

**Supplementary Fig. S1. Sliding pattern of Small RNA Reads within a precursor.**

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seq144534_1
TAGACCGACCGGATCGAGGTGGCGGCCAAGCCCGGGCCTTCGATACGCCCGGGAGACGTCTCCTCGATCGT
.....(((((((.....(((((((.....))))))..)))))).. (-35..90)
GACCGACCGGATCGAGG 5
GACCGACCGGATCGAGGT 5
GACCGACCGGATCGAGGTG 1
GACCGACCGGATCGAGGTGG 3
GACCGACCGGATCGAGGTGGC 5
GACCGACCGGATCGAGGTGGCG 22
GACCGACCGGATCGAGGTGGCGG 8
GACCGACCGGATCGAGGTGGCGGC 3
GACCGACCGGATCGAGGTGGCGGCC 14
GACCGACCGGATCGAGGTGGCGGCC 2
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GACCGACCGGATCGAGGTGGCGGCCAAGCC 6
GACCGACCGGATCGAGGTGGCGGCCAAGCCC 2
ACCGACCGGATCGAGGTG 7
ACCGACCGGATCGAGGTGG 4
ACCGACCGGATCGAGGTGGC 13
ACCGACCGGATCGAGGTGGCG 22
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CGACCGGATCGAGGTGGCG 105
CGACCGGATCGAGGTGGCGG 32
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CGACCGGATCGAGGTGGCGGCCAAGC 6
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CGACCGGATCGAGGTGGCGGCCAAGCCC 15
CGACCGGATCGAGGTGGCGGCCAAGCCCG 1
CGACCGGATCGAGGTGGCGGCCAAGCCCGG 1
CGACCGGATCGAGGTGGCGGC 45
CGACCGGATCGAGGTGGCGGCC 122
CGACCGGATCGAGGTGGCGGCC 86
CGACCGGATCGAGGTGGCGGCCA 4
CGACCGGATCGAGGTGGCGGCCA 6

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Fig. S1. Sliding pattern of Small RNA Reads within a precursor. Short reads from small RNA sequencing were mapped to the long reads of precursor sequencing by using perl scripts from miRGrep along with in house built shell scripts. A sliding pattern of small reads was observed for many precursors as illustrated in the figure S1.

**Supplementary Fig. S2. Reverse Transcription PCR and restriction digestion of miRNAs**

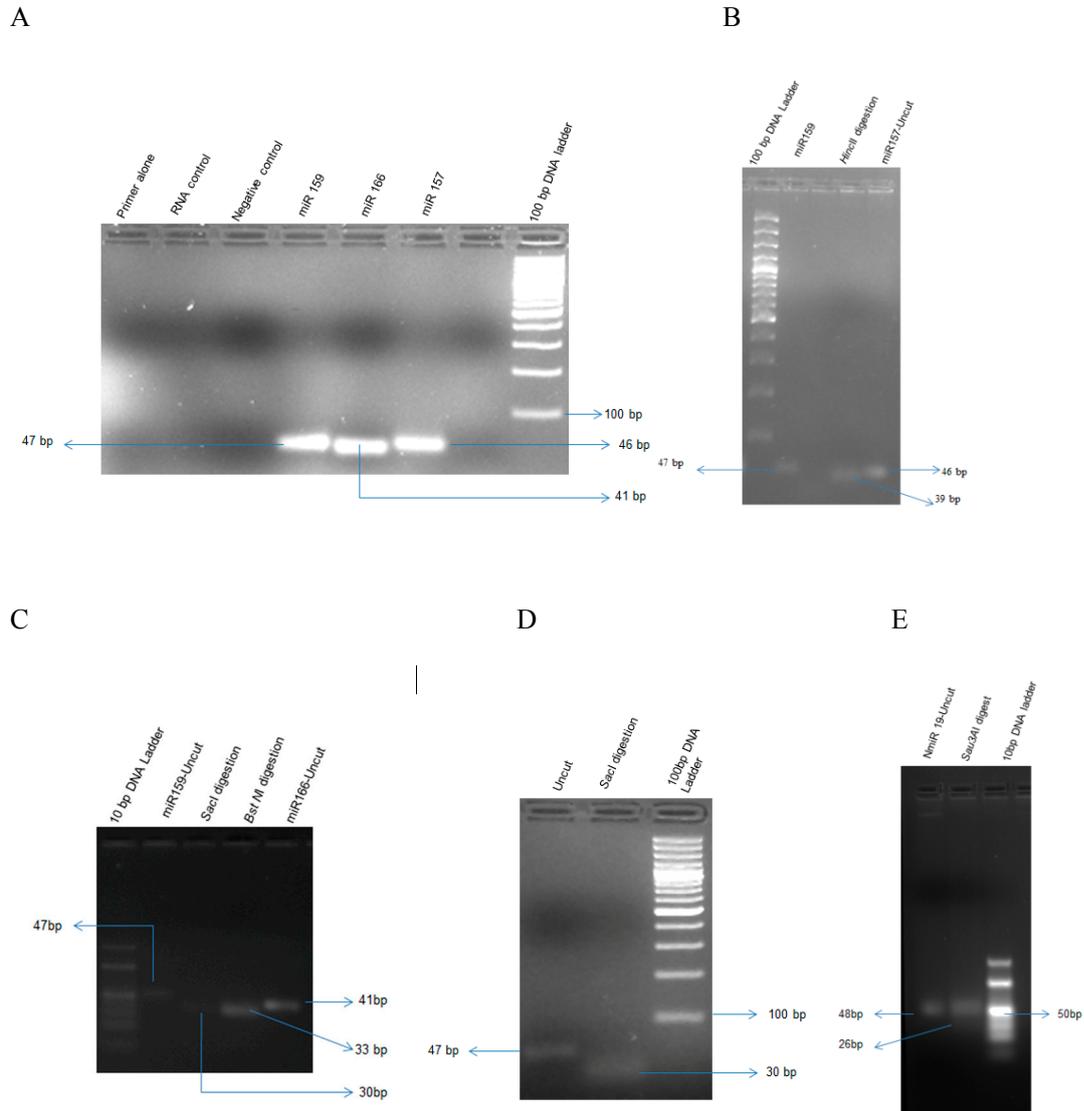


Fig. S2. Reverse transcription PCR and restriction digestion of miRNAs. PCR amplification was carried out for the randomly selected miRNAs from the reverse transcribed RNA (A). Amplified products were eluted and digested with specific restriction enzymes, *HincII* digestion for miRNA157 (B), *BstMI* digestion for miRNA166 (C), *SacI* digestion for miRNA159 (D) and *Sau3AI* digestion for NmiRNA19 (E) to ensure genuine amplification prior to qRT-PCR. All gels are 2.5%.

**Table S1: List of Novel miRNAs and their precursors**

miRNA ID	miRNA Sequence	Precursor Sequence	MFEI
NmiRNA1	TCTTTC CTACTC CTCCCA T	TCTTTCCTACTCCTCCATTCCAGGGACGGAGGAGGCTAGGT	-0.750038
NmiRNA2	GCAAGG CGCAAG GAAGCT G	TTCCACAGCTTTCTTGAACCTTGCAGTCAACGGGTTAGCAAACCCGCAAGGCGCA AGGAAGCTGATTGGCGGGATCCCTCGCGGGTGCACCGCCGA	-0.750814
NmiRNA3	CGCGGA TCGAGG TGGCGG C	ACGCGGATCGAGGTGGCGGCCAAGCCCGGGCCTTCGATACGCCC GCGGAGACGT CGTCTCCTCGATCTGCGTTGATGAAGCAATTTTATTGTGGACTAGAGTTTCTGATC TGG	-0.756122
NmiRNA4	TTTGGA TTGAAG GGAGCT CTA	TTTGATTGAAGGGAGCTCTATGCCATGGTGGTCTGCAGAGATTATCGAACCTG GTATATCAGGGTTCATATTGATCCA	-0.767551
NmiRNA5	TATTTC CCCAGA TGATCG A	TCCATTGTCGTCCAGTGGTTAGGATATCTGGGGAAGTGATGATTATTTCCCAGAT GATCGAAGCTGAACAAACTGTGCGATTTT	-0.905393
NmiRNA6	TGTAGT ATAGTG GTAAGT ATTC	GTCGTTGTAGTATAGTGGTAAGTATTTCCCGCGCAAGGGATGAATATTTATCTTAT CCTACACT	-0.715473
NmiRNA7	TTGTAG TATAGT GGTGAG TAT	GTCGTTGTAGTATAGTGGTGAGTATTCCTGGCAAGAGATGAATACTTATTCTATCC TACACT	-0.770827
NmiRNA8	TGTGTT TGGAGA GGTGGA T	TTGGCATTCTGTCCACCTCCAGGTAACAAGATATTGTGTTTGGAGAGGTGGATAG ATAGGACT	-0.813838
NmiRNA9	GTGGCT GTAGTT TAGTGG	GGTGGCTGTAGTTTAGTGGTGAGAATTCACGTTGTTGGAATTCCTCGGGTGCCAAG GAACTCCAGTCACGTCCGC	-0.827552
NmiRNA10	ATGTAG CCAAGT GGATCA AGGC	TGTTTTCTCTGCCTTGATCTATATGCGCATGGCGGATGTAGCCAAGTGGATCAAGG CAGTGG	-0.867742
NmiRNA11	TCGATA AACCTC TGCATC CAG	TCGATAAACCTCTGCATCCAGGAGCAATGAGGATAATCTGCTCTTGTGATGATAG GGTTATC	-0.881449
NmiRNA12	CTTTTC TTTTTC TTATCC	CTTTTCTTTTCTTATCCTACATTTGAGGATGATGAAAAAGATCAGACGGAT	-0.941243
NmiRNA13	GACCAA AGAGTC GGAGG GGG	ACCAGCATTCTTAAGACCAAAGAGTCGGAGGGGGAAAGCTCTCCGTTCTTGTT CTCCTGTAGCTGGA	-0.700042
NmiRNA14	TTCGTC CCTCTA ATATGT	TCTTTTATGGTTCATATTCTGGATTGGGTTTCGTCCTCTAATATGTAATATAAGATG TAATAATGGGATGAACTAAGTTATAGGCATGAAAGTGTAAAGAACTCAACGG	-0.702688
NmiRNA15	ACTGGA GGTCTG TAGTTC G	TAAACTGGAGGTCTGTAGTTCGATCCTGCATGGGGCACCTGGAATTCTCAGGTG CCAAGGAACTCCAGTCACGTCCGC	-0.704497
NmiRNA16	TTCGAT ACGCC GCGGAG A	ACGTTCCCGTGGGCGGATCGAGGTGGCGGCCAAGCCCGGGCCTTCGATACGCC GCGGAGACGTCGTCCTCGATCGT	-0.744643
NmiRNA17	AGACGA AGCGGA AGCGAG	CCCTTTGTCGCTTCGATTCGTCGTTCCGCCTTAGGGGGAAGCACCCGCGTGAGCGG GAGTAGACGAAGCGGAAGCGAGAATGT	-0.746012
NmiRNA18	CCAGAT ATAGAG ATGGCG AC	AAACCAGATATAGAGATGGCGACTAAGGTTGCTGTTCCATTATTATATAATTCA AGATCACAATGGATCTATGA	-0.748108

Novel miRNA sequences along with their corresponding precursor sequences are shown. NmiRNA denotes- Novel miRNA.

**Table S2: List of Precursors of miRNAs from PMRD which are not present in miRBase**

<b>miRNA ID</b>	<b>miRNA Sequence</b>	<b>Precursor Sequence</b>
MIR35-npr	GGAATATGAGTGT GTGACTT	GGTAGTTCGACCGCGAAATTTATTTGTTTCTGTATTTCCGGAATATG AGTGTGTGACTIGTTAGAATTGATC
MIRf10239-npr	CGCTTGGTGCAGG TCGGG	TCGCTTGGTGCAGGTCGGGAAATTACGATAGGTGTCAAGTGGAAAG TGCA
MIRf10238-npr	TGCCTGGCTCCCT GTATGCCA	TGCCTGGCTCCCTGTATGCCACAATGTAGGCAAGGGAAGTCGGCA AAATGG
MIRf11025-akr	TGCATTTGCACCT GCACCT	TGCATTTGCACCTGCACCTTCTCATTACGATAGGTGTCAAGTGGAA GTGCA
MIRf10271-akr	TGGATTGAAGGGA GCTCT	TTTGGATTGAAGGGAGCTCTATGCCATGGTGGTCCTGCAGAGATTA TCGAACCTGGTATATCAGGGTTCCATATTGATCCA
MIRf10082-akr	TGCATTTGCACCT GCACCT	TGCATTTGCACCTGCACCTTCTCATTACGATAGGTGTCAAGTGGAA GTGCA
MIRf11010-npr	TTCCACAGCTTTCT TGAAC	TTCCACAGCTTTCTTGAACCTTATTACGATAGGTGTCAAGTGGAAAGT GCA