

Supplementary Table 1. 122 miRNAs cloned from the mouse ovaries in this study

Paired miRNAs were indicated by an asterisk (*). Multi-copied miRNAs are indicated by a “+” next to the chromosome names. The sequences of miRNAs, which were different from those in the miRNA registry, were indicated by + (added) or – (deleted) numbers of nucleotides (5’/3’) next to their IDs. The nucleotides different from those in the miRNA registry are highlighted in grey. Chr, chromosome; UR, unknown random genome; CPS, the number of copies; Len, length; Strd, strand; 2wk, 2 weeks; adt, adult; S. loop, stem-loop.

ID	Sequence (5’-3’)	5’/3’	Homology	CPS	Len	Chr	Strd	Start	End	Clones		S. loop
										2wk	adt	
mir-30a	TGTA AACATCCTCGACTGGAAGCTG	0/+3	mir-30a-5p	1	25	1	+	23226549	23226573	1	2	yes
mir-30c-1	TGTA AACATCCTTACACTCTCAGCT	0/+1	mir-30c-1-5p	1	24	1+	+	23245989	23246012	3	2	yes
mir-ov10	TGAGGTTGTAGTTTGTCTCTGT	n/n	like let-7-5p	1	21	1	-	35901751	35901771	1		yes
mir-ov3	CGGAGTACGAGTACAGCGGGAGCG	0/0	no	1	24	1	+	39933522	39933545		1	yes
mir-26b	TTCAAGTAATTCAGGATAGGTT	0/-1	mir-26b-5p	1	21	1	+	74327531	7437551		2	yes
mir-181a-1	AACATTCAACGCTGTCGGTGAGTTT	0/+2	mir-181a-2-5p	1	25	1+	+	139782879	139782903	1	2	yes
*mir-199a-1	CCCAGTGTTTACACTACCTGTTC	0/0	mir-199a-1-5p	1	23	1+	+	164054521	164054543	3		yes
mir-199a-1	TACAGTAGTCTGCACATTGGTTA	0/+1	mir-199a-1-3p	1	23	1+	+	164054559	164054581	9	6	yes
mir-194-1	TGTAACAGCAACTCCATGTG	0/-2	mir-194-1-5p	1	20	1+	+	187014113	187014132		1	yes
mir-205	TCCTTCATTCCACCGGAGTCTG	0/0	mir-205-5p	1	22	1	-	195208227	195208248		1	yes
mir-29b-1	TAGCACCATTGAAATCAGTGTT	0/0	mir-29b-1-3p	1	23	1+	+	196737815	196737837		6	yes
mir-29c	TAGCACCATTGAAATCCG	0/-1	mir-29c-3p	1	19	1	+	196738324	196738342		1	yes
*mir-126-5p	CATTATTACTTTTGGTACGCG	0/0	mir-126-5p	1	21	2	+	26413374	26413394		2	yes
*mir-126-3p	TCGTACCGTGAGTAATAATGCG	0/+1	mir-126-3p	1	22	2	+	26413411	26413432	1	3	yes
mir-199b	CCCAGTGTTTACACTACCTGTTC	0/0	mir-199b-5p	1	23	2	+	32140494	32140516		1	yes
mir-199a-2	TACAGTAGTCTGCACATTGGTTA	0/+1	mir-199a-3p	1	23	2+	+	32140532	32140554	9	6	yes
mir-181a-2	AACATTCAACGCTGTCGGTGAGTTT	0/+2	mir-181a-2-5p	1	25	2+	+	38674750	38674774	1		yes
mir-181b	AACATTCAATGCTGTCGGTGGGTTT	0/+3	mir-181b-1-5p	1	25	2	+	38675854	38675878	2		yes
mir-ov5	TACCTGTAGAACCGAATTG	n/n	rno-mir-10b-5p	1	21	2	+	74526913	74526933	1		yes
mir-130a	CAGTGCAATGTTAAAAGGGCAT	0/0	mir-130a-3p	1	22	2	-	84541955	84541976	1		yes
mir-ov2	CGAATCATTATTGCTGCTCTA	n/n	Like mir-15a	1	22	3	+	69097742	69097763	1		yes
mir-16	TAGCAGCACGTAATATTGGCG	0/0	mir-16-1-5p	1	22	3	+	69097847	69097868	1		yes
mir-31	AGGCAAGATGCTGGCATAGCTG	0/0	mir-31-5p	1	22	4	-	88381845	88381866		1	yes
mir-ov1	AAGGTTACTTGTAGTTCAG	n/n	no	1	20	4	+	94157185	94157204	1		yes
mir-30c-2	TGTA AACATCCTTACACTCTCAGCT	0/+1	mir-30c-1-5p	1	24	4+	-	120267218	120267241		2	yes
mir-ov12	TGTA AACATCCTTACTGGAAGCT	n/n	bta-mir-30e-5p	1	24	4	-	120270293	120270316	2	3	yes
mir-30e	TGTA AACATCCTTACTGGA	0/+1	mir-30e-5p	1	21	4	-	120270296	120270316		1	yes
mir-200a	TAACACTGTCTGGTAACGATGTT	0/+1	mir-200a-3p	1	23	4	-	154898710	154898732	1	1	yes
mir-200b	TAATACTGCCTGGTAATGATGA	0/-1	mir-200b-3p	1	22	4	-	154899485	154899506	2	2	yes
mir-218-1	TTGTGCTTGATCTAACCATGT	0/0	mir-218-1-5p	1	21	5+	+	48512214	48512234	5		yes
mir-ov11	TGAGTGTGTGTGTGTGAGTGT	n/n	no	1	21	5	+	65249463	65249483	3		yes
mir-25	CATTGCACCTGTCTCGGTCTG	0/-1	mir-25-3p	1	21	5	-	138395121	138395141		3	yes
mir-93	CAAAGTGCTGTTTCGTGCAGGTA	0/-1	mir-93-5p	1	22	5	-	138395363	138395384	1		yes
mir-29a	TAGCACCATCTGAAATCGGTT	0/0	mir-29a-3p	1	21	6	-	30992837	30992857		3	yes
mir-29b-2	TAGCACCATTGAAATCAGTGTT	0/0	mir-29b-1-3p	1	23	6+	-	30993188	30993210	6		yes

mir-148a	TCAGTGCACCTACAGAACCTTGT	0/0	mir-148a-3p	1	22	6	-	51199415	51199436	1	3	yes
mir-200c	TAATACTGCCGGTAATGATG	0/-1	mir-200c-3p	1	21	6	-	124683945	124683965		2	yes
mir-ov13	TTTCTATGCATATACTTCTTT	n/n	hsa-mir-202-5p	1	22	7	-	139809052	139809073	6	3	yes
mir-181d	AACATTCACTTGTGTCGGTGGGTT	0/0	mir-181d-5p	1	24	8	-	87068863	87068886	2		yes
mir-181c	AACATTCAACCTGTGCGTGAGTTT	0/+2	mir-181c-5p	1	24	8	-	87069027	87069050	1		yes
mir-23a	ATCACATTGCCAGGATTCCAA	0/+2	mir-23a-3p	1	23	8	+	87098668	87098690	2	1	yes
mir-27a	TTCACAGTGGCTAAGTCCGC	0/0	mir-27a-3p	1	21	8	+	87098832	87098852	1		yes
mir-24-1	TGGCTCAGTTCAGCAGGAACAG	0/0	mir-24-1-3p	1	22	8+	+	87098980	87099001	2	6	yes
mir-199a-3	TACAGTAGTCTGCACATTGGTTA	0/+1	mir-199a-1-3p	1	23	9+	-	21246900	21246922	9	6	yes
*mir-199a-2	CCCAGTGTTCAGACTACCTGTTC	0/0	mir-199a-1-5p	1	23	9+	-	21246939	21246961	3		yes
mir-100	AACCCGTAGATCCGAACCTGTG	0/0	mir-100-5p	1	22	9	+	41282506	41282527	1		yes
let-7a-1	TGAGGTAGTAGGTTGTATAGTT	0/+1	let-7a-1-5p	1	22	9+	+	41287801	41287822	5	4	yes
mir-125b-1	TCCCTGAGACCCTAAGTTGTA	0/0	mir-125b-2-5p	1	22	9+	+	41333009	41333030	8	6	yes
mir-34b	TAGGCAGTGAATTAGCTGATT	0/-1	mir-34b-5p	1	22	9	-	50855842	50855863	1		yes
mir-135a-2	TATGGCTTTTATTCCCTATGT	0/-2	mir-135a-1-5p	1	21	9+	+	106012241	106012261		1	yes
let-7g	TGAGGTAGTAGTTGTACAGTTT	0/+2	let-7g-5p	1	23	9	+	106036947	106036969	1	2	yes
mir-26a-1	TTCAGTAATCCAGGATAGGCTG	0/+2	mir-26a-1-5p	1	23	9+	+	118880509	118880531	8	12	yes
mir-135a-1	TATGGCTTTTATTCCCTATGT	0/-2	mir-135a-1-5p	1	21	10+	-	91501942	91501962		1	yes
mir-331	CCCCTGGGCCTATCCTAGAACCA	-1/+3	mir-331-3p	1	23	10	-	93393579	93393601		1	yes
let-7i	TGAGGTAGTAGTTGTGCTGTT	0/+1	let-7i-5p	1	22	10	-	122388758	122388779	3	2	yes
mir-26a-2	TTCAGTAATCCAGGATAGGCTG	0/+2	mir-26a-1-5p	1	23	10+	+	126398492	126398514	8	12	yes
mir-218-2	TTGGCTTGATCTAACCATGT	0/0	mir-218-1-5p	1	21	11+	+	35460218	35460283	5		yes
mir-195	TAGCAGCACAGAAATATTGGC	0/0	mir-195-5p	1	21	11	+	70051257	70051277		1	yes
*mir-ov15	AGTTCTTCAGTGGCAAGCTTT	n/n	rno-mir-22-5p	1	21	11	+	75279929	75279949	1		yes
*mir-22	AAGCTGCCAGTTGAAGAAGTGT	0/+1	mir-22-3p	1	23	11	+	75279967	75279989		5	yes
mir-193	AACGGCCCTACAAAGTCCCAGT	0/+1	mir-193-3p	1	22	11	+	79528204	79528225		1	yes
mir-365-1	TAATGCCCTAAAAATCCTTAT	0/0	mir-365-1-3p	1	22	11+	+	79542662	79542683	1		yes
mir-21	TAGCTTATCAGACTGATGTTGAC	0/+1	mir-21-5p	1	23	11	-	86400314	86400336	3	8	yes
mir-142-3p	GTAGTGTTCCTACTTTATG	-1/-1	mir-142-3p	1	20	11	+	87573099	87573118	1		yes
mir-196a-1	TAGGTAGTTTCATGTTGTTGGG	0/+1	mir-196a-1-5p	1	22	11+	+	96081277	96081298	1		yes
mir-10a	TACCCTGTAGATCCGAATTTGT	0/-1	mir-10a-5p	1	22	11	+	96133276	96133297	1		yes
mir-342	TCTCACACAGAAATCGCACCCGT	0/-1	mir-342-3p	1	23	12	+	109106487	109106509		1	yes
mir-345	TGCTGACCCTAGTCCAGTGCT	0/+1	mir-345-5p	1	22	12	+	109284795	109284816		1	yes
mir-ov4	CGGCGTCATGCAGGAGTTGATT	n/n	no	1	22	12	+	110033625	110033646	2		yes
mir-136	ACTCCATTGTTTTGATGATG	0/-2	mir-136-5p	1	21	12	+	110043138	110043158	1		yes
mir-329	AACACACCCAGCTAACCTTTT	0/0	mir-329-3p	1	22	12	+	110161348	110161369	1		yes
mir-376c	AACATAGAGGAAATTTAC	0/-1	mir-376c-3p	1	19	12	+	110170577	110170595	1		yes
mir-381	TATACAAGGGCAAGCTCTCTGT	0/0	mir-381-3p	1	22	12	+	110174677	110174698		1	yes
mir-382	GAAGTTGTTCTGTTGGGATTC	0/-1	mir-382-5p	1	21	12	+	110181588	110181608	1		yes
mir-496	AGTATTACATGGCCAATCTCC	-2/+1	mir-496-3p	1	21	12	+	110186974	110186994	1		yes
mir-541	AAGGGATTCTGATGTTGGT	0/-4	mir-541-5p	1	19	12	+	110190229	110190247	1		yes
let-7d	AGAGGTAGTAGGTTGCATAGTT	0/+1	let-7d-5p	1	22	13	-	48548015	48548036	1	5	yes
let-7f-1	TGAGGTAGTAGATTGTATAGTT	0/+1	let-7f-1-5p	1	22	13+	-	48549826	48549847	3	8	yes
let-7a-2	TGAGGTAGTAGGTTGTATAGTT	0/+1	let-7a-1-5p	1	22	13+	-	48550176	48550197	5	4	yes
mir-23b	ATCACATTGCCAGGATTACCA	0/+1	mir-23b-3p	1	22	13	+	63309751	63309772		2	yes
mir-27b	TTCACAGTGGCTAAGTTCTGCAC	0/+2	mir-27b-3p	1	23	13	+	63309982	6331004	3	3	yes
mir-24-2	TGGCTCAGTTCAGCAGGAACAG	0/0	mir-24-1-3p	1	22	13+	+	63310473	63310494	2	6	yes

mir-ov6-1	TATGTGTTCCCTGGCTGGCTT	n/n	no	1	20	13+	-	64271174	64271193	1		no
mir-449b	AGGCAGTGCATTGCTAGCTGGCT	0/+2	mir-449b-5p	1	23	13	+	114156887	114156910	2		yes
mir-449	TGGCAGTGTATTGTTAGCTGGT	0/0	mir-449-5p	1	22	13	+	114158427	114158448	1		yes
mir-16	TAGCAGCACGTAATATTGGCG	0/0	mir-16-1-5p	1	22	14	-	60586046	60586067	1		yes
mir-15a	TAGCAGCACATAATGGTTTGT	0/-1	mir-15a-5p	1	21	14	-	60586186	60586206		2	yes
mir-17-5p	CAAAGTGCTTACAGTGCAGGTAG	0/-1	mir-17-5p(3p)	1	23	14	+	113925521	113925543	1	2	yes
mir-18	TAAGGTGCATCTAGTGCAGATA	0/0	mir-18-5p	1	22	14	+	113925704	113925725	1	1	yes
mir-20a	TAAAGTGCTTATAGTGCAGGT	0/-2	mir-20a-5p	1	21	14	+	113926020	113926040	1	2	yes
mir-19b-1	TGTGCAAATCCATGCAAACTG	0/-1	mir-19b-2-3p	1	22	14+	+	113926195	113926216	1	2	yes
mir-ov7	TATTGCACTTGTCCCGCCTGTT	n/n	dre-mir-92a-3p	1	23	14	+	113926313	113926335	2		yes
mir-30d	TGTAACATCCCCGACTGGAAGCT	0/+2	mir-30d-5p	1	24	15	-	68170924	68170947	1		yes
mir-ov8	TCGAGGAGCTCACAGTCTAGT	n/n	rno-mir-151-5p	1	21	15	-	73082111	73082131		1	yes
let-7c-1	TGAGGTAGTAGGTTGTATGGTTT	0/+1	let-7c-1-5p	1	23	15+	+	85534382	85534404	8	19	yes
let-7b	TGAGGTAGTAGGTTGTGTGGTTT	0/+1	let-7b-5p	1	23	15	+	85535091	85535113	4	17	yes
mir-196a-2	TAGGTAGTTTCATGTTGTTGGC	0/+1	mir-196a-1-5p	1	22	15+	+	102801399	102801420	1		yes
mir-365-2	TAATGCCCTAAAAATCCTTAT	0/0	mir-365-1-3p	1	22	16+	+	13367473	13367494	1		yes
mir-ov14	TCAGGCTCAGTCCCCTCCCGAT	n/n	mir-484-5p	1	22	16	+	14073208	14073229		1	no
mir-99a	AACCCGTAGATCCGATCTTGTG	+1/+1	mir-99a-5p	1	22	16	+	77481532	77481553	3	1	yes
let-7c-2	TGAGGTAGTAGGTTGTATGGTTT	0/+1	let-7c-1-5p	1	23	16+	+	77482264	77482286	8	19	yes
mir-125b-2	TCCCTGAGACCCTAACTTGTA	0/0	mir-125b-2-5p	1	22	16+	+	77528871	77528892	8	6	yes
let-7e	TGAGGTAGGAGGTTGTATAGTT	0/+1	let-7e-5p	1	22	17	+	17534984	17535005	2	1	yes
mir-125a	TCCCTGAGACCCTTAACTGTG	0/0	mir-125a-5p	1	23	17	+	17535435	17535457	1		yes
mir-145	GTCCAGTTTTCCAGGAATCCCT	0/-1	mir-145-5p	1	23	18	-	61773235	61773257		1	yes
mir-143	TGAGATGAAGCACTGTAGCTC	0/-1	mir-143-5p	1	21	18	-	61774568	61774588		1	yes
mir-194-2	TGTAACAGCAACTCCATGTG	0/-2	mir-194-1-5p	1	20	19+	+	6264658	6264677		1	yes
mir-107	AGCAGCATTGTACAGGGCTATCA	0/0	mir-107-3p	1	23	19	-	34886697	34886719	1	1	yes
mir-450	TTTTGCGATGTGTTCCCTAATAI	0/+1	mir-450-1-5p	1	22	X	-	4929283	49292854	1	1	yes
mir-362	AATCCTTGGAACCTAGGTGTG	0/-2	mir-362-5p	1	21	X	-	6398979	6398999		1	yes
mir-ov6-2	TATGTGTTCCCTGGCTGGCTT	n/n	no	1	20	X+	+	6964101	6964120	1		yes
mir-221	AGCTACATTGTCTGCTGGGTTT	0/0	mir-221-3p	1	22	X	-	18303267	18303288		1	yes
mir-19b-2	TGTGCAAATCCATGCAAACTG	0/-1	mir-19b-2-3p	1	22	X+	-	48986619	48986640	1	2	yes
mir-106a	CAAAGTGCTAACAGTGCAGGT	0/-3	mir-17-5p(3p)	1	21	X	-	48987170	48987190	1		yes
mir-351	TCCCTGAGGAGCCCTTTGAGCCT	0/-1	mir-351-5p	1	23	X	-	49297943	49297965	1		yes
mir-322	CAAAACATGAAGCGCTGCAACA	+2/0	mir-322-3p(5p)	1	22	X	-	49298897	49298918	1		yes
mir-424	GCAGCAGCAATTCATGTTTTGGA	+1/0	mir-322-5p(3p)	1	23	X	-	49298933	49298955	4	7	yes
mir-672	TGAGGTTGTTGTACTGTGTGTGA	0/+1	mir-672-5p	1	23	X	-	100318947	100318969	1	1	yes
let-7f-2	TGAGGTAGTAGATTGTATAGTT	0/+1	let-7f-1-5p	1	22	X+	+	147253069	147253090	3	8	yes
mir-ov9-1	TGAGAGTCACAGTGTGGTCTATC	n/n	no	3	23	UR+	+	1395991	1396014		2	yes
mir-ov9-2							+	1396731	1396754			yes
mir-ov9-3							+	1396851	1396874			yes

Supplementary Table 2. Chromosomal distribution of miRNAs cloned from this study or registered in the miRBase

Chromosome	miRNAs from ovary	%	miRNAs registered	%
1	12	9.8	21	5.7
2	8	6.6	28	7.6
3	2	1.6	14	3.8
4	7	5.7	20	5.4
5	4	3.3	11	3.0
6	4	3.3	19	5.2
7	1	0.8	16	4.3
8	5	4.1	12	3.3
9	9	7.4	16	4.3
10	4	3.3	9	2.4
11	10	8.2	27	7.3
12	10	8.2	50	13.6
13	9	7.4	14	3.8
14	7	5.7	17	4.6
15	5	4.1	11	3.0
16	5	4.1	14	3.8
17	2	1.6	8	2.2
18	2	1.6	8	2.2
19	2	1.6	6	1.6
X	11	9.0	46	12.5
Y	0	0.0	0	0.0
MT	0	0.0	1	0.3
Un-random	3	2.5	0	0.0
Total	122	100	368	100

Supplementary Table 3. miRNA clusters identified from this study

Cluster	Chr	Start	End	Strand	Size(bp)	# of Clone
miRc-1	1	23226549	23246012	+	19463	2
miRc-2	1	164054521	164054581	+	60	2
miRc-3	1	196737815	196738342	+	527	2
miRc-4	2	26413374	26413432	+	58	2
miRc-5	2	32140494	32140554	+	60	2
miRc-6	2	38674750	38675878	+	1128	2
miRc-7	3	69097742	69097868	+	126	2
miRc-8	4	120267218	120270312	-	3094	3
miRc-9	4	154898710	154899506	-	796	2
miRc-10	5	138395121	138395384	-	263	2
miRc-11	6	30992837	30993210	-	373	2
miRc-12*	8	87068863	87069050	-	187	2
miRc-13*	8	87098668	87099001	+	333	3
miRc-14	9	21246900	21246961	+	61	2
miRc-15	9	41282506	41333030	+	50524	3
miRc-16	9	106012241	106036969	+	24728	2
miRc-17	11	75279929	75279989	+	60	2
miRc-18	11	79528204	79542683	+	14479	2
miRc-19	11	96081277	96133297	+	52020	2
miRc-20	12	110033625	110043158	+	9533	2
miRc-21	12	110161348	110190247	+	28899	6
miRc-22	13	48548015	48550197	-	2182	3
miRc-23	13	63309751	63310494	+	743	3
miRc-24	13	114156887	114158448	+	1561	2
miRc-25	14	60586046	60586206	-	160	2
miRc-26	14	113925521	113926335	+	814	5
miRc-27	15	85534382	85535113	+	731	2
miRc-28	16	77481532	77528892	+	47360	3
miRc-29	17	17534984	17535457	+	473	2
miRc-30	18	61773235	61774588	-	1353	2
miRc-31	X	48986619	48987190	-	571	2
miRc-32	X	49297943	49298955	-	1012	3
miRc-33	Un_random	1395991	1396874	+	883	3
Average					8019	2.5

*: bidirectional clusters

Supplementary Table 4. Chromosomal distribution of rapiRNAs identified in this study.

ID	CPS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	X	Y
rapiRNA-1	4						1+/2-										1+					
rapiRNA-2	6		1+				1+/2-										1+		1-			
rapiRNA-3	9			1-										5+/2-								1-
rapiRNA-4	103	4+/6-	3+/2-	6+/5-	1+/2-	3-	2+/2-	5+/6-	2+/3-	1+/4-	6+/2-	1+/3-	3+/2-	3+/1-	1+/2-	2+/3-	2+/3-	1+/3-	1-	2+		5+
rapiRNA-5	126	4+/7-	3+/3-	6+/7-	2+/2-	1+/3-	3+/3-	6+/7-	2+/4-	1+/4-	6+/2-	1+/4-	4+/2-	3+/1-	1+/4-	4+/3-	2+/3-	1+/5-	2+/1-	2+/1-		6+
rapiRNA-6	150	49+/53-	18+/22-	8+																		
rapiRNA-7	7			1+/1-								1-		1+				2+/1-				
rapiRNA-8	4	3+					1+															
rapiRNA-9	4	3+					1+															
rapiRNA-10	12	1+/1-	1-	1+/1-	1-			1+/2-				1-		2+								
rapiRNA-11	12	1+/1-	1-	1+/1-	1-			1+/2-				1-		2+								
rapiRNA-12	12	1+/1-	1-	1+/1-	1-			1+/2-				1-		2+								
rapiRNA-13	11	1+/1-	1-	1+/1-	1-			1+/2-				1-		2+								
rapiRNA-14	11	1+/1-	1-	1+/1-	1-			1+/2-				1-		2+								
rapiRNA-15	11	1+/1-	1-	1+/1-	1-			1+/2-				1-		2+								
rapiRNA-16	11	1+/1-	1-	1+/1-	1-			1+/2-				1-		2+								
rapiRNA-17	11	1+/1-	1-	1+/1-	1-			1+/2-				1-		2+								
rapiRNA-18	10	1+/1-	1-	1-				1+/2-				1-		2+								
rapiRNA-19	10	1+/1-	1-	1-				1+/2-				1-		2+								
rapiRNA-20	10	1+/1-	1-	1-				1+/2-				1-		2+								
rapiRNA-21	10	1+/1-	1-	1-				1+/2-				1-		2+								
rapiRNA-22	10	1+/1-	1-	1-				1+/2-				1-		2+								
rapiRNA-23	9	1+/4-		1-				1-				1-										1+/1-
rapiRNA-24	9	1+/4-		1-				1-				1-										1+/1-
rapiRNA-25	9	1+/4-		1-				1-				1-										1+/1-
rapiRNA-26	9	1+/4-		1-				1-				1-										1+/1-
rapiRNA-27	4													2+/2-								
rapiRNA-28	8	1+		2+								2+		1+/1-		1+						
rapiRNA-29	7	1+		2+								2+		1+/1-								
rapiRNA-30	7	1+		2+								2+		1+/1-								
rapiRNA-31	7	1+		2+								2+		1+/1-								
rapiRNA-32	5	1+		1+								1+		1+/1-								
rapiRNA-33	5	1+		1+								1+		1+/1-								
rapiRNA-34	202	17+/20-	12+/11-	14+/9-	5+/11-	11+/14-	7+/9-	13+/17-	12+/10-	9+												1+
rapiRNA-35	13	1+/4-				-2					1-	2+		1+/2-								
rapiRNA-36	6	6+																				
rapiRNA-37	6	1+		1+			1+	1-						1-	1-							
rapiRNA-38	116	7+/6-	1+/3-	3+/3-	2+/9-	2+/5-	4+/2-	4+/6-	2+/2-	6+/3-	3+/5-	5+/4-	3+/5-	1-	1-							16+/4-
rapiRNA-39	4							1+		1-				1+	1+							
rapiRNA-40	4							1+		1-				1+	1+							
rapiRNA-41	10	1+/3-		1+/1-							1+	1-		2-								
rapiRNA-42	11	1+/3-		2+/1-							1+	1-		2-								
rapiRNA-43	10	1+/3-		1+/1-							1+	1-		2-								
rapiRNA-44	10	1+/3-		1+/1-							1+	1-		2-								
rapiRNA-45	10	1+/3-		1+/1-							1+	1-		2-								
rapiRNA-46	10	1+/3-		1+/1-							1+	1-		2-								
rapiRNA-47	10	1+/3-		1+/1-							1+	1-		2-								
rapiRNA-48	10	1+/3-		1+/1-							1+	1-		2-								
rapiRNA-49	9	1+/3-		1+/1-							1+	1-		1-								
rapiRNA-50	16	1+/4-	1+			3-					1-	3+		1+/2-								
rapiRNA-51	202	10+/13-	10+/14-	4+/4-	5+/4-	7+/10-	4+/10-	8+/8-	2+/7-	7+/13-	5+/5-	3+/5-	7+	8+	11+	2+						8+/7-
rapiRNA-52	202	43+/35-	11+/22-	24+/28-	23+/16-																	
rapiRNA-53	9		1+/2-	3+/2-	1-																	
rapiRNA-54	171	89+/82-																				
Total	1674	270+/286-	61+/92-	98+/86-	38+/48-	21+/40-	25+/30-	38+/45-	33+/52-	24+/26-	29+/16-	25+/43-	17+/9-	58+/35-	15+/7-	9+/6-	6+/6-	4+/9-	2+/3-	4+/1-	40+/16-	1-
ID	CPS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	X	Y

Supplementary Table 5. Summary of chromosomal distribution of 54 rapiRNAs identified in this study

Chr	+ strand	- strand	Total	%
1	270	286	556	33.2
2	61	92	153	9.1
3	98	86	184	11.0
4	38	48	86	5.1
5	21	40	61	3.6
6	25	30	55	3.3
7	38	45	83	5.0
8	33	52	85	5.1
9	24	26	50	3.0
10	29	16	45	2.7
11	25	43	68	4.1
12	17	9	26	1.6
13	58	35	93	5.6
14	15	7	22	1.3
15	9	6	15	0.9
16	6	6	12	0.7
17	4	9	13	0.8
18	2	3	5	0.3
19	4	1	5	0.3
X	40	16	56	3.3
Y	0	1	1	0.1
Total	817	857	1674	100
%	48.8	51.2	100	

Supplementary Table 6. Genomic locations of 171 copies of rapiRNA-54 gene and distances between two neighboring copies. Minus strand was highlighted in gray.

#	Start	End	Distance	Location
1	3009567	3009591		Intergenic
2	3029355	3029379	19764	Intergenic
3	3059628	3059652	30249	Intergenic
4	3146949	3146973	87297	Intronic
5	3221346	3221370	74373	Intronic
6	3610928	3610952	389558	Intergenic
7	3690170	3690194	79218	Intergenic
8	3796775	3796799	106581	Intergenic
9	3870954	3870978	74155	Intergenic
10	4062138	4062162	191160	Intergenic
11	4179168	4179192	117006	Intergenic
12	4426875	4426899	247683	Intergenic
13	4552304	4552328	125405	Intronic
14	4938628	4938652	386300	Intergenic
15	5029563	5029587	90911	Intergenic
16	5068366	5068390	38779	Intergenic
17	5261572	5261596	193182	Intergenic
18	5414884	5414908	153288	Intergenic
19	5421946	5421970	7038	Intergenic
20	5811901	5811925	389931	Intergenic
21	5984664	5984688	172739	Intergenic
22	6033733	6033757	49045	Intergenic
23	6058286	6058310	24529	Intergenic
24	6557658	6557682	499348	Intergenic
25	7225669	7225693	667987	Intergenic
26	7276323	7276347	50630	Intergenic
27	7295852	7295876	19505	Intergenic
28	7476828	7476852	180952	Intergenic
29	7562935	7562959	86083	Intergenic
30	7701530	7701554	138571	Intergenic
31	7824834	7824858	123280	Intergenic
32	8207153	8207177	382295	Intronic
33	8719645	8719669	512468	Intergenic
34	8963550	8963574	243881	Intergenic
35	9039529	9039553	75955	Intronic
36	10329254	10329278	1289701	Intronic
37	10369549	10369573	40271	Intronic
38	10411909	10411933	42336	Intronic
39	10419429	10419453	7496	Intronic
40	10518945	10518969	99492	Intronic
41	10527518	10527542	8549	Intronic

42	10673585	10673609	146043	Intergenic
43	10850061	10850085	176452	Intergenic
44	11359935	11359959	509850	Intronic
45	11471572	11471596	111613	Intronic
46	11610395	11610419	138799	Intronic
47	11660796	11660820	50377	Intronic
48	11704369	11704393	43549	Intronic
49	11713235	11713259	8842	Intronic
50	11766770	11766794	53511	Intronic
51	11792043	11792067	25249	Intronic
52	11845365	11845389	53298	Intronic
53	11908814	11908838	63425	Intergenic
54	13459275	13459299	1550437	Intergenic
55	13720870	13720894	261571	Intergenic
56	13753634	13753658	32740	Intergenic
57	13804157	13804181	50499	Intergenic
58	14018007	14018031	213826	Intergenic
59	14100521	14100545	82490	Intergenic
60	14434101	14434125	333556	Intergenic
61	14466177	14466201	32052	Intergenic
62	14835036	14835060	368835	Intergenic
63	14959267	14959291	124207	Intergenic
64	14978555	14978579	19264	Intergenic
65	15247867	15247891	269288	Intergenic
66	15481429	15481453	233538	Intergenic
67	15513525	15513549	32072	Intergenic
68	15747909	15747933	234360	Intergenic
69	15918094	15918118	170161	Intergenic
70	15940023	15940047	21905	Intergenic
71	16020370	16020394	80323	Intergenic
72	16411380	16411404	390986	Intronic
73	16434531	16434555	23127	Intronic
74	16714719	16714743	280164	Intergenic
75	17061246	17061270	346503	Intronic
76	17453929	17453953	392659	Intergenic
77	17460381	17460405	6428	Intergenic
78	17906129	17906153	445724	Intergenic
79	18057359	18057383	151206	Intergenic
80	18065679	18065703	8296	Intergenic
81	18076335	18076359	10632	Intergenic
82	18459655	18459679	383296	Intergenic
83	18645709	18645733	186030	Intergenic
84	18801570	18801594	155837	Intergenic
85	18859094	18859118	57500	Intergenic
86	18929583	18929607	70465	Intronic

87	19115698	19115722	186091	Intergenic
88	19424689	19424713	308967	Intergenic
89	19433799	19433823	9086	Intergenic
90	19506894	19506918	73071	Intergenic
91	19677139	19677163	170221	Intergenic
92	19710509	19710533	33346	Intergenic
93	19982857	19982881	272324	Intergenic
94	20012784	20012808	29903	Intergenic
95	20028878	20028902	16070	Intronic
96	20086204	20086228	57302	Intronic
97	20267850	20267874	181622	Intronic
98	20305264	20305288	37390	Intronic
99	20473968	20473992	168680	Intronic
100	20561430	20561454	87438	Intergenic
101	20691990	20692014	130536	Intronic
102	21002618	21002642	310604	Intergenic
103	21185287	21185311	182645	Intronic
104	21572574	21572598	387263	Intergenic
105	22045257	22045281	472659	Intergenic
106	22078851	22078875	33570	Intergenic
107	22139100	22139124	60225	Intergenic
108	22204666	22204690	65542	Intergenic
109	22220719	22220743	16029	Intergenic
110	22826979	22827003	606236	Intergenic
111	22875240	22875264	48237	Intergenic
112	23391780	23391804	516516	Intergenic
113	23570041	23570065	178237	Intergenic
114	23649063	23649087	78998	Intronic
115	23841143	23841167	192056	Intronic
116	24294418	24294442	453251	Intronic
117	24452394	24452418	157952	Intergenic
118	24598774	24598798	146356	Intronic
119	25066220	25066244	467422	Intronic
120	25274354	25274378	208110	Intronic
121	25349211	25349235	74833	Intronic
122	25469639	25469663	120404	Intronic
123	25537028	25537052	67365	Intronic
124	25609063	25609087	72011	Intergenic
125	25855725	25855749	246638	Intergenic
126	26288357	26288381	432608	Intergenic
127	26377122	26377146	88741	Intergenic
128	26441023	26441047	63877	Intergenic
129	26448418	26448442	7371	Intergenic
130	26779554	26779578	331112	Intergenic
131	27072578	27072602	293000	Intergenic

132	27086168	27086192	13566	Intergenic
133	27105964	27105988	19772	Intergenic
134	27140784	27140808	34796	Intergenic
135	27170274	27170298	29466	Intergenic
136	27219633	27219657	49335	Intergenic
137	28344936	28344960	1125279	Intergenic
138	28636165	28636189	291205	Intergenic
139	28986125	28986149	349936	Intergenic
140	29278768	29278792	292619	Intergenic
141	29314591	29314615	35799	Intergenic
142	29356589	29356613	41974	Intergenic
143	29379094	29379118	22481	Intergenic
144	29500040	29500064	120922	Intergenic
145	29529515	29529539	29451	Intergenic
146	29574095	29574119	44556	Intergenic
147	29649620	29649644	75501	Intergenic
148	29783015	29783039	133371	Intergenic
149	29838278	29838302	55239	Intergenic
150	29990392	29990416	152090	Intergenic
151	30108907	30108931	118491	Intergenic
152	30237371	30237395	128440	Intergenic
153	30253702	30253726	16307	Intergenic
154	30279283	30279307	25557	Intergenic
155	30553262	30553286	273955	Intergenic
156	30609905	30609929	56619	Intergenic
157	30613510	30613534	3581	Intergenic
158	30706686	30706710	93152	Intronic
159	30799700	30799724	92990	Intergenic
160	31021736	31021760	222012	Intergenic
161	31244412	31244436	222652	Intergenic
162	31329883	31329907	85447	Intergenic
163	31359650	31359674	29743	Intergenic
164	31400426	31400450	40752	Intergenic
165	31435600	31435624	35150	Intergenic
166	31644118	31644142	208494	Intergenic
167	31763544	31763568	119402	Intergenic
168	32016578	32016602	253010	Intronic
169	32263813	32263837	247211	Intergenic
170	32611833	32611857	347996	Intergenic
171	33108648	33108672	496791	Intergenic
	Total		30095001	
	Average		177029.4	

Supplementary Table 7. Oligonucleotides used in this study.

Name	Sequence (5' to 3')	Tm	Usage
5'RNA adapter	GACUGGAGCACGAGGACACUGACAUGGACUGAAGGAGUAGAAA	71	cdNA library
RT primer	CGAATTCTAGAGCTCGAGGCAGGCGACATG(T) ₂₅ VN	65-67	cdNA library
RT-1	GACTGGAGCACGAGGACACTGA	59	Cloning
RT-1r	CGAATTCTAGAGCTCGAGGCAGG	59	Cloning
pcDNA	GCAGAGCTCTCTGGCTAAC	53	CPCR
BGhr	CTAGAAGGCACAGTCGAGG	53	CPCR
RTQ-UN1r	CGAATTCTAGAGCTCGAGGCAGG	59	PCR
miR-ov1	AAGGTTACTTGTTAGTTCAG	46	PCR
miR-ov2	CGAATCATTATTGCTGCTC	48	PCR
miR-ov3	CGGAGTACGAGTACAGCGGGA	58	PCR
miR-ov4	CGGCGTCATGCAGGAGTTGAT	56	PCR
miR-ov5	TACCCTGTAGAACCGAATTG	50	PCR
miR-ov6	TATGTGTTCTGGCTGGCTT	52	PCR
miR-ov7	TATTGCACTTGTCCCGGCCTG	56	PCR
miR-ov8	TCGAGGAGCTCACAGTCTAGT	54	PCR
miR-ov9	TGAGAGTCACAGTGTGGTCTA	52	PCR
miR-ov10	TGAGGTTGTAGTTTGTCTGT	49	PCR
miR-ov11	TGAGTGTGTGTGTGAGTGT	52	PCR
miR-ov12	TGTA AACATCCTTGACTGGAA	49	PCR
miR-ov13	TTTCTATGCATATACTTCTT	45	PCR
miR-ov14	TCAGGCTCAGTCCCCTCCCGA	60	PCR
miR-ov15	AGTTCTTCAGTGGCAAGCTTT	50	PCR
let-7aQ	GAGGTAGTAGGTTGTATAGT	52	PCR
rapiR-10	GCATTGGTGGTTCAGTGGTAG	54	PCR
rapiR-45	TGGTGGTCTAGTGGTTAGGATTC	55	PCR
napiR-9	GCTGGTGTAGTGGTATCATGC	54	PCR
napiR-11	CTCACTACTGCACTTGACTAGTCT	56	PCR
napiR-16	GATGATGTCAGGTCCTTCTCTGAG	59	PCR
napiR-17	CCCAGTGGCCTAATGGATAAGGC	59	PCR
napiR-18	GCAACTAGAGACAAAAGTTCTTG	52	PCR
napiR-21	CTGAAATGAAGAGAATACTCTTG	50	PCR
snoR-2	CCATGATGATAACATAGTTCAGCAG	54	PCR
snoR-30	TGTGATGACTGTCTATTGGGTTTC	53	PCR
snoR-33	CATTGATCATTGACACTTCAAATG	51	PCR
snoR-34	CTGTGATGACTATCTTAGGACAC	53	PCR

* V(A, G, or C), N(A, G, C, or T)