

Supplementary Information

Parasite-derived circulating microRNAs as biomarkers for the detection of human *Schistosoma japonicum* infection

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Supplementary Tables

Supplementary Table 1. Twenty-one miRNAs selected based on studies of schistosome circulating and extracellular vesicles/exosomes associated miRNAs.

Target miRNA	Sequence [#]	Ref
bantam	TGAGATCGCGATTAAGCTGGT	(Cheng <i>et al.</i> , 2013; Hoy <i>et al.</i> , 2014; Meningher <i>et al.</i> , 2017; Nowacki <i>et al.</i> , 2015; Samoil <i>et al.</i> , 2018; Zhu <i>et al.</i> , 2016a; Zhu <i>et al.</i> , 2016b)
miR-277	TAAATGCATTTTCTGGCCCGT	(Cai <i>et al.</i> , 2015; Hoy <i>et al.</i> , 2014; Nowacki <i>et al.</i> , 2015; Zhu <i>et al.</i> , 2016a; Zhu <i>et al.</i> , 2016b)
miR-3479-3p	TATTGCACTTACCTTCGCCTTG	(Cai <i>et al.</i> , 2015; Cheng <i>et al.</i> , 2013; Hoy <i>et al.</i> , 2014; Zhu <i>et al.</i> , 2016b)
miR-125b	TCCCTGAGACTGATAATTGCTC	(Nowacki <i>et al.</i> , 2015; Samoil <i>et al.</i> , 2018; Zhu <i>et al.</i> , 2016a)
miR-125a	TCCCTGAGACCCTTTGATTGCC	(Samoil <i>et al.</i> , 2018)
miR-61	TGACTAGAAAGTGCCTCACTTC	(Nowacki <i>et al.</i> , 2015; Samoil <i>et al.</i> , 2018; Zhu <i>et al.</i> , 2016a; Zhu <i>et al.</i> , 2016b)
miR-2b-5p	CGTCTCAAAGGACTGTGAGCC	(Zhu <i>et al.</i> , 2016a)
miR-2162-3p	TATTATGCAACGTTTCACTCT	(Hoy <i>et al.</i> , 2014; Samoil <i>et al.</i> , 2018; Zhu <i>et al.</i> , 2016b)
let-7	GGAGGTAGTTCGTTGTGTGGT	(Zhu <i>et al.</i> , 2016a)
miR-36-3p	CCACCGGGTAGACATTCATTCGC	(Zhu <i>et al.</i> , 2016a; Zhu <i>et al.</i> , 2016b)
miR-3489	GCCACAACAGTTCGAGGACG	(Zhu <i>et al.</i> , 2016a)
miR-2d-3p	TATCACAGTCCTGCTTAGGTGACG	(Zhu <i>et al.</i> , 2016a; Zhu <i>et al.</i> , 2016b)
miR-3487	TCCTCGAACTGTTGTGGCC	(Zhu <i>et al.</i> , 2016a)
miR-2c-5p	ACCCTTGTTGACTGTGATGT	(Nowacki <i>et al.</i> , 2015; Zhu <i>et al.</i> , 2016a)
miR-2a-3p	TCACAGCCAGTATTGATGAAC	(Hoy <i>et al.</i> , 2014; Nowacki <i>et al.</i> , 2015; Zhu <i>et al.</i> , 2016b)
miR-71a	TGAAAGACGATGGTAGTGAGATG	(Nowacki <i>et al.</i> , 2015; Samoil <i>et al.</i> , 2018; Zhu <i>et al.</i> , 2016a; Zhu <i>et al.</i> , 2016b)
miR-3488	GCTCCGGTAGCTTAGTTGGT	(Meningher <i>et al.</i> , 2017; Nowacki <i>et al.</i> , 2015)
miR-3492	ATCCGTGCTGAGATTCGTCT	(Nowacki <i>et al.</i> , 2015; Samoil <i>et al.</i> , 2018)
miR-71b-5p	TGAAAGACTTGAGTAGTGAGACG	(Nowacki <i>et al.</i> , 2015; Samoil <i>et al.</i> , 2018)
miR-307	TCACAACCTACTTGATTGAGGGG	(Zhu <i>et al.</i> , 2016b)
miR-10-5p	AACCCTGTAGACCCGAGTTTGG	(Cheng <i>et al.</i> , 2013; Hoy <i>et al.</i> , 2014; Nowacki <i>et al.</i> , 2015; Samoil <i>et al.</i> , 2018; Zhu <i>et al.</i> , 2016a)

[#] Sequences from *S. japonicum* are shown

Supplementary Table 2. Primers and probe used in this study.

	Target miRNA	Sequence (5'-3')
Universal RT primer used in the Poly(A) method		CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTVN
RT primer pool used in the S-Poly(T) method	ath-miR-159a	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTAGAGCT
	sja-miR-277	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTACGGG
	sja-miR-3479-3p	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTCAAGGC
	sja-miR-125a	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTGGCAAT
	sja-miR-61	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTGAAGTG
	sja-miR-2b-5p	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTGGCTCA
	sja-miR-2162-3p	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTAGAGTG
	sja-miR-36-3p	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTGCGAAT
	sja-miR-3489	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTTCGTCCT
	sja-miR-3487	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTGGCCA
	sja-miR-2c-5p	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTACATCA
	sja-miR-2a-3p	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTGTTTCAT
	sja-miR-10	CAGTGCAGGGTCCGAGGTCAGAGCCACCTGGGCAATTTTTTTTTTTCCAAC
	Forward primer used in singleplex assays	ath-miR-159a
sja-bantam		GGTGAGATCGCGATTAAAGC
sja-miR-277		CGGTAAATGCATTTTCTGGCC
sja-miR-3479-3p		GGTATTGCACTTACCTTCGC
sja-miR-125b		CGGTCCTGAGACTGATAATT
sja-miR-125a		TGTCCCTGAGACCCTTTGAT
sja-miR-61		GGTACTAGAAAGTGCCTC
sja-miR-2b-5p		TGCGTCTCAAAGGACTGTGA
sja-miR-2162-3p		CGGTATTATGCAACGTTTCAC
sja-let-7		TGGGAGGTAGTTCGTTGTGT
sja-miR-36-3p		TTCCACCGGGTAGACATTCA
sja-miR-3489	TTGCCACAACAGTTCGAGGA	
sja-miR-2d-3p	GGTATCACAGTCCTGCTTAG	

	sja-miR-3487	TTTCCTCGAACTGTTGTGGC
	sja-miR-2c-5p	TGACCCTTGTTCCGACTGTGA
	sja-miR-2a-3p	GGTCACAGCCAGTATTGATG
	sja-miR-71a	GGTGAAAGACGATGGTAGTG
	sja-miR-3488	TTGCTCCGGTAGCTTAGTTG
	sja-miR-3492	TGATCCGTGCTGAGATTTCCG
	sja-miR-71b-5p	CGGTGAAAGACTTGAGTAGTG
	sja-miR-307	CGGTCACAACCTACTTGATTG
	sja-miR-10	TTAACCTGTAGACCCGAGT
Forward primers used in the duplex assay 2P	sja-miR-2b-5p	TGCGTCTCAAAGGACTGTGA
	sja-miR-2c-5p	TGACCCTTGTTCCGACTGTGA
Forward primers used in the multiplex assay 3P	sja-miR-2b-5p	TGCGTCTCAAAGGACTGTGA
	sja-miR-36-3p	TTCCACCGGGTAGACATTCA
	sja-miR-2c-5p	TGACCCTTGTTCCGACTGTGA
Forward primers used in the multiplex assay 5P	sja-miR-125a	TGTCCCTGAGACCCTTTGAT
	sja-miR-2b-5p	TGCGTCTCAAAGGACTGTGA
	sja-miR-36-3p	TTCCACCGGGTAGACATTCA
	sja-miR-2c-5p	TGACCCTTGTTCCGACTGTGA
	sja-miR-2a-3p	GGTCACAGCCAGTATTGATG
Forward primers used in the multiplex assay 6P	sja-miR-277	CGGTAATGCATTTTCTGGCC
	sja-miR-125a	TGTCCCTGAGACCCTTTGAT
	sja-miR-2b-5p	TGCGTCTCAAAGGACTGTGA
	sja-miR-36-3p	TTCCACCGGGTAGACATTCA
	sja-miR-2c-5p	TGACCCTTGTTCCGACTGTGA
	sja-miR-2a-3p	GGTCACAGCCAGTATTGATG
Universal reverse primer		CAGTGCAGGGTCCGAGGT
Universal double-quenched probe		56-FAM/CAGAGCCAC/ZEN/CTGGGCAATTT/3IABkFQ

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