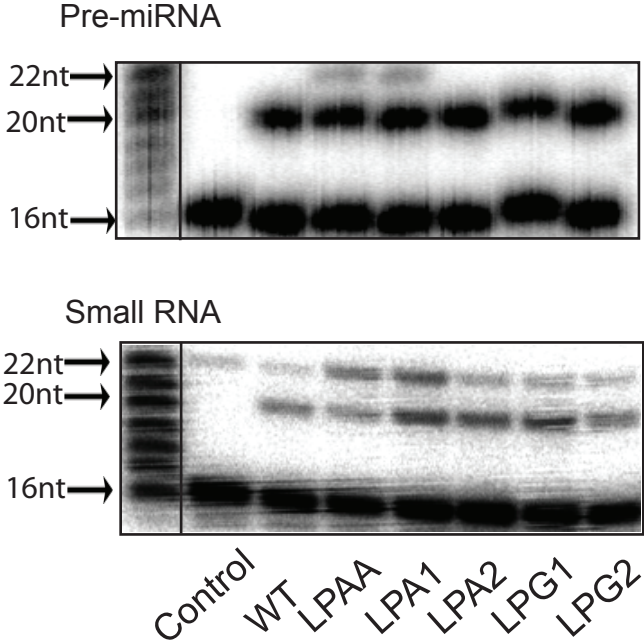


Supplemental Figure 1. Loop mutations partially rescue defective let-7 biogenesis. Primer extension analyses to determine the 5' ends of pre-let-7 (top) and mature let-7 (bottom) from wild-type cel-let-7 and loop mutants.

Supplemental Figure 2. Loop mutations or SNPs have almost no effect on primary-miRNA expression. (A) & (B) Pri-let-7 produced from wild-type cel-let-7 and loop mutants were assessed by a pri-miRNA qPCR assay. (C) Pri-miRNA produced from wild-type and SNP mutants were determined by a pri-miRNA qPCR assay. Representative results of three independent transfections are shown.

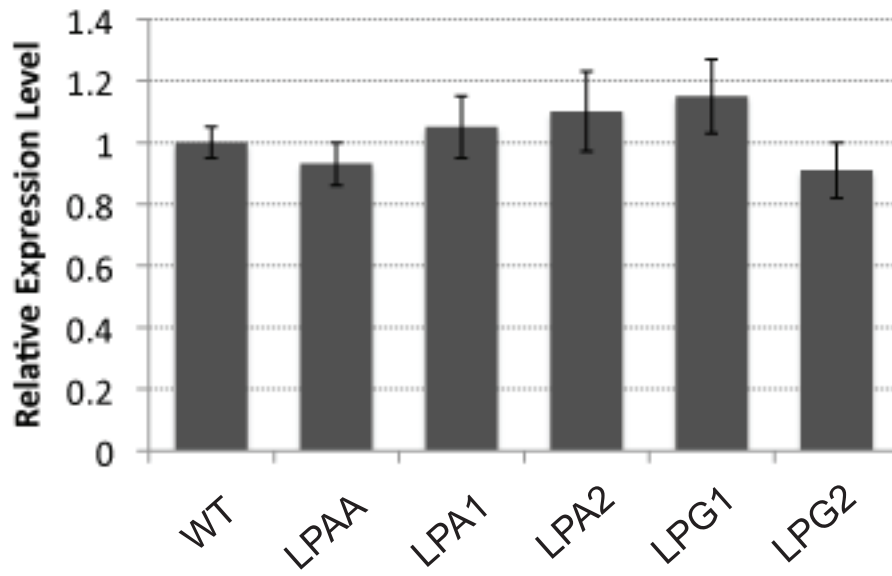
Supplemental Figure 3. Loop SNPs in human miRNA have almost no effect on mature miRNA production. Mature miRNA produced from wild-type and SNP mutants were determined by a miRNA qPCR assay. Representative results of three independent transfections are shown.

# Supplement Fig. 1

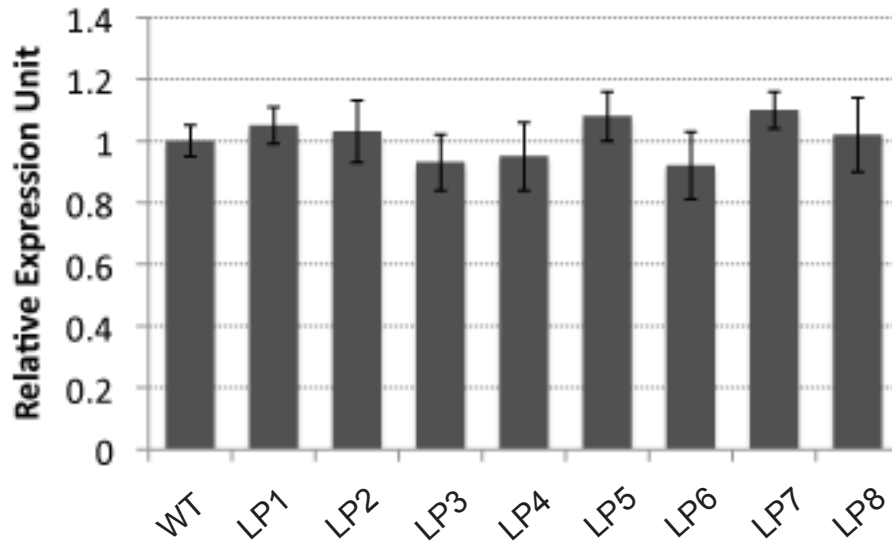


Supplement Fig. 2

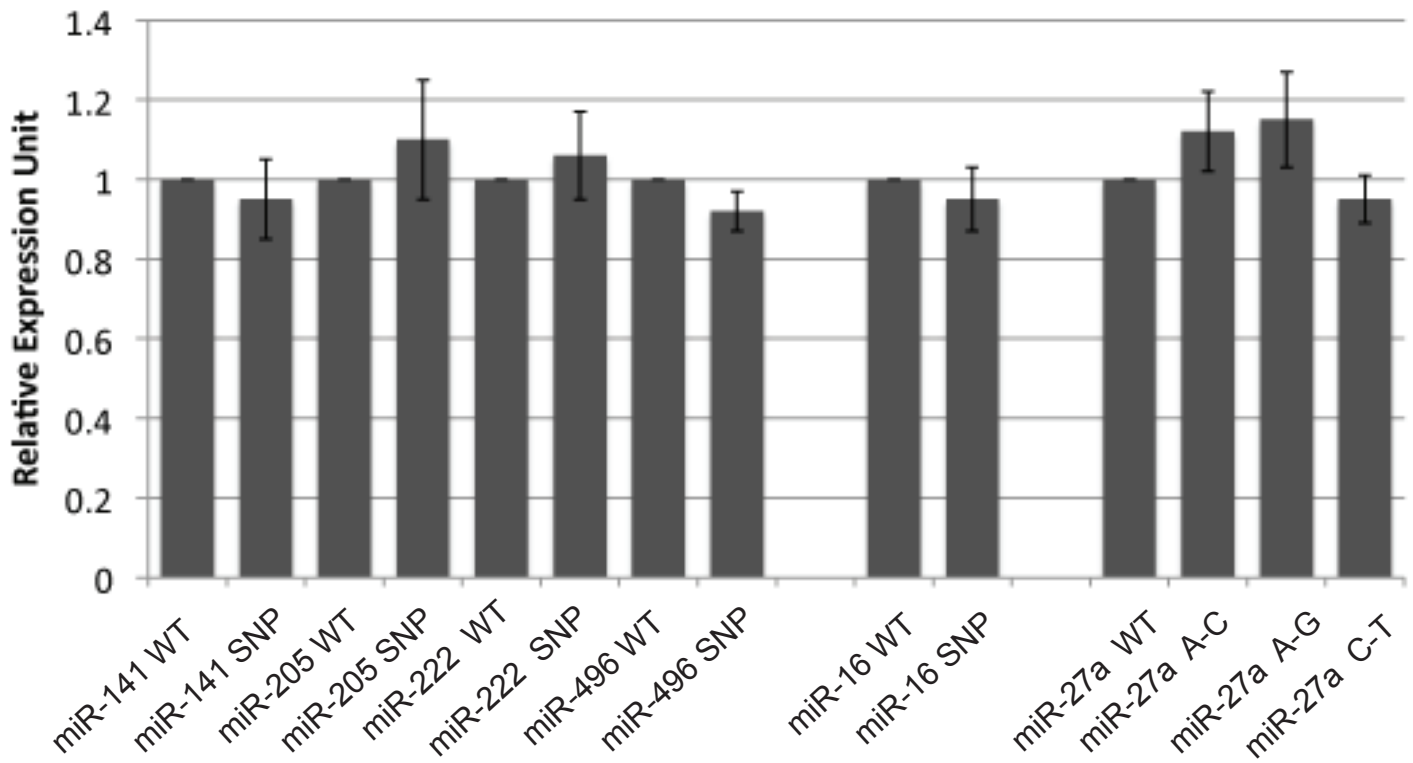
A



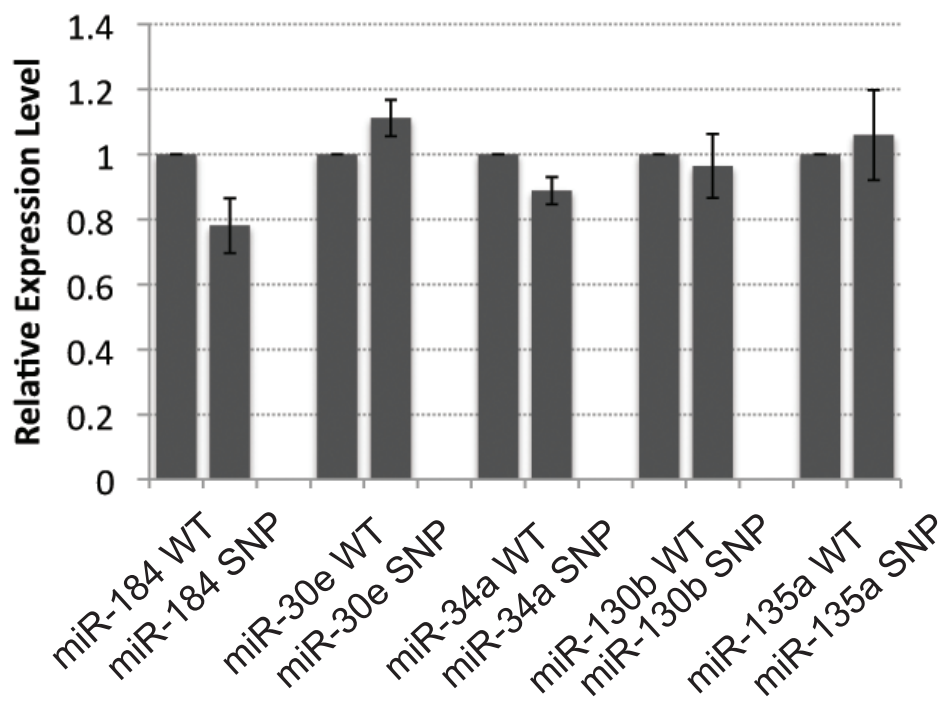
B



C



Supplement Fig. 3



# Supplement Table 1

## Oligo sequence for primer extension analyses

Primer/ladder	Oligo sequence(5'->3')
Primer	AACTATACAACCTACT
16nt (ladder)	AACTATACAACCTACT
17nt (ladder)	AACTATACAACCTACTA
18nt (ladder)	AACTATACAACCTACTAC
19nt (ladder)	AACTATACAACCTACTACC
20nt (ladder)	AACTATACAACCTACTACCT *
21nt (ladder)	AACTATACAACCTACTACCTC
22nt (ladder)	AACTATACAACCTACTACCTCA **

\* Truncated product \*\* Canonical product

## Supplement Table 2

A list of qPCR primers for Pri-miRNA

miRNA	Forward Primer	Reverse Primer
cel-let-7	GTGGATCCGGTGAGGTAGTAG	AGAAAGTTGTGAGAGCAAGACG
hsa-mir-16-1	GCTCTTATGATAGCAATGTCAGC	CAACCTTACTTCAGCAGCACA
hsa-mir-27a	TTCACAGTGGCTAAGTTCCG	TGTGTTTCAGCTCAGTAGGCA
hsa-mir-141	TGGGTCCATCTTCCAGTACA	AGTCCTCCATGGTCTTCAGG
hsa-mir-205	TCCATGTGCTTCTCTTGCC	CTCATGGTTGTCAGCTCCAT
hsa-mir-222	ACCCTCAATGGCTCAGTAGC	CAGGACACTGAAGCAGAAGC
hsa-mir-496	TGCAAGTAAGGGATGGAGTG	ACGGACGGGATACTGAGAGT

# Supplement Table 3

A summary of single nucleotide polymorphism(SNP) in pre-miRNA

miRNA	Loop sequence(SNP)	SNPID
hsa-mir- 96	GTGTCTCTCC(T)GCTCT	rs73159662
hsa-mir-146b	GT(G)GAGCTCTAGCAA	rs117717575
hsa-mir-181b-2	TTG(T)AGTCTGAATCA	rs78086449
hsa-mir-183	G(A)TGAACAGTCTCAGTC	rs41281222
hsa-mir-320d-1	CCAAAGT(C)TGA	rs74826059
hsa-mir- 411	T(C)CTG	rs111906529
hsa-mir-496	TTA(C)TTTAT	rs79307187
hsa-mir-516b-1	C(G)TGTTTTGTGAAAGAAAAG	rs79235448
hsa-mir-518d	TTGTCTGAAAGAAAC(T)	rs116220629
hsa-mir-550b-1	CTA(G)TCTTACAACAACAT	rs71528599
hsa-mir-559	TTACTTTT(C)TGGTAAATACAG	rs114803590
hsa-mir-559	TTACTTTTGGTAAATAC(T)AG	rs58450758
hsa-mir-581	CTTTTAG(A)AAAATTT	rs788517
hsa-mir-596	AAC(T)CTGCCT	rs111606748
hsa-mir-612	AGCACTAGCAG(A)	rs12803915
hsa-mir-656	TTC(T)TATATG	rs58834075
hsa-mir-891a	TTC(T)AGTAAAATAC	rs5965990
hsa-mir-939	GCC(T)GGGGC	rs112257111
hsa-mir-941-4	CAC(T)GGAAGAG	rs112205797
hsa-mir-942	GTACTCACAGCCC(A)CTC	rs115775392