

Supplemental File:

Figure_S4. Alignments between mature miRNAs and their presursors.

Paper title: "Comparative profiling of microRNA expression in soybean seeds from genetically modified plants and their near-isogenic parental lines"

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3 conserved gma-MIRs alnout:

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gma-MIR1516-N1
>F_20_01_Gm03_-_start_47035754_stop_47035862_length_109nt_mappable_miRNA_candidates_9   gma-MIR1516a   89.9   I109MI
CUGUUUGGAUACAAGCCAUAAGCUCUUUUGAGAGCUCUCUACCGAAUAUAUAUAUAUUUCUGUAGAGAGCUCUCAAAAGAGCUUAUAACUUGUAUCCAACAUC
.((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
CTGTTTGGATACAAGCCATAAGCT.....total_24nt_0090001_0000004 + 1
...TTTGGATACAAGCCATA.....total_17nt_1980631_0000001 + 4
...TTTGGATACAAGCCATAAGCT.....total_21nt_0187752_0000002 + 4
...TTGGATACAAGCCATAAGCTCT.....total_22nt_0338102_0000001 + 5
.....TACAAGCCATAAGCTCTTTTG.....total_21nt_0694454_0000001 + 10
.....TAATATATTTTCTGTAGAGAAGCTCT.....total_26nt_1696624_0000001 + 54
.....ATATATTTTCTGTAGAGAAGCT.....total_22nt_0765267_0000005 + 56
.....ATATATTTTCTGTAGAGAAGCTCT.....total_24nt_1662578_0000001 + 56
.....TGTAGAGAAGCTCTCAAAAGAGC.....total_23nt_0108898_0000001 + 66
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gma-MIR4374-N1
>F_18_01_Gm01_-_start_23428261_stop_23428375_length_115nt_mappable_miRNA_candidates_14   gma-MIR4374b   94.3   4D17MD89M4D
AGACGGUCUUAACCUAGCAACCGUCUUUGAAAGUAGGCAUUAUAGACGUUGCUGAUGAAGCAGCUCUUUAAGCCUACUUCAAAGUCGGUGUAUGAAGCAGCCGUCU
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
AGACGGTGTCTACCTC.....total_16nt_0821662_0000001 + 1
.....CAACCGTCTTTGAAG.....total_16nt_0437877_0000001 + 19
.....CTGATGTAAGCAGCCTTTGAAT.....total_24nt_1834895_0000001 + 54
.....TGTAAGCAGCCTTTGAATGCC.....total_23nt_0288307_0000001 + 58
.....TGTAAGCAGCCTTTGAATGCCT.....total_24nt_0479263_0000042 + 58
.....GTAAGCAGCCTTTGAATGCCT.....total_23nt_0648578_0000002 + 59
.....TAAGCAGCCTTTGAATGCCT.....total_22nt_0612463_0000010 + 60
.....AAGCAGCCTTTGAATGCCT.....total_21nt_0802328_0000004 + 61
.....AGCAGCCTTTGAATGCCT.....total_20nt_0699842_0000002 + 62
.....AGCAGCCTTTGAATGCCTACTT.....total_24nt_2024114_0000001 + 62
.....GAATGCCTACTTTCAAGTCGGTG.....total_24nt_1510247_0000002 + 74
.....TTTCAAGTCGGTGTGATGTAAGC.....total_25nt_0809991_0000001 + 84
.....TCAAGTCGGTGTGATGTA.....total_20nt_1948626_0000001 + 86
.....AAAGTCGGTGTGATGTAAGCACC.....total_24nt_1515550_0000001 + 88
```

```
gma-MIR4401-N1
>F_24_01_Gm05_-_start_5369728_stop_5369821_length_94nt_mappable_miRNA_candidates_7   gma-MIR4401a   81.9   11I94M11I
GCUUUUUUCAAAGACGUGUUGAGGUAAGCAGCAGCUCUUAAGUCUUUUUUUUUUUUUUUUAAGACGAUGCUUACCUCAACAACGUCUUUGAAAGUAGGC
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
TTTCAAAGACCTTGTGAGGTAG.....total_24nt_0199750_0000001 + 7
.....AAAGACCTTGTGAGGTAAGCACC.....total_24nt_0459422_0000006 + 11
.....GACGTGTTGAGGTAAGCACC.....total_21nt_0900284_0000001 + 14
.....ACGTGTTGAGGTAAGCACC.....total_20nt_1146133_0000002 + 15
.....ATTGTTAAGACGATGCTTACCTCA.....total_24nt_0446589_0000001 + 50
.....TCAACACGCTTTGAAAGTAGGC.....total_24nt_0804229_0000002 + 71
.....CAACGCTTTGAAAGT.....total_16nt_0682001_0000002 + 75
```

11 novel gma-MIRs alout:

gma-MIR-N1a

>F_3_01_Gm02 + start 39925524 stop 39925657 length 134nt mappable_miRNA_candidates 28

GAACUACUUUCUACAUUGGUCGUUUUAUAACCAGAUCAUGAAUGUAUUUUUGCAUCUAGAAUGUAUUUUUUUUCUACAUCGAAAAUUUAUCAUUCUAGUUCGUAUUUAACGCCAAUGUAGAAAGUAGUUUUU

(((.....))) (-87.00)
.....TTTCTACATCGGTGTTTAATAAC..... total_24nt_0989988_0000002 + 8
.....TTTCTACATCGGTGTTTAATAAC..... total_24nt_0531115_0000002 + 9
.....CTACATCGGTGTTTAATAAC..... total_21nt_0759530_0000001 + 11
.....TACATCGGTGTTTAATAAC..... total_17nt_0050829_0000001 + 12
.....TACATCGGTGTTTAATAAC..... total_20nt_0842205_0000001 + 12
.....TACATCGGTGTTTAATAAC..... total_21nt_0368992_0000001 + 12
.....TACATCGGTGTTTAATAACCG..... total_22nt_1146662_0000001 + 12
.....TCGTTTAATAACCGATCTAGAATG..... total_24nt_2002156_0000002 + 20
.....TTTAATAACCGATCTAGAATG..... total_21nt_0985664_0000002 + 23
.....TTTAATAACCGATCTAGAATGTAA..... total_24nt_0898319_0000001 + 23
.....TTAATAACCGATCTAGAATG..... total_20nt_0529773_0000001 + 24
.....TTAATAACCGATCTAGAATGT..... total_21nt_0829385_0000001 + 24
.....TTAATAACCGATCTAGAATGTAAT..... total_24nt_1527797_0000001 + 24
.....TAATAACCGATCTAGAATGTA..... total_21nt_1398462_0000002 + 25
.....AATAACCGATCTAGAATGTAAT..... total_22nt_0962388_0000001 + 26
.....ATAACCGATCTAGAATGTAAT..... total_21nt_0196345_0000010 + 27
.....ATAACCGATCTAGAATGTAATATT..... total_24nt_0951598_0000001 + 27
.....TAACCGATCTAGAATGTAAT..... total_20nt_1677315_0000002 + 28
.....ACCGATCTAGAATGTAAT..... total_17nt_2018820_0000001 + 30
.....TTACATCTAGATCGGTATT..... total_21nt_1555199_0000001 + 88
.....TACATCTAGATCGGTATT..... total_18nt_2086930_0000001 + 89
.....ATTCTAGATCGGTATTAAACGA..... total_23nt_0461626_0000002 + 92
.....ATTCTAGATCGGTATTAAACGAC..... total_24nt_0398121_0000003 + 92
.....TTCTAGATCGGTATTAAAC..... total_20nt_0903805_0000001 + 93
.....TTCTAGATCGGTATTAAACGA..... total_22nt_1486811_0000001 + 93
.....TATTAACGACCAATGTAGAAAGT..... total_24nt_1256699_0000001 + 105
.....TTAAACGACCAATGTAGAAAGT..... total_22nt_0310679_0000001 + 107
.....ACGACCAATGTAGAAAGTAGTTAT..... total_24nt_1336802_0000001 + 111

gma-MIR-N1b

>F_3_02_Gm02 - start 39925526 stop 39925654 length 129nt mappable_miRNA_candidates 24

ACUACUUUCUACAUUGGUCGUUUUAUAACCAGAUCAUGAAUGUAUUUUUGCAUCUAGAAUGUAUUUUUUUUCUACAUCGAAAAUUUAUCAUUCUAGUUCGUAUUUAACGCCAAUGUAGAAAGUAGUUUUU

(((.....))) (-90.90)
.....TTTCTACATGGTGTGTTTAATAAC..... total_24nt_0655528_0000001 + 6
.....TCGTTTAATAACCGATCTAGAATG..... total_24nt_2002156_0000002 + 18
.....TTTAATAACCGATCTAGAATG..... total_21nt_0985664_0000002 + 21
.....TTTAATAACCGATCTAGAATGTAA..... total_24nt_0898319_0000001 + 21
.....TTAATAACCGATCTAGAATG..... total_20nt_0529773_0000001 + 22
.....TTAATAACCGATCTAGAATGT..... total_21nt_0829385_0000001 + 22
.....TTAATAACCGATCTAGAATGTAAT..... total_24nt_1527797_0000001 + 22
.....TAATAACCGATCTAGAATGTA..... total_21nt_1398462_0000002 + 23
.....AATAACCGATCTAGAATGTAAT..... total_22nt_0962388_0000001 + 24
.....ATAACCGATCTAGAATGTAAT..... total_21nt_0196345_0000010 + 25
.....ATAACCGATCTAGAATGTAATATT..... total_24nt_0951598_0000001 + 25
.....TAACCGATCTAGAATGTAAT..... total_20nt_1677315_0000002 + 26
.....ACCGATCTAGAATGTAAT..... total_17nt_2018820_0000001 + 28
.....TTACATCTAGATCGGTATT..... total_21nt_1555199_0000001 + 86
.....TACATCTAGATCGGTATT..... total_18nt_2086930_0000001 + 87
.....ATTCTAGATCGGTATTAAACGA..... total_23nt_0461626_0000002 + 90
.....ATTCTAGATCGGTATTAAACGAC..... total_24nt_0398121_0000003 + 90
.....TTCTAGATCGGTATTAAAC..... total_20nt_0903805_0000001 + 91
.....TTCTAGATCGGTATTAAACGA..... total_22nt_1486811_0000001 + 91
.....TATTAACGACCGATGTAGAAAGT..... total_24nt_1092419_0000013 + 103
.....ATTAAACGACCGATGTAGAAAGT..... total_23nt_0422565_0000001 + 104
.....TTAAACGACCGATGTAGAAAGTAG..... total_24nt_0559585_0000001 + 105
.....TAAACGACCGATGTAGAAAGTAGT..... total_24nt_0238945_0000001 + 106
.....ACCGATGTAGAAAGT..... total_15nt_0378749_0000002 + 112

gma-MIR-N1c

>F_3_03_Gm03_+_start_11919586_stop_11919706_length_121nt_mappable_miRNA_candidates_15

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AAAACUACUUUCUACAUCGGUCGUUUAAUACCGAUCUAGAUGUAAUUUUUUUUCUACGUUGUUGUAGAAAAUUAUACAUCUAGAUCGGUUUUAUAAACGACCGAUGAAGUAGUUU
..((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.....TTTCTACATCGGTCGTTTAATAAC.....total_24nt_0989988_0000002 + 9
.....CTACATCGGTCGTTTAATAAC.....total_21nt_0759530_0000001 + 12
.....TACATCGGTCGTTTAAT.....total_17nt_0050829_0000001 + 13
.....TACATCGGTCGTTTAATAAC.....total_20nt_0842205_0000001 + 13
.....TTACATCTAGATCGGTTATT.....total_21nt_1555199_0000001 + 75
.....TACATCTAGATCGGTTA.....total_18nt_2086930_0000001 + 76
.....ATTCTAGATCGGTTATTAACGA.....total_23nt_0461626_0000002 + 79
.....ATTCTAGATCGGTTATTAACGAC.....total_24nt_0398121_0000003 + 79
.....TTCTAGATCGGTTATTAAC.....total_20nt_0903805_0000001 + 80
.....TTCTAGATCGGTTATTAACGA.....total_22nt_1486811_0000001 + 80
.....TATTAAACGACCGATGTAGAAAGT.....total_24nt_1092419_0000013 + 92
.....ATTAACGACCGATGTAGAAAGT.....total_23nt_0422565_0000001 + 93
.....TTAAACGACCGATGTAGAAAGTAG.....total_24nt_0559585_0000001 + 94
.....TAAACGACCGATGTAGAAAGTAGT...total_24nt_0238945_0000001 + 95
.....ACCGATGTAGAAAGT.....total_15nt_0378749_0000002 + 101
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gma-MIR-N1d

>F_3_04_Gm03_-_start_11919589_stop_11919703_length_115nt_mappable_miRNA_candidates_24

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ACUACUUUCUACAUCGGUCGUUUAAUACCGAUCUAGAUGUAAUUUUUUUUCUACAACAACGUAAGAAAAUUACAUCUAGAUCGGUUUUAUAAACGACCGAUGAAGUAGUU
((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
.....TTTCTACATCGGTCGTTTAATAAC.....total_24nt_0989988_0000002 + 6
.....TTCTACATCGGTCGTTTAATAAC.....total_24nt_0531115_0000002 + 7
.....CTACATCGGTCGTTTAATAAC.....total_21nt_0759530_0000001 + 9
.....TACATCGGTCGTTTAAT.....total_17nt_0050829_0000001 + 10
.....TACATCGGTCGTTTAATAAC.....total_20nt_0842205_0000001 + 10
.....TACATCGGTCGTTTAATAAC.....total_21nt_0368992_0000001 + 10
.....TACATCGGTCGTTTAATAACCG.....total_22nt_1146662_0000001 + 10
.....TCGTTTAATAACCGATCTAGAATG.....total_24nt_2002156_0000002 + 18
.....TTTAATAACCGATCTAGAATG.....total_21nt_0985664_0000002 + 21
.....TTTAATAACCGATCTAGAATGTAA.....total_24nt_0898319_0000001 + 21
.....TTAATAACCGATCTAGAATG.....total_20nt_0529773_0000001 + 22
.....TTAATAACCGATCTAGAATGT.....total_21nt_0829385_0000001 + 22
.....TTAATAACCGATCTAGAATGTAAT.....total_24nt_1527797_0000001 + 22
.....TAATAACCGATCTAGAATGTA.....total_21nt_1398462_0000002 + 23
.....AATAACCGATCTAGAATGTAAT.....total_22nt_0962388_0000001 + 24
.....ATAACCGATCTAGAATGTAAT.....total_21nt_0196345_0000010 + 25
.....ATAACCGATCTAGAATGTAATATT.....total_24nt_0951598_0000001 + 25
.....TAACCGATCTAGAATGTAAT.....total_20nt_1677315_0000002 + 26
.....ACCGATCTAGAATGTAA.....total_17nt_2018820_0000001 + 28
.....TATTAAACGACCGATGTAGAAAGT...total_24nt_1092419_0000013 + 89
.....ATTAACGACCGATGTAGAAAGT...total_23nt_0422565_0000001 + 90
.....TTAAACGACCGATGTAGAAAGTAG.....total_24nt_0559585_0000001 + 91
.....TAAACGACCGATGTAGAAAGTAGT...total_24nt_0238945_0000001 + 92
.....ACCGATGTAGAAAGT.....total_15nt_0378749_0000002 + 98
```


