTACAATGCTTAACAGGTCCACGTAGACGCTCTGCTGTACACTGCTCAACGGGGCCACGTAGACGCGCCTA
TGAATAAATACGGCTACAGCCCTGCTGCCCACAGATGACAGACCCCCCCCCCCCCCCCTCTCTCTCTCTCTCTCTAACACAATACACAC
CGGAGATGAGGTGAGATAGAGAGGTTAGTTCAGAGAAAGAGGAAGAGGAAGATAGAGAGGGAGAGA
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Factor or Site Name	Loc.(Str.)	Signal Sequence	SITE #
GT1CONSENSUS	5 (+)	GRWAAW	S000198
MYCCONSENSUSAT	33 (-)	CANNTG	S000407
MYCCONSENSUSAT	33 (+)	CANNTG	S000407
GATABOX	47 (+)	GATA	S000039
MYB1AT	60 (+)	WAACCA	S000408
MYCCONSENSUSAT	64 (-)	CANNTG	S000407
MYCCONSENSUSAT	64 (+)	CANNTG	S000407
MYB2CONSENSUSAT	64 (+)	YAACKG	S000409
GT1CONSENSUS	69 (+)	GRWAAW	S000198
GT1CONSENSUS	95 (+)	GRWAAW	S000198
MYCCONSENSUSAT	103 (-)	CANNTG	S000407
CAATBOX1	103 (+)	CAAT	S000028
MYCCONSENSUSAT	103 (+)	CANNTG	S000407
CAATBOX1	105 (-)	CAAT	S000028
WRKY71OS	107 (+)	TGAC	S000447
MYCCONSENSUSAT	110 (-)	CANNTG	S000407
MYCCONSENSUSAT	110 (+)	CANNTG	S000407
MYB2CONSENSUSAT	110 (+)	YAACKG	S000409
DOFCOREZM	129 (+)	AAAG	S000265
MYCCONSENSUSAT	134 (-)	CANNTG	S000407
MYCCONSENSUSAT	134 (+)	CANNTG	S000407
SORLIP2AT	139 (+)	GGGCC	S000483
SORLIP2AT	144 (-)	GGGCC	S000483
CAATBOX1	151 (-)	CAAT	S000028
WRKY71OS	185 (-)	TGAC	S000447
WRKY71OS	225 (+)	TGAC	S000447
MYBCOREATCYCB1	237 (+)	AACGG	S000502
CGCGBOXAT	242 (-)	VCGCGB	S000501
CGCGBOXAT	242 (+)	VCGCGB	S000501
CAATBOX1	263 (-)	CAAT	S000028
MYCCONSENSUSAT	269 (-)	CANNTG	S000407
MYCCONSENSUSAT	269 (+)	CANNTG	S000407
DOFCOREZM	278 (-)	AAAG	S000265
DOFCOREZM	288 (-)	AAAG	S000265
CBFHV	318 (-)	RYCGAC	S000497
WRKY71OS	329 (+)	TGAC	S000447
CGCGBOXAT	365 (-)	VCGCGB	S000501
CGCGBOXAT	365 (+)	VCGCGB	S000501
CAATBOX1	378 (+)	CAAT	S000028
MYBCORE	385 (-)	CNGTTR	S000176
MYB2CONSENSUSAT	421 (+)	YAACKG	S000409
SORLIP2AT	426 (+)	GGGCC	S000483
BOXIIPCCHS	428 (-)	ACGTGGC	S000229
SORLIP1AT	428 (+)	GCCAC	S000482
CGCGBOXAT	437 (-)	VCGCGB	S000501
CGCGBOXAT	437 (+)	VCGCGB	S000501
MYCCONSENSUSAT	477 (-)	CANNTG	S000407
MYCCONSENSUSAT	477 (+)	CANNTG	S000407
WRKY71OS	481 (+)	TGAC	S000447
CAATBOX1	525 (+)	CAAT	S000028
GATABOX	549 (+)	GATA	S000039
MYB1LEPR	558 (+)	GTTAGTT	S000443
DOFCOREZM	570 (+)	AAAG	S000265

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GATABOX                           585 (+) GATA                               S000039
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>promoter_TaMpc1-B2

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AGAGAGAGGTTGCCTCAGAAGAAAGAGGAAGATAGAAAGAGAGAGAGAGAGAGAGAGAGAGAGA
    Factor or Site Name          Loc.(Str.)        Signal Sequence           SITE #
WBOXATNPR1                          4 (+) TTGAC                              S000390
WRKY71OS                            5 (+) TGAC                               S000447
IBOX                               23 (-) GATAAG                             S000124
GATABOX                            25 (-) GATA                               S000039
CAATBOX1                           28 (+) CAAT                               S000028
DOFCOREZM                          54 (-) AAAG                               S000265
DOFCOREZM                          69 (+) AAAG                               S000265
MYCCONSENSUSAT                     89 (-) CANNTG                             S000407
MYCCONSENSUSAT                     89 (+) CANNTG                             S000407
CBFHV                             151 (-) RYCGAC                             S000497
CBFHV                             151 (+) RYCGAC                             S000497
E2FCONSENSUS                      194 (+) WTTSSCSS                           S000476
MYCCONSENSUSAT                    214 (-) CANNTG                             S000407
MYCCONSENSUSAT                    214 (+) CANNTG                             S000407
WRKY71OS                          238 (-) TGAC                               S000447
WRKY71OS                          250 (+) TGAC                               S000447
CAATBOX1                          256 (+) CAAT                               S000028
MYBCOREATCYCB1                    278 (+) AACGG                              S000502
CGCGBOXAT                         283 (-) VCGCGB                             S000501
CGCGBOXAT                         283 (+) VCGCGB                             S000501
CAATBOX1                          304 (-) CAAT                               S000028
MYCCONSENSUSAT                    310 (-) CANNTG                             S000407
MYCCONSENSUSAT                    310 (+) CANNTG                             S000407
DOFCOREZM                         319 (-) AAAG                               S000265
DOFCOREZM                         329 (-) AAAG                               S000265
CBFHV                             359 (-) RYCGAC                             S000497
GATABOX                           368 (+) GATA                               S000039
IBOXCORE                          368 (+) GATAA                              S000199
MYB1AT                            370 (+) WAACCA                             S000408
CGCGBOXAT                         406 (-) VCGCGB                             S000501
CGCGBOXAT                         406 (+) VCGCGB                             S000501
CAATBOX1                          413 (-) CAAT                               S000028
CAATBOX1                          419 (+) CAAT                               S000028
CGCGBOXAT                         442 (-) VCGCGB                             S000501
CGCGBOXAT                         442 (+) VCGCGB                             S000501
CAATBOX1                          455 (+) CAAT                               S000028
MYBCOREATCYCB1                    463 (+) AACGG                              S000502
SORLIP2AT                         467 (+) GGGCC                              S000483
BOXIIPCCHS                        469 (-) ACGTGGC                            S000229
SORLIP1AT                         469 (+) GCCAC                              S000482
CGCGBOXAT                         478 (-) VCGCGB                             S000501
CGCGBOXAT                         478 (+) VCGCGB                             S000501
CAATBOX1                          505 (+) CAAT                               S000028
MYCCONSENSUSAT                    520 (-) CANNTG                             S000407
MYCCONSENSUSAT                    520 (+) CANNTG                             S000407
WRKY71OS                          529 (+) TGAC                               S000447
DOFCOREZM                         556 (+) AAAG                               S000265
GATABOX                           565 (+) GATA                               S000039
DOFCOREZM                         570 (+) AAAG                               S000265
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>promoter_TaMpc1-D2

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GGAGATGAGATGAGATAAGAGAGGTTAGTTCAGAGAAAGAGGAAGAGGAAGATAGAGAGGGAGAGA

Factor or Site Name	**Loc.(Str.)**		**Signal Sequence**	**SITE #**
MYCCONSENSUSAT	2	(-)	CANNTG	S000407
MYCCONSENSUSAT	2	(+)	CANNTG	S000407
GT1CONSENSUS	9	(+)	GRWAAW	S000198
WRKY71OS	15	(+)	TGAC	S000447
CGCGBOXAT	17	(-)	VCGCGB	S000501
CGCGBOXAT	17	(+)	VCGCGB	S000501
E2FCONSENSUS	19	(-)	WTTSSCSS	S000476
CAATBOX1	23	(+)	CAAT	S000028
GT1CONSENSUS	58	(+)	GRWAAW	S000198
GT1CONSENSUS	59	(+)	GRWAAW	S000198
MYCCONSENSUSAT	70	(-)	CANNTG	S000407
MYCCONSENSUSAT	70	(+)	CANNTG	S000407
GT1CONSENSUS	77	(+)	GRWAAW	S000198
WRKY71OS	83	(+)	TGAC	S000447
CGCGBOXAT	85	(-)	VCGCGB	S000501
CGCGBOXAT	85	(+)	VCGCGB	S000501
E2FCONSENSUS	87	(-)	WTTSSCSS	S000476
CAATBOX1	91	(+)	CAAT	S000028
WRKY71OS	122	(+)	TGAC	S000447
MYCCONSENSUSAT	151	(-)	CANNTG	S000407
MYCCONSENSUSAT	151	(+)	CANNTG	S000407
WRKY71OS	187	(-)	TGAC	S000447
WRKY71OS	206	(-)	TGAC	S000447
GATABOX	221	(+)	GATA	S000039
WRKY71OS	228	(+)	TGAC	S000447
MYBCOREATCYCB1	240	(+)	AACGG	S000502
CGCGBOXAT	245	(-)	VCGCGB	S000501
CGCGBOXAT	245	(+)	VCGCGB	S000501
CAATBOX1	266	(-)	CAAT	S000028
MYCCONSENSUSAT	272	(-)	CANNTG	S000407
MYCCONSENSUSAT	272	(+)	CANNTG	S000407
DOFCOREZM	281	(-)	AAAG	S000265
DOFCOREZM	291	(-)	AAAG	S000265
E2FCONSENSUS	293	(+)	WTTSSCSS	S000476
SORLIP2AT	296	(-)	GGGCC	S000483
CBFHV	321	(-)	RYCGAC	S000497
WRKY71OS	332	(+)	TGAC	S000447
WBOXNTERF3	332	(+)	TGACY	S000457
CGCGBOXAT	369	(-)	VCGCGB	S000501
CGCGBOXAT	369	(+)	VCGCGB	S000501
CAATBOX1	382	(+)	CAAT	S000028
SORLIP2AT	430	(+)	GGGCC	S000483
BOXIIPCCHS	432	(-)	ACGTGGC	S000229
SORLIP1AT	432	(+)	GCCAC	S000482
MYCCONSENSUSAT	481	(-)	CANNTG	S000407
MYCCONSENSUSAT	481	(+)	CANNTG	S000407
WRKY71OS	485	(+)	TGAC	S000447
SORLIP5AT	498	(-)	GAGTGAG	S000486
GATABOX	548	(+)	GATA	S000039
IBOX	548	(+)	GATAAG	S000124
MYB1LEPR	558	(+)	GTTAGTT	S000443
DOFCOREZM	570	(+)	AAAG	S000265
GATABOX	585	(+)	GATA	S000039

>promoter_TaMpc1-D3

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CACAGATGGATCCTTTGCTAGCCGTTTGGTGTACCTAACTCGGACTTAGGTGTTGCTTGCGGTGACCACATGGTGTATTAATAAAGCAC
AACGGCCTTCTGCCCACGGATCAAACACAGTACACACGGGCAGTTGGGAAAAAGATAACGGGGAGG
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Factor or Site Name	**Loc.(Str.)**	**Signal Sequence**	**SITE #**
MYB1AT	1 (-)	WAACCA	S000408
DOFCOREZM	9 (-)	AAAG	S000265
DOFCOREZM	64 (-)	AAAG	S000265
CAATBOX1	72 (+)	CAAT	S000028
GATABOX	81 (+)	GATA	S000039
WRKY71OS	88 (+)	TGAC	S000447
WBOXNTERF3	88 (+)	TGACY	S000457
DOFCOREZM	93 (+)	AAAG	S000265
WRKY71OS	110 (-)	TGAC	S000447
MYCCONSENSUSAT	112 (-)	CANNTG	S000407
MYCCONSENSUSAT	112 (+)	CANNTG	S000407
DOFCOREZM	135 (-)	AAAG	S000265
WRKY71OS	141 (-)	TGAC	S000447
CGCGBOXAT	146 (-)	VCGCGB	S000501
CGCGBOXAT	146 (+)	VCGCGB	S000501
CAATBOX1	198 (-)	CAAT	S000028
CAATBOX1	205 (-)	CAAT	S000028
SORLIP2AT	208 (+)	GGGCC	S000483
SORLIP2AT	209 (-)	GGGCC	S000483
WRKY71OS	245 (+)	TGAC	S000447
WBOXNTERF3	245 (+)	TGACY	S000457
MYB2CONSENSUSAT	252 (-)	YAACKG	S000409
CAATBOX1	289 (+)	CAAT	S000028
CAATBOX1	301 (+)	CAAT	S000028
DOFCOREZM	333 (-)	AAAG	S000265
DOFCOREZM	365 (-)	AAAG	S000265
MYBST1	373 (+)	GGATA	S000180
GATABOX	374 (+)	GATA	S000039
GATABOX	376 (-)	GATA	S000039
MYBCOREATCYCB1	416 (+)	AACGG	S000502
CAATBOX1	442 (-)	CAAT	S000028
MYCCONSENSUSAT	448 (-)	CANNTG	S000407
MYCCONSENSUSAT	448 (+)	CANNTG	S000407
DOFCOREZM	458 (-)	AAAG	S000265
MYBCOREATCYCB1	467 (-)	AACGG	S000502
WRKY71OS	508 (+)	TGAC	S000447
WBOXNTERF3	508 (+)	TGACY	S000457
MYCCONSENSUSAT	512 (-)	CANNTG	S000407
MYCCONSENSUSAT	512 (+)	CANNTG	S000407
DOFCOREZM	528 (+)	AAAG	S000265
MYB2CONSENSUSAT	534 (+)	YAACKG	S000409
MYCCONSENSUSAT	575 (-)	CANNTG	S000407
MYB2CONSENSUSAT	575 (-)	YAACKG	S000409
MYCCONSENSUSAT	575 (+)	CANNTG	S000407
GT1CONSENSUS	581 (+)	GRWAAW	S000198
GT1CONSENSUS	582 (+)	GRWAAW	S000198
DOFCOREZM	585 (+)	AAAG	S000265
GATABOX	588 (+)	GATA	S000039
IBOXCORE	588 (+)	GATAA	S000199
MYB2CONSENSUSAT	590 (+)	YAACKG	S000409

>promoter_TaMpc1-D4

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GCACTAACCGGGTAGGTTGGCCCGGTCTATGCCGACGACCGCGCCTATGCCGACGGTCTCCGTAGGCGTATTTCGAGCGGTCCCGACGG
CCTCGTCTGTGCCGACGGCCCCGTCGGCATAGATGGATGTATGCTGACGGCTTTTCTACGCCTACGGCCTGTCCTTGGCCGTCGGCATA
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ATTGCACAGATGGAGTCTTCCTAGCCTTTTGATCCATCTAACTCTGAGATAAGTGTCGCTCACGATGGCCGTGGGTTGAGGGTGCAAAG
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AGATGACAGACCCTCGCTCACTCGCTCTCTAACACAACACCCACTGGAGAGAGAGAGAGAGAGAGA
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Factor or Site Name	**Loc.(Str.)**	**Signal Sequence**	**SITE #**
GATABOX	30 (+)	GATA	S000039
DRECRTCOREAT	35 (+)	RCCGAC	S000418
CGCGBOXAT	43 (-)	VCGCGB	S000501
CGCGBOXAT	43 (+)	VCGCGB	S000501
MYBCORE	46 (+)	CNGTTR	S000176
DRECRTCOREAT	58 (-)	RCCGAC	S000418
WRKY71OS	78 (-)	TGAC	S000447
MYBCOREATCYCB1	82 (+)	AACGG	S000502
WRKY71OS	86 (-)	TGAC	S000447
MYBCORE	94 (-)	CNGTTR	S000176
MYBPZM	100 (-)	CCWACC	S000179
MYBPZM	104 (-)	CCWACC	S000179
SORLIP2AT	108 (-)	GGGCC	S000483
DRECRTCOREAT	120 (+)	RCCGAC	S000418
CGCGBOXAT	128 (-)	VCGCGB	S000501
CGCGBOXAT	128 (+)	VCGCGB	S000501
DRECRTCOREAT	138 (+)	RCCGAC	S000418
DRECRTCOREAT	189 (+)	RCCGAC	S000418
SORLIP2AT	195 (-)	GGGCC	S000483
DRECRTCOREAT	201 (-)	RCCGAC	S000418
WRKY71OS	223 (+)	TGAC	S000447
DOFCOREZM	229 (-)	AAAG	S000265
DRECRTCOREAT	259 (-)	RCCGAC	S000418
SORLIP2AT	268 (-)	GGGCC	S000483
DRECRTCOREAT	279 (+)	RCCGAC	S000418
SORLIP2AT	287 (+)	GGGCC	S000483
DRECRTCOREAT	292 (-)	RCCGAC	S000418
DRECRTCOREAT	310 (-)	RCCGAC	S000418
MYB2CONSENSUSAT	321 (-)	YAACKG	S000409
MYBCORE	321 (+)	CNGTTR	S000176
GT1CONSENSUS	337 (+)	GRWAAW	S000198
MYBCOREATCYCB1	341 (+)	AACGG	S000502
CGCGBOXAT	346 (-)	VCGCGB	S000501
CGCGBOXAT	346 (+)	VCGCGB	S000501
CAATBOX1	357 (-)	CAAT	S000028
MYCCONSENSUSAT	363 (-)	CANNTG	S000407
MYCCONSENSUSAT	363 (+)	CANNTG	S000407
DOFCOREZM	382 (-)	AAAG	S000265
GATABOX	404 (+)	GATA	S000039
IBOX	404 (+)	GATAAG	S000124
DOFCOREZM	442 (+)	AAAG	S000265
CGCGBOXAT	459 (-)	VCGCGB	S000501
CGCGBOXAT	459 (+)	VCGCGB	S000501
CAATBOX1	472 (+)	CAAT	S000028
GATABOX	476 (+)	GATA	S000039
IBOXCORE	476 (+)	GATAA	S000199
MYBCORE	478 (-)	CNGTTR	S000176
BP5OSWX	487 (-)	CAACGTG	S000436
WRKY71OS	492 (+)	TGAC	S000447
CGCGBOXAT	494 (-)	VCGCGB	S000501
CGCGBOXAT	494 (+)	VCGCGB	S000501
MYCCONSENSUSAT	534 (-)	CANNTG	S000407
MYCCONSENSUSAT	534 (+)	CANNTG	S000407
WRKY71OS	538 (+)	TGAC	S000447
SORLIP5AT	551 (-)	GAGTGAG	S000486

>promoter_HvMpc1-H2

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GGTCCACGTAGACGCGCTATTGTACAATGCTAAACGGGTCCACGTAGACGCGCTAATGACTAAATACGGCAACAACCCTGCTGCCCAAA
GATGACGGACCCTCACTCTCTCGCTCTCTAACACAACACAACACACACCGGAGAAGA
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Factor or Site Name	**Loc.(Str.)**	**Signal Sequence**	**SITE #**
BIHD1OS	20 (-)	TGTCA	S000498
WRKY71OS	20 (+)	TGAC	S000447
MYB2CONSENSUSAT	35 (+)	YAACKG	S000409
MYCCONSENSUSAT	68 (-)	CANNTG	S000407
MYCCONSENSUSAT	68 (+)	CANNTG	S000407
BIHD1OS	116 (-)	TGTCA	S000498
WRKY71OS	116 (+)	TGAC	S000447
MYCCONSENSUSAT	121 (-)	CANNTG	S000407
MYCCONSENSUSAT	121 (+)	CANNTG	S000407
DOFCOREZM	139 (+)	AAAG	S000265
DOFCOREZM	159 (-)	AAAG	S000265
DOFCOREZM	169 (+)	AAAG	S000265
DOFCOREZM	183 (-)	AAAG	S000265
MYCCONSENSUSAT	188 (-)	CANNTG	S000407
MYB2CONSENSUSAT	188 (-)	YAACKG	S000409
MYCCONSENSUSAT	188 (+)	CANNTG	S000407
BIHD1OS	192 (+)	TGTCA	S000498
WRKY71OS	193 (-)	TGAC	S000447
DOFCOREZM	197 (+)	AAAG	S000265
MYCCONSENSUSAT	221 (-)	CANNTG	S000407
MYCCONSENSUSAT	221 (+)	CANNTG	S000407
CAATBOX1	266 (-)	CAAT	S000028
MYCCONSENSUSAT	272 (-)	CANNTG	S000407
MYCCONSENSUSAT	272 (+)	CANNTG	S000407
DOFCOREZM	291 (-)	AAAG	S000265
IBOX	313 (+)	GATAAG	S000124
WBOXHVISO1	331 (+)	TGACT	S000442
WRKY71OS	331 (+)	TGAC	S000447
WBOXNTERF3	331 (+)	TGACY	S000457
CAATBOX1	340 (-)	CAAT	S000028
DOFCOREZM	351 (+)	AAAG	S000265
OPAQUE2ZM22Z	359 (+)	TCCACGTAGA	S000017
CAATBOX1	375 (-)	CAAT	S000028
CAATBOX1	381 (+)	CAAT	S000028
MYBCOREATCYCB1	389 (+)	AACGG	S000502
OPAQUE2ZM22Z	395 (+)	TCCACGTAGA	S000017
WBOXHVISO1	413 (+)	TGACT	S000442
DOFCOREZM	443 (+)	AAAG	S000265
WRKY71OS	448 (+)	TGAC	S000447
SORLIP5AT	457 (-)	GAGTGAG	S000486

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>promoter_HvMpc1-H3
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CCCCAACACGCTACGCCTGGAGGAGTCGCCACCGCTATCTTTCCAGACCAGGTGCGAGAGATCGTAGGGGGCCTAACGAGCTGAAGTAT
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GTTCATTACACGGATGGATCCTTGCTAGGCGTTTGGTGTACCTAATTCGGACTTAGGCGGTGCCCACATGGTGTGTTAATAAAGCACAC
CGGCAACCTGCCCACGGACCCAAACACAGCACACACAGGCAGTGGGGAAAAGAGATGAGATGGGGAGG
    Factor or Site Name      Loc.(Str.)       Signal Sequence       SITE #
DOFCOREZM                       4  (-)  AAAG                        S000265
CACTFTPPCA1                    10  (+)  YACT                        S000449
MYBCOREATCYCB1                 46  (-)  AACGG                       S000502
DOFCOREZM                      75  (-)  AAAG                        S000265
GT1CONSENSUS                   83  (-)  GRWAAW                      S000198
IBOXCORE                       84  (-)  GATAA                       S000199
GATABOX                        85  (-)  GATA                        S000039
WRKY71OS                       89  (-)  TGAC                        S000447
GATABOX                       144  (-)  GATA                        S000039
GATABOX                       150  (+)  GATA                        S000039
SORLIP1AT                     168  (+)  GCCAC                       S000482
GATABOX                       178  (-)  GATA                        S000039
CACTFTPPCA1                   217  (+)  YACT                        S000449
SORLIP2AT                     228  (-)  GGGCC                       S000483
MYBCORE                       245  (-)  CNGTTR                      S000176
SORLIP1AT                     295  (+)  GCCAC                       S000482
GATABOX                       303  (-)  GATA                        S000039
DOFCOREZM                     306  (-)  AAAG                        S000265
MYCCONSENSUSAT                316  (-)  CANNTG                      S000407
MYCCONSENSUSAT                316  (+)  CANNTG                      S000407
SORLIP2AT                     336  (+)  GGGCC                       S000483
CACTFTPPCA1                   352  (-)  YACT                        S000449
CAATBOX1                      355  (-)  CAAT                        S000028
MYBST1                        383  (+)  GGATA                       S000180
GATABOX                       384  (+)  GATA                        S000039
GATABOX                       386  (-)  GATA                        S000039
CACTFTPPCA1                   396  (-)  YACT                        S000449
MYCCONSENSUSAT                400  (-)  CANNTG                      S000407
MYCCONSENSUSAT                400  (+)  CANNTG                      S000407
CACTFTPPCA1                   402  (-)  YACT                        S000449
MYBCOREATCYCB1                424  (+)  AACGG                       S000502
MYBPLANT                      476  (-)  MACCWAMC                    S000167
MYCCONSENSUSAT                510  (-)  CANNTG                      S000407
MYCCONSENSUSAT                510  (+)  CANNTG                      S000407
DOFCOREZM                     526  (+)  AAAG                        S000265
CACTFTPPCA1                   575  (-)  YACT                        S000449
GT1CONSENSUS                  580  (+)  GRWAAW                      S000198
DOFCOREZM                     583  (+)  AAAG                        S000265
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