

Fig. 1 Suppl. Northern blot of three novel microRNAs. Total RNA(30 µg) extracted from leaves was loaded in each lane, miRNAs labeledwith DIG-UTP were used as probes.Membranes were exposed to X-ray film and photographed. tRNA was used as internal control.

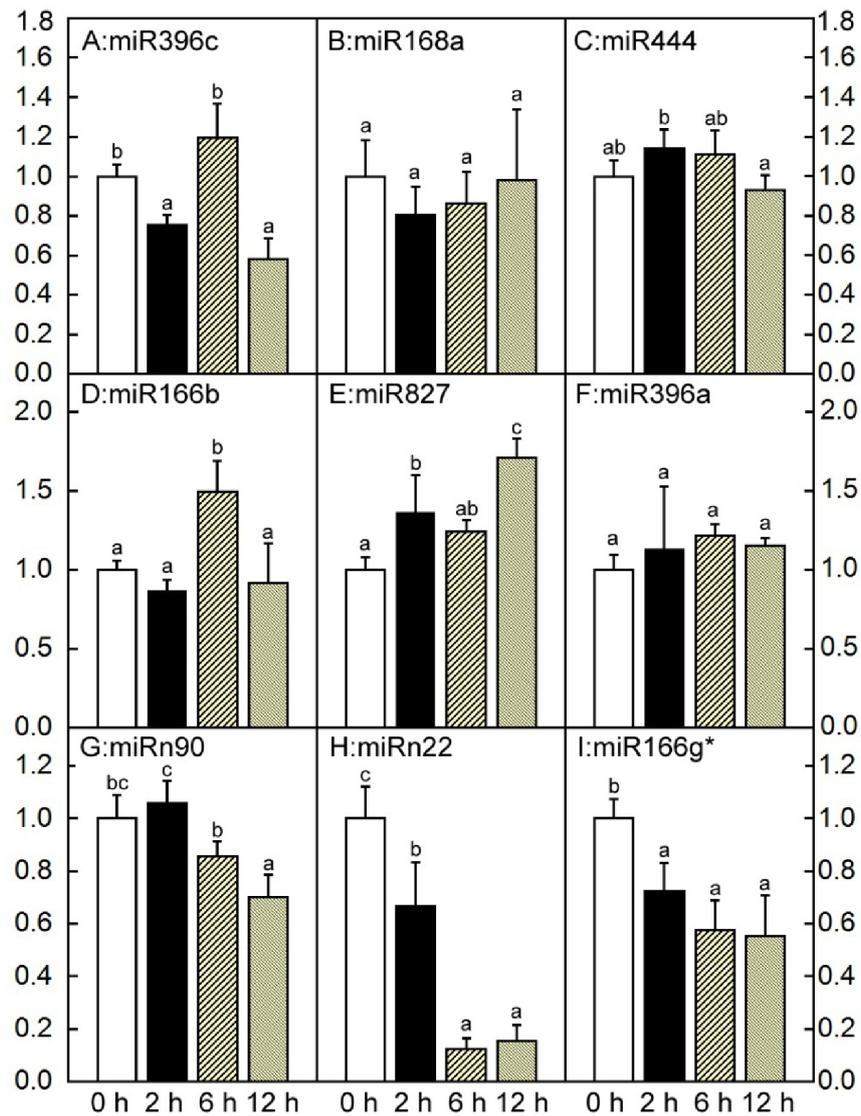


Fig. 2 Suppl. Real time qPCR of miRNAs. The X axis is the time of after transfer to low temperature. The relative fold changes (0 h = 1) were measured in 3 biological replicates and the vertical bars represent SE. Statistical analysis was executed with one-way ANOVA and Duncan's multiple comparisons post-hoc analysis for the individual samples ( $\alpha = 0.05$ ). Different letters mark significant differences.

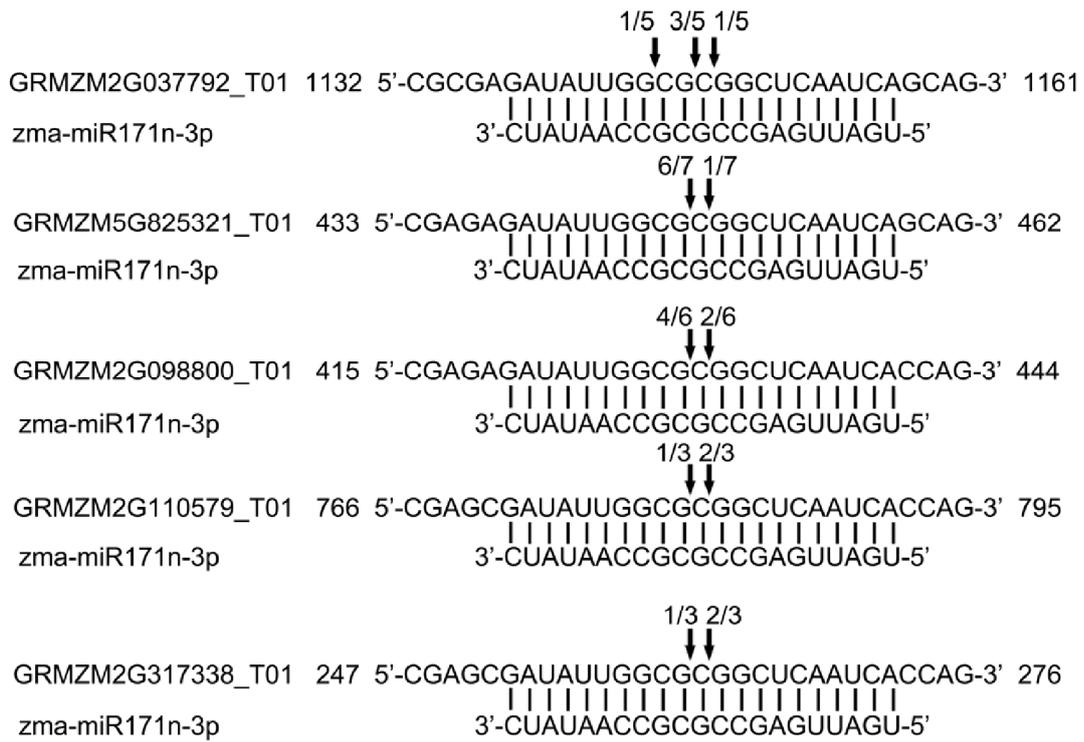


Fig. 3 Suppl. RLM-RACE validation of five targets for zma-miR171. The lower strand is the mature miRNA sequence and depicts the complementary site of the target gene. *Arrows* indicate the cleave site with the frequency of clones shown.

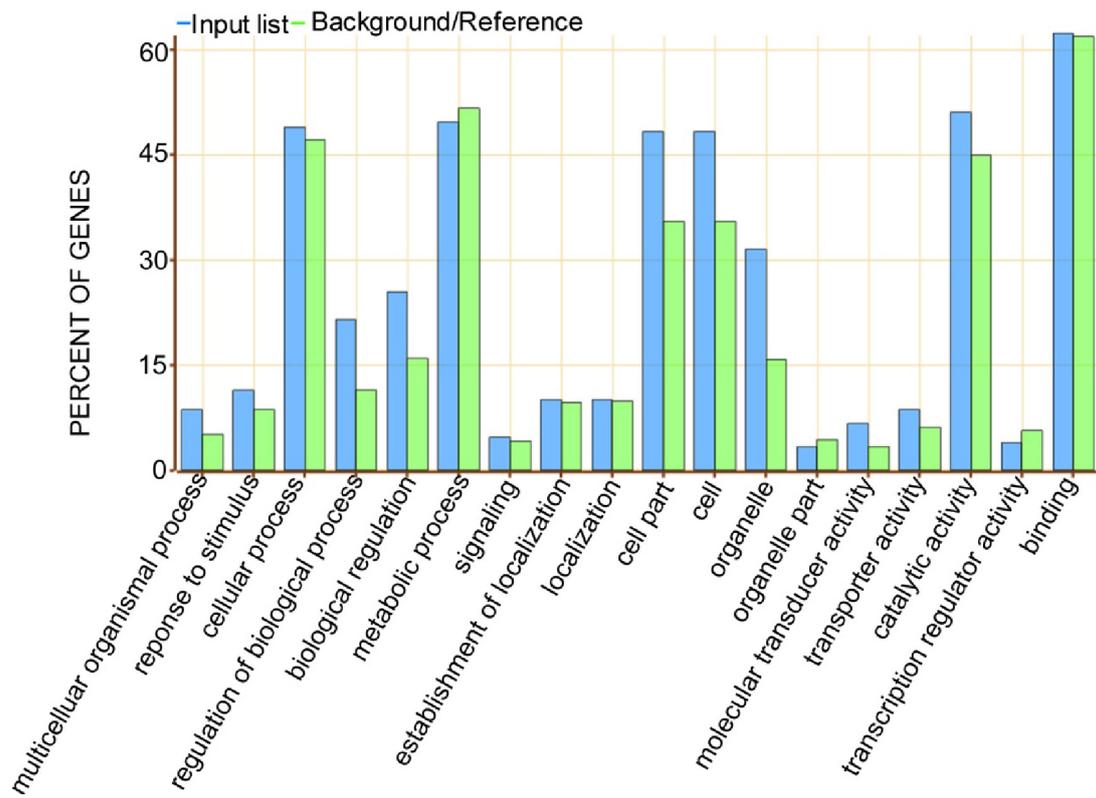


Fig. 4 Suppl. GO analyses of the targets of the known and novel miRNAs in maize. Blue bars indicate the enrichment of the GO terms in the miRNA targets in GO. Green bars indicate the percentage of the total annotated maize genes that were mapped to the GO terms.

Table 1 Suppl. Stem-loop PCR primers.

miRNA	miRNAsequences	Forward primers	Reverse primers
zma-miRn44	UAGCCAAGGAUGAGCU GCCUG	GCGACGTAGCCAAGGA TGAGC	GTCGTATCCAGTGCAGGGTCCGAGGTATTCGC ACTGGATACGACCAGGCA
zma-miRn15	UUGAGCCGCGUCAAUAU CUCC	GGTTCCTTGAGCCGCG TCAAT	GTCGTATCCAGTGCAGGGTCCGAGGTATTCGC ACTGGATACGACGGAGAT
zma-miRn22	UGAAGCUCAGGAGGGA UAGCG	CGCTCTGTGAAGCTCA GGAGGG	GTCGTATCCAGTGCAGGGTCCGAGGTATTCGC ACTGGATACGACCGCTAT
zma-miRn120	UGAGGAAGGAUAAAAGA UGGUG	GCGCGCTGAGGAAGGA TAAAG	GTCGTATCCAGTGCAGGGTCCGAGGTATTCGC ACTGGATACGACCACCAT
novel_mir_138	CGGAGGGGAUUGGAGA GGCUAA	TACGTACGGAGGGGAT TGGAGA	GTCGTATCCAGTGCAGGGTCCGAGGTATTCGC ACTGGATACGACTTAGCC
zma-miRn94	UGACAGAAAGAGAAGC GAGCAC	ACGCCGTGACAGAAAG AGAAGC	GTCGTATCCAGTGCAGGGTCCGAGGTATTCGC ACTGGATACGACGTGCTC
zma-miRn168	ACAGAAAGAGAAGUGA GCACGCG	GCGCGAACAGAAAGA GAAGTGAG	GTCGTATCCAGTGCAGGGTCCGAGGTATTCGC ACTGGATACGACCGCGTG
zma-miRn59	AGGGAGGGAGCGGAAG AUGGAG	ATAACGTAGGGAGGGA GCGGAAG	GTCGTATCCAGTGCAGGGTCCGAGGTATTCGC ACTGGATACGACCTCCAT
zma-miRn85	GUGGAAGGGUAGGAGA GUAAA	CAAGCCGTGGAAGGGT AGGAG	GTCGTATCCAGTGCAGGGTCCGAGGTATTCGC ACTGGATACGACTTTACT
u6 snRNA		CGATAAAATTGGAACG ATACAGA	ATTTGGACCATTCTCGATTTGT
URP	GTGCAGGGTCCGAGGT		

Table 2 Suppl. RT-qPCR primers.

miRNA	miRNA_sequence	Forward primers	Reverse primers
zma-miRn44	UAGCCAAGGAUG	GCGACGTAGCCAAGGATG	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	AGCUGCCUG	AGC	CACTGGATACGACCAGGCA
zma-miRn15	UUGAGCCGCGUC	GGTTCCTTGAGCCGCGTCA	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	AAUAUCUCC	AT	CACTGGATACGACGGAGAT
zma-miRn120	UGAGGAAGGAUA	GCGCGCTGAGGAAGGATA	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	AAGAUGGUG	AAG	CACTGGATACGACCACCAT
zma-miRn138	CGGAGGGGAUUG	TACGTACGGAGGGGATTGG	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	GAGAGGCUAA	AGA	CACTGGATACGACTTAGCC
zma-miRn59	AGGGAGGGAGCG	ATAACGTAGGGAGGGAGC	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	GAAGAUGGAG	GGAAG	CACTGGATACGACCTCCAT
zma-miR395a	GUGAAGUGUUUG	CGATACGTGAAGTGTTTGG	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	GGGGAACUC	GG	CACTGGATACGACGAGTTC
zma-miR408b	CUGCACUGCCUCU	CCGAAGTGCCTGCTCTT	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	UCCUGGC	C	CACTGGATACGACGCCAGG
zma-miR529	AGAAGAGAGAGA	CAGGGCCGAGAAGAGAGA	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	GUACAGCCU	GAGTA	CACTGGATACGACAGGCTG
zma-miR166g-5p	GGAAUGUUGUCU	GGCGATGGAATGTTGTCTG	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	GGUUGGAGA	GT	CACTGGATACGACTCTCCA
zma-miR444a/b	UGCAGUUGUUGU	CCGCGTGCAGTTGTTGTCT	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	CUCAAGCUU	C	CACTGGATACGACAAGCTT
zma-miR827	UUAGAUGACCAU	CGCCGCTTAGATGACCATC	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	CAGCAAACA	AG	CACTGGATACGACTGTTTG
zma-miR396a/b-3p	GUUCAAUAAAGC	GCGAGCCGTCAATAAAGC	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	UGUGGGAAA	TGT	CACTGGATACGACTTTCCC
zma-miRn90	GGCUCGGGCUCU	ATCTAGGCTCGGGCTCTCA	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	CAGCGACGGC	GC	CACTGGATACGACGCCGTC
zma-miR168a	UCGCUUGGUGCA	CGAAGCTCGCTTGGTGAG	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	GAUCGGGAC	A	CACTGGATACGACGTCCCCG
zma-miR166b	UCGGACCAGGCU	CGTTGCTCGGACCAGGCTT	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	UCAUCCC	C	CACTGGATACGACGGGAAT
zma-miR396c	UUCCACAGGCUU	CGTTGCTTCCACAGGCTTT	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	UCUUGAACUG	C	CACTGGATACGACCAGTTC
zma-miRn22	UGAAGCUCAGGA	GCTCTGTGAAGCTCAGGAG	GTCGTATCCAGTGCAGGGTCCGAGGTATTCG
	GGGAUAGCG	GG	CACTGGATACGACCCTAT
u6 snRNA		CGATAAAATTGGAACGATA CAGA	ATTGGACCATTTCTCGATTTGT

URP GTGCAGGGTCCGA  
GGT

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miRNA	Target genes	Forward primers	Reverse primers
zma-miRn44	GRMZM2G039982_T01	GGCGAGTGTGGAACGGAG	CGGTGGCTTGTTGCTGGTC
zma-miRn15	GRMZM2G098800_T01	CGCTCGCCACTCATCCA	CAGCCGTTGTCTTCATCGC
zma-miRn120	GRMZM2G025231_T02	TGACTGGTGGAGGAATGAGCA	CAATAGAAGCAAGGTGGTAGGAG
zma-miRn138	GRMZM2G083374_T01	GGCACGGTCAAGAGGCACT	GAATCTCATTACTGGACAGAGGAAC
zma-miRn59	GRMZM2G067964_T01	GTTACCCTTCTAAAACACCTCATCC	GCATCCAAGAGCCACTACCAA
zma-miR395a	GRMZM2G149952_T01	CCGTTGCTGCGGTGGGT	GGGCTCGATCAGGCTTGC
zma-miR408b	GRMZM2G106026_T01	ATCCCGCCATTGACCCG	GACCGAGCCCGAACTTGC
zma-miR529	GRMZM2G160917_T02	GCCGCCTGGACCCCTTG	CGCTTGCCACTGGATACCG

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Table 3 Suppl. Gel blot probes.

miRNA	Probe primers
u6 snRNA	ATGGCCCCTGCGCAAGGATGACCTGTCTC
zma-miR168a	TCGCTTGGTGCAGATCGGGACCCTGTCTC
zma-miR166b	TCGGACCAGGCTTCATTCCCCCTGTCTC
zma-miR396c	TTCCACAGGCTTTCTTGAAGTGCCTGTCTC
zma-miR408b	CTGCACTGCCTCTCCCTGGCCCTGTCTC
zma-miR529	AGAAGAGAGAGAGTACAGCCTCCTGTCTC
zma-miRn15	TTGAGCCGCGTCAATATCTCCCCTGTCTC
zma-miRn22	TGAAGCTCAGGAGGGATAGCGCCTGTCTC
zma-miRn44	TAGCCAAGGATGAGCTGCCTGCCTGTCTC
zma-miRn120	TGAGGAAGGATAAAGATGGTGCCTGTCTC
zma-miRn138	CGGAGGGGATTGGAGAGGCTAACCTGTCTC

Table 4 Suppl. Annotation of small RNAs sequences.

RNA class	0h		2h		6h		12h	
	unique sRNAs	total sRNAs						
Total	2137861	11665252	2001052	10033311	1866799	10270291	1878886	11637678
exon_antisense	39079	214180	36801	184226	33882	169192	33761	204444
exon_sense	76937	292335	74986	276748	83324	345227	70068	298764
intron_antisense	40491	125866	40184	115735	36181	110419	35406	113007
intron_sense	60400	259936	61340	234325	56444	213544	53979	238363
miRNA	680	3375961	728	2484230	705	2534687	653	3489562
rRNA	41000	1182626	47734	1360188	46122	1765135	37046	1325584
repeat	567900	2269183	548672	1936909	493547	1756545	497357	2093067
snRNA	1181	3947	1346	5227	1551	8630	1313	7077
snoRNA	815	3282	925	3717	1295	6965	952	5180
tRNA	4112	105988	4998	137753	5278	334048	4262	296100
unannotated	1305266	3831948	1183338	3294253	1108470	3025899	1144089	3566530

Table 5 Suppl. Known miRNA reads in each libraries.

miRNA family	miRNA	Normalized expression of miRNA in a sample			
		0h	2h	6h	12h
1432	zma-miR1432-5p	3.086088496	1.993359919	2.823678511	12.88916913
156	zma-miR156a-5p	1996.527808	1861.100488	1618.454628	1854.149943
	zma-miR156a-3p	0	0	1.557891592	0.257783383
	zma-miR156b-5p	2134.544543	2062.230504	1757.593821	1995.501164
	zma-miR156b-3p	0	0	0	0.171855588
	zma-miR156c	1995.584836	1859.705136	1616.312527	1853.118809
	zma-miR156d-5p	2135.058891	2062.529508	1757.691189	1995.243381
	zma-miR156d-3p	13.71594887	15.54820737	9.152613105	11.25654104
	zma-miR156e-5p	1963.866704	1833.193449	1589.925738	1821.411453
	zma-miR156e-3p	1.028696165	1.893691923	0.486841123	0.171855588
	zma-miR156f-5p	1996.784982	1863.193516	1612.223062	1861.453805
	zma-miR156f-3p	13.54449951	15.64787536	9.152613105	11.51432442
	zma-miR156g-5p	1996.613532	1863.193516	1612.223062	1860.766383
	zma-miR156g-3p	13.54449951	15.64787536	9.152613105	11.51432442
	zma-miR156h-5p	1963.866704	1833.193449	1589.925738	1821.411453
	zma-miR156h-3p	0	0.099667996	0	0
	zma-miR156i-5p	1963.866704	1833.193449	1589.925738	1821.411453
	zma-miR156i-3p	0	0.199335992	0.097368225	0
	zma-miR156j-5p	187.2227021	184.3857925	159.4891518	169.9651769
	zma-miR156j-3p	0	0.099667996	0	0.085927794
	zma-miR156k-5p	2870.662374	2139.871873	1899.167219	2299.427772
	zma-miR156k-3p	0.257174041	0.299003988	0.584209347	0.343711177
	zma-miR156l-5p	1963.866704	1833.093781	1589.438897	1821.325526
	zma-miR156l-3p	0.342898722	0.299003988	0	0.257783383
159	zma-miR159a-3p	64.72213374	89.50186035	83.93140954	47.94770916
	zma-miR159a-5p	0	0.099667996	0	0.085927794
	zma-miR159b-3p	64.46495969	88.90385238	83.54193664	47.68992577
	zma-miR159c-3p	0	0	0.097368225	0
	zma-miR159d-3p	0	0	0.097368225	0
	zma-miR159f-3p	64.37923501	88.60484839	83.83404131	47.86178136
	zma-miR159j-3p	64.12206097	88.00684041	83.44456842	47.60399798
zma-miR159k-3p	64.12206097	88.00684041	83.44456842	47.60399798	
160	zma-miR160a-5p	0.08572468	0.299003988	1.07105047	0.257783383
	zma-miR160a-3p	0	0.099667996	0	0.257783383
	zma-miR160b-5p	0.08572468	0.299003988	1.07105047	0.257783383
	zma-miR160b-3p	1.628768928	1.594687935	1.168418694	3.265256179

	zma-miR160c-5p	0.08572468	0.299003988	1.07105047	0.257783383
	zma-miR160d-5p	0.08572468	0.299003988	1.168418694	0.257783383
	zma-miR160e	0.08572468	0.299003988	1.168418694	0.257783383
	zma-miR160f-5p	0	0	0.194736449	0
	zma-miR160g-5p	0.08572468	0.299003988	1.168418694	0.257783383
	zma-miR160g-3p	1.543044248	1.594687935	1.07105047	2.749689414
162	zma-miR162-3p	2.400291052	4.385391821	3.01841496	1.460772501
	zma-miR162-5p	0	0.099667996	0	0.257783383
164	zma-miR164a-5p	9941.576916	6777.922064	6848.296704	8541.394598
	zma-miR164b-5p	9939.262349	6772.340656	6847.42039	8543.113154
	zma-miR164c-5p	9938.748001	6772.240988	6847.615126	8542.597587
	zma-miR164c-3p	0.08572468	0	0.097368225	0
	zma-miR164d-5p	9941.576916	6777.922064	6848.296704	8541.394598
	zma-miR164e-5p	76.89503836	87.60816843	54.13673283	85.41222742
	zma-miR164f-5p	502.9467002	348.1403098	373.3097728	414.5156792
	zma-miR164g-5p	8901.822267	6078.85074	6319.100403	7612.944782
	zma-miR164h-5p	156.0189184	101.4620199	105.5471554	115.658811
	zma-miR164h-3p	0.08572468	0	0.097368225	0
166	zma-miR166a-3p	157.5619627	162.0601614	218.2021912	155.4433797
	zma-miR166a-5p	0.685797444	0.697675972	0.778945796	0.515566765
	zma-miR166b-3p	157.476238	162.0601614	218.2021912	155.4433797
	zma-miR166c-3p	157.476238	162.0601614	218.2021912	155.4433797
	zma-miR166c-5p	1.628768928	2.292363907	2.921046736	1.03113353
	zma-miR166d-3p	157.476238	162.0601614	218.2021912	155.4433797
	zma-miR166e	157.476238	162.0601614	218.2021912	155.4433797
	zma-miR166f	159.876529	165.3492053	224.4337575	158.4508525
	zma-miR166g-3p	159.9622537	165.3492053	223.9469164	158.1930691
	zma-miR166g-5p	2.143117011	0.897011963	1.363155143	0.687422353
	zma-miR166h-3p	159.876529	165.3492053	224.4337575	158.4508525
	zma-miR166h-5p	0.171449361	0.299003988	0.097368225	0.257783383
	zma-miR166i-3p	157.476238	162.0601614	218.2021912	155.3574519
	zma-miR166j-3p	5.572104229	9.468459614	8.471035533	5.585306622
	zma-miR166k-3p	5.572104229	9.169455626	8.471035533	5.585306622
	zma-miR166l-3p	42.9480649	42.85723825	59.68672163	42.44833033
	zma-miR166m-3p	42.17654278	41.96022629	58.71303939	41.84683577
	zma-miR166m-5p	0.171449361	0.598007976	0.194736449	0.257783383
	zma-miR166n-3p	5.572104229	9.468459614	8.471035533	5.585306622
167	zma-miR167a-5p	19.20232842	17.54156729	31.06046362	18.13076457
	zma-miR167b-5p	19.20232842	17.64123528	31.06046362	18.13076457
	zma-miR167c-5p	19.20232842	17.54156729	31.06046362	18.13076457
	zma-miR167c-3p	0.171449361	0.398671984	0	0.171855588
	zma-miR167d-5p	19.20232842	17.54156729	31.06046362	18.13076457

	zma-miR167e-5p	34.71849558	33.58811463	59.97882631	28.0983887
	zma-miR167f-5p	34.71849558	33.58811463	59.78408986	28.0983887
	zma-miR167f-3p	0	0	0.194736449	0
	zma-miR167g-5p	20.05957522	23.52164704	37.87623934	18.04483678
	zma-miR167g-3p	1.028696165	7.873771679	2.921046736	0.171855588
	zma-miR167h-5p	20.40247395	24.11965502	38.26571224	18.13076457
	zma-miR167h-3p	5.057756146	6.179415748	4.965779451	8.42092383
	zma-miR167i-5p	20.40247395	24.11965502	38.26571224	18.30262016
	zma-miR167i-3p	5.057756146	6.179415748	4.965779451	8.42092383
	zma-miR167j-5p	35.0613943	34.3854586	60.85514033	28.87173885
	zma-miR167j-3p	0.171449361	0.299003988	0.778945796	0.343711177
168	zma-miR168a-5p	1818.049023	1819.040594	1945.611862	1398.646706
	zma-miR168a-3p	0.257174041	0.897011963	1.752628041	0.601494559
	zma-miR168b-5p	1818.049023	1819.040594	1945.611862	1398.646706
	zma-miR168b-3p	1.97166765	2.093027915	6.231566369	2.749689414
169	zma-miR169a-5p	2.914639135	3.089707874	3.602624307	2.234122649
	zma-miR169a-3p	2.314566372	2.790703886	1.655259817	1.202989119
	zma-miR169b-5p	3.000363816	2.591367894	3.115783185	2.06226706
	zma-miR169b-3p	2.228841692	2.591367894	1.460523368	1.202989119
	zma-miR169c-5p	32.23247985	35.98014653	44.01043748	24.05978237
	zma-miR169c-3p	8.658192725	8.671115647	20.44732715	11.17061324
	zma-miR169f-5p	2.143117011	2.591367894	1.07105047	1.804483678
	zma-miR169f-3p	0.257174041	0	0.681577572	0.085927794
	zma-miR169g	2.228841692	2.890371882	1.265786919	2.491906031
	zma-miR169h	2.143117011	2.591367894	1.07105047	1.804483678
	zma-miR169i-5p	9.086816127	9.368791618	6.621039268	3.952678533
	zma-miR169i-3p	1.285870207	1.794023927	3.505256083	2.148194855
	zma-miR169j-5p	9.086816127	9.368791618	6.815775717	3.952678533
	zma-miR169j-3p	1.88594297	2.192695911	1.265786919	0.601494559
	zma-miR169k-5p	9.086816127	9.368791618	6.621039268	3.952678533
	zma-miR169k-3p	1.97166765	1.295683947	4.478938328	3.608967356
	zma-miR169l-5p	0.428623402	0.398671984	0	0
	zma-miR169l-3p	0	0.199335992	0	0
	zma-miR169m-5p	0.171449361	0	0.097368225	0
	zma-miR169m-3p	0.171449361	0	0.194736449	0.343711177
	zma-miR169n-5p	0.171449361	0	0.097368225	0
	zma-miR169p-5p	4.200509342	3.887051842	5.452620573	2.66376162
	zma-miR169q-5p	0.171449361	0	0.097368225	0
	zma-miR169r-5p	32.40392921	35.78081054	44.10780571	24.05978237
	zma-miR169r-3p	0.08572468	0.398671984	0.778945796	0.429638971
171	zma-miR171b-3p	3.77188594	4.385391821	6.328934594	3.179328385
	zma-miR171d-3p	3.686161259	4.485059817	6.328934594	3.351183973

	zma-miR171d-5p	0.257174041	0.199335992	0.584209347	0.257783383
	zma-miR171e-3p	3.686161259	4.485059817	6.328934594	3.351183973
	zma-miR171e-5p	0.342898722	0.398671984	0.681577572	0.343711177
	zma-miR171f-3p	3.77188594	4.385391821	6.328934594	3.179328385
	zma-miR171g-3p	0	0	0	0.257783383
	zma-miR171g-5p	0	0	0	0.343711177
	zma-miR171h-3p	5.486379548	3.588047854	8.276299084	6.788295741
	zma-miR171h-5p	0.257174041	0	0.194736449	0.085927794
	zma-miR171i-3p	3.77188594	4.485059817	6.328934594	3.351183973
	zma-miR171j-3p	3.77188594	4.485059817	6.328934594	3.351183973
	zma-miR171k-3p	5.486379548	3.588047854	8.276299084	6.788295741
	zma-miR171k-5p	0.257174041	0	0.194736449	0.085927794
	zma-miR171l-3p	0.514348083	1.096347955	0.292104674	0.429638971
	zma-miR171n-3p	0.514348083	1.096347955	0.292104674	0.429638971
172	zma-miR172a	9.343990168	15.44853937	9.24998133	9.623912949
	zma-miR172b-3p	9.343990168	15.44853937	9.24998133	9.623912949
	zma-miR172c-3p	9.343990168	15.44853937	9.24998133	9.623912949
	zma-miR172c-5p	0.171449361	0.299003988	0.194736449	0.515566765
	zma-miR172d-3p	9.343990168	15.44853937	9.24998133	9.623912949
	zma-miR172e	2.657465094	3.289043866	2.239469164	2.577833826
2275	zma-miR2275a-5p	0.171449361	0.598007976	0.194736449	0.085927794
	zma-miR2275b-3p	0.257174041	0	0	0
	zma-miR2275c-3p	0.257174041	0	0	0
319	zma-miR319a-3p	0.08572468	0.099667996	0.194736449	0.085927794
	zma-miR319b-3p	0.08572468	0.099667996	0.194736449	0.085927794
	zma-miR319c-3p	0.08572468	0.099667996	0.194736449	0.085927794
	zma-miR319d-3p	0.08572468	0.099667996	0.194736449	0.085927794
390	zma-miR390a-5p	133.2161534	118.0069072	109.2471479	84.03738272
	zma-miR390a-3p	0.08572468	0.398671984	0.194736449	0.257783383
	zma-miR390b-5p	133.2161534	118.0069072	109.2471479	84.03738272
	zma-miR390b-3p	0.08572468	0.398671984	0.194736449	0.257783383
393	zma-miR393a-5p	2.828914455	2.591367894	1.460523368	2.921545002
	zma-miR393a-3p	0.257174041	0.897011963	3.699992532	0.773350148
	zma-miR393b-5p	0	0	0	0.085927794
	zma-miR393c-5p	0.428623402	0.398671984	0.584209347	0.859277942
	zma-miR393c-3p	0.257174041	0.996679959	3.699992532	0.773350148
394	zma-miR394a-5p	0.257174041	0.598007976	0.584209347	1.718555884
	zma-miR394a-3p	0	0	0	0.085927794
	zma-miR394b-5p	0.257174041	0.598007976	0.584209347	1.718555884
	zma-miR394b-3p	0	0	0	0.085927794
395	zma-miR395a-3p	0.514348083	3.787383846	0.778945796	0
	zma-miR395b-3p	0.514348083	3.787383846	0.778945796	0

	zma-miR395d-3p	0.514348083	3.787383846	0.778945796	0
	zma-miR395e-3p	0.514348083	3.787383846	0.778945796	0
	zma-miR395e-5p	0.171449361	0.099667996	0.097368225	0
	zma-miR395f-3p	0.514348083	3.787383846	0.778945796	0
	zma-miR395g-3p	0.514348083	3.787383846	0.778945796	0
	zma-miR395h-3p	0.514348083	3.787383846	0.778945796	0
	zma-miR395h-5p	0.171449361	0.099667996	0.097368225	0
	zma-miR395i-3p	0.514348083	3.787383846	0.778945796	0
	zma-miR395i-5p	0	0.199335992	0	0
	zma-miR395j-3p	0.514348083	3.787383846	0.778945796	0
	zma-miR395j-5p	0.171449361	0.099667996	0.097368225	0
	zma-miR395n-3p	0.514348083	3.787383846	0.778945796	0
	zma-miR395o-5p	0	0	0.097368225	0
	zma-miR395p-3p	0.514348083	3.787383846	0.778945796	0
	zma-miR395p-5p	0.171449361	0.099667996	0.097368225	0
396	zma-miR396a-5p	4.543408064	5.382071781	7.302616839	4.038606327
	zma-miR396a-3p	3.428987218	10.16613559	7.984194411	4.038606327
	zma-miR396b-5p	4.543408064	5.382071781	7.302616839	4.038606327
	zma-miR396b-3p	3.428987218	10.16613559	7.984194411	4.038606327
	zma-miR396c	70.29423796	159.2694575	110.2208302	57.6575499
	zma-miR396d	70.29423796	159.2694575	110.2208302	57.6575499
	zma-miR396e-5p	7.62949656	7.176095708	8.17893086	5.585306622
	zma-miR396e-3p	0	0	0.097368225	0
	zma-miR396f-5p	7.62949656	7.176095708	8.17893086	5.585306622
	zma-miR396f-3p	5.572104229	4.186055829	7.010512166	3.523039562
397	zma-miR397a-5p	131.2444858	86.81082446	198.9232827	69.00001873
	zma-miR397b-5p	1168.427394	1111.397823	1612.32043	904.6478172
	zma-miR397b-3p	5.915002951	7.375431699	8.081562635	4.811956474
398	zma-miR398a-3p	16.54486333	21.12961514	11.39208227	10.56911869
	zma-miR398a-5p	11.57283186	10.06646759	11.87892339	4.210461915
	zma-miR398b-3p	16.54486333	21.12961514	11.39208227	10.3972631
	zma-miR398b-5p	15.85906588	37.37549848	21.22627295	7.991284859
399	zma-miR399a-3p	1.88594297	1.096347955	1.07105047	0.515566765
	zma-miR399a-5p	0.942971485	0.797343968	0.292104674	0.085927794
	zma-miR399b-3p	0	0	0.097368225	0
	zma-miR399c-3p	1.88594297	1.096347955	1.07105047	0.515566765
	zma-miR399c-5p	0.171449361	0.099667996	0	0.171855588
	zma-miR399e-3p	2.571740413	4.385391821	2.726310287	1.63262809
	zma-miR399e-5p	0.08572468	0	0	0
	zma-miR399f-3p	0.08572468	0	0.194736449	0
	zma-miR399h-3p	1.88594297	1.096347955	1.07105047	0.515566765
	zma-miR399h-5p	0.08572468	0	0	0

	zma-miR399i-3p	2.314566372	3.986719838	2.239469164	1.546700295
	zma-miR399j-3p	2.314566372	3.986719838	2.239469164	1.460772501
	zma-miR399j-5p	0.771522124	0.299003988	0.292104674	0.085927794
408	zma-miR408a	8.401018684	10.86381156	31.54730475	8.077212654
	zma-miR408b-3p	7.71522124	10.46513957	31.25520007	8.077212654
	zma-miR408b-5p	194.0806765	104.2527238	150.044434	65.39105138
444	zma-miR444a	1.457319568	2.591367894	3.310519634	1.202989119
	zma-miR444b	1.457319568	2.591367894	3.310519634	1.202989119
528	zma-miR528a-5p	255358.3926	221147.8344	217540.4767	269898.2563
	zma-miR528a-3p	3.514711898	5.382071781	11.39208227	2.491906031
	zma-miR528b-5p	269429.3274	230279.8149	230376.335	283287.0097
	zma-miR528b-3p	3.514711898	5.382071781	11.39208227	2.491906031
529	zma-miR529-5p	23.48856244	11.06314755	10.80787292	11.34246883
	zma-miR529-3p	0.171449361	0.099667996	0	0
827	zma-miR827-3p	49.63458998	41.6612223	110.7076713	46.31508107
	zma-miR827-5p	2.228841692	4.485059817	5.063147675	2.234122649

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Table 6 Suppl. Known miRNA vs other species. ++ - miRNA sequences of maize were precisely identical to those in other species; + - miRNA sequences of maize were conserved in other species but have variations in some nucleotide positions; pab -*Piceaabies*; pta -*Pinustaeda*; ppt -*Physcomitrella patens*; ath -*Arabidopsis thaliana*; ptc -*Populustrichocarpa*; vvi -*Vitisvinifera*; mtr -*Medicago truncatula*; csi -*Citrus sinensis*; bdi -*Brachypodium distachyon*; tae - *Triticumaestivum*; hvu - *Hordeum vulgare*; osa -*Oryza sativa*; sbi -*Sorghum bicolor*.

	Coniferophyta&Embryophyta					Magnoliophyta(Eudicotyledons)								
	pab	evalue	pta	evalue	ppt	evalue	ath	evalue	ptc	evalue	vvi	evalue	mtr	evalue
zma-miR156a-5p					++	5.30E-04	++	5.30E-04	++	5.30E-04	++	5.30E-04		
zma-miR159a-3p			+	1.00E-01			+	1.50E-02	+	1.50E-02	+	1.50E-02	+	1.50E-02
zma-miR160a-5p	++	2.60E-03			++	2.60E-03	++	2.60E-03	++	2.60E-03	++	2.60E-03	++	2.60E-03
zma-miR162-3p							+	2.80E-05	+	2.80E-05	+	2.80E-05	+	2.80E-05
zma-miR164a-5p							++	2.20E-03	++	2.20E-03	++	2.20E-03	++	2.20E-03
zma-miR166a-3p			++	6.60E-04	++	6.60E-04	++	6.60E-04	++	6.60E-04	++	6.60E-04	++	6.60E-04
zma-miR167a-5p							++	2.00E-03	++	2.00E-03	++	2.00E-03	++	2.00E-03
zma-miR168a-5p							+	6.10E-03	+	6.10E-03	+	6.10E-03	+	6.10E-03
zma-miR169a-5p							++	7.50E-02	++	7.50E-02	++	7.50E-02	++	7.50E-02
zma-miR171a-3p							+	3.70E+00	+	6.40E+00	+	3.70E+00	+	6.40E+00
zma-miR172a							++	6.40E+00	+	6.40E+00	+	6.40E+00	++	6.40E+00
zma-miR319a-3p			+	6.40E-03	+	1.90E-03	+	1.90E-03	+	1.90E-03	+	1.90E-03	+	1.90E-03
zma-miR390a-5p			+	6.90E-02	++	1.90E-03	++	1.90E-03	++	1.90E-03	++	1.90E-03	++	1.90E-03
zma-miR393a-5p							+	2.90E-04	+	3.00E-04	+	3.00E-04	+	3.00E-04
zma-miR394a-5p							++	9.80E-05	++	9.80E-05	++	9.80E-05		
zma-miR395a-3p							+	2.00E-03	+	2.00E-03	+	2.00E-03	+	2.00E-03
zma-miR396a-5p	+	6.90E-04	+	6.90E-04			++	2.20E-04	++	2.20E-04	++	2.20E-04	++	2.20E-04
zma-miR397a-5p	+	1.60E-02					+	2.20E-03	+	2.20E-03	+	2.20E-03	+	2.20E-03
zma-miR398a-3p			+	1.00E+00			+	2.00E-02	+	2.90E-03	+	2.90E-03	+	2.90E-03
zma-miR399a-3p							+	1.40E-01	++	3.10E-02	++	3.10E-02	+	1.40E-01
zma-miR408a			+	3.90E-02	+	3.90E-02	+	3.90E-02	+	3.90E-02	+	3.90E-02	+	3.90E-02
zma-miR444a														
zma-miR482-3p	+	1.70E-02	+	1.70E-02					+	1.40E+00	+	1.40E+00		
zma-miR528a-5p														
zma-miR529-5p					+	7.40E-02	+	9.30E+00					+	3.90E+00
zma-miR827-3p							+	7.10E-03	+	1.30E-01				
zma-miR1432-5p													+	1.80E-01
zma-miR2118a	+	6.00E+00											+	4.90E+00
zma-miR2275a-5p														
novel_mir_44							+	1.40E+00	+	1.40E+00	+	1.30E+00		
novel_mir_15					+	2.00E-01	+	2.40E-01	+	2.40E-01	+	4.10E-02	+	4.10E-02
novel_mir_22			+	4.40E-01	+	1.10E-02	+	1.10E-02	+	1.10E-02	+	1.10E-02	+	1.10E-02

	Eudicotyledons				Magnoliophyta(Monocotyledons)							
	csi	evalue	bdi	evalue	tae	evalue	hvu	evalue	osa	evalue	sbi	evalue
zma-miR156a-5p			++	5.30E-04	++	5.30E-04	++	5.30E-04	++	5.30E-04	++	5.30E-04
zma-miR159a-3p	+	1.50E-02	++	5.90E-03			++	5.90E-03	++	5.90E-03	++	5.90E-03
zma-miR160a-5p	+	6.90E-03	++	2.60E-03	++	2.60E-03			++	2.60E-03	++	2.60E-03
zma-miR162-3p	+	2.80E-05	+	1.10E-04					+	2.80E-05	+	2.80E-05
zma-miR164a-5p	++	2.20E-03	++	2.20E-03	++	2.20E-03			++	2.20E-03	++	2.20E-03
zma-miR166a-3p	++	6.30E-04	++	6.60E-04			++	6.60E-04	++	6.60E-04		
zma-miR167a-5p			++	2.00E-03	++	2.00E-03			++	2.00E-03	++	2.00E-03
zma-miR168a-5p			++	2.60E-04			++	2.60E-04	++	2.60E-04	++	2.60E-04
zma-miR169a-5p			++	7.50E-02					++	7.50E-02	++	7.50E-02
zma-miR171a-3p			+	3.70E+00					+	3.70E+00	+	3.70E+00
zma-miR172a	++	6.40E+00	+	6.40E+00					+	6.40E+00	++	6.40E+00
zma-miR319a-3p	+	6.40E-03	+	2.00E-04	+	1.90E-03			++	2.00E-04	++	2.00E-04
zma-miR390a-5p	++	1.90E-03	++	1.90E-03					++	1.90E-03	++	1.90E-03
zma-miR393a-5p	+	2.90E-04	+	3.00E-04					++	9.60E-05	+	3.00E-04
zma-miR394a-5p	++	9.80E-05	++	9.80E-05					++	9.80E-05	++	9.80E-05
zma-miR395a-3p			+	2.00E-03	++	6.90E-04			++	6.90E-04	++	6.90E-04
zma-miR396a-5p	++	2.20E-04	++	2.20E-04					++	2.20E-04	++	2.20E-04
zma-miR397a-5p	+	2.20E-03	+	2.20E-03			+	4.90E-02	+	2.20E-03	+	2.20E-03
zma-miR398a-3p	+	2.50E-02	+	2.90E-03	++	4.00E-04			+	2.90E-03	++	4.00E-04
zma-miR399a-3p	++	3.10E-02	++	3.10E-02	+	1.90E-01	+	6.40E-01	++	3.10E-02	++	3.10E-02
zma-miR408a	+	3.90E-02	++	1.60E-02	++	1.60E-02			++	1.60E-02	++	1.60E-02
zma-miR444a			+	6.90E+00	+	6.90E+00	+	4.50E-03	++	6.60E-04		
zma-miR482-3p	+	1.60E-01	+	7.90E+00					+	2.00E-01	+	6.20E+00
zma-miR528a-5p			++	1.50E-02					++	1.50E-02	++	1.50E-02
zma-miR529-5p			++	3.20E-02					+	1.40E-01		
zma-miR827-3p	+	2.30E-03	++	3.10E-04					++	3.10E-04		
zma-miR1432-5p									+	3.60E-03	++	1.30E-03
zma-miR2118a	+	9.20E-01							++	4.00E-04	+	1.70E-02
zma-miR2275a-5p									+	5.60E-02		
novel_mir_44			+	1.30E+00			+	7.30E-01	+	1.40E+00	+	1.40E+00
novel_mir_15	+	2.10E-01	+	2.40E-01	+	1.20E+00			+	4.10E-02	+	4.10E-02
novel_mir_22	+	1.10E-02	+	1.10E-02					+	1.10E-02	+	1.10E-02
novel_mir_43			+	1.60E+00					+	3.40E+00		