Supplementary Materials: Identification and Characterization of MicroRNAs in Snakehead Fish Cell Line upon Snakehead Fish Vesiculovirus Infection

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Table S1. Statistics of the preliminary sequencing of SSN-1 cells with or without SHVV infection.

Sample	Clean Reads	Unique Clean Reads	Aligned * Unique Clean Reads (%)
SSN-1 cell (3 h)	11,049,428	396,669	151,939 (38.30%)
SSN-1 cell infected with SHVV (3 h)	9,754,366	280,855	88,889 (31.64%)
SSN-1 cell (24 h)	13,125,705	340,204	131,607 (38.68%)
SSN-1 cell infected with SHVV (24 h)	16,815,529	1,022,296	210,524 (20.59%)

* The unique clean reads were aligned with the genome of *Danio rerio*.

Table S2. Differentially expressed miRNAs ($p < 0.05$) when the sample SSN-1 cell infected with SHVV (3 h) was compared to SSN-1 cell (3 h).

Name	Fold Change ($Log2^{I3/C3}$)*	*p* Value
miR-126a-5p>miR-126b-5p	1.13966	2.90×10^{-10}
miR-135c	2.50178	0.000294
miR-140-5p	1.1076	3.47×10^{-17}
miR-143	1.18943	1.70×10^{-9}
miR-145-5p	1.91682	0.032896
miR-146a	1.61184	0
miR-153a-3p	1.25586	1.30×10^{-38}
miR-153c-3p	1.09739	1.32×10^{-8}
miR-183-5p	1.51688	4.54×10^{-5}
miR-184	3.17985	0.012661
miR-7147	1.10041	0.000831
miR-455-5p	1.36427	0.006879
miR-199-5p	1.20884	0
miR-221-5p	1.25024	0.020809
miR-24	1.03277	7.36×10^{-51}
miR-31	−1.97543	1.30×10^{-15}
miR-196d	−4.06808	6.62×10^{-5}
miR-203a-3p	−9.77787	2.35×10^{-27}

* I3: SSN-1 cell infected with SHVV (3 h); C3: SSN-1 cell (3 h).

Table S3. Differentially expressed miRNAs ($p < 0.05$) when the sample SSN-1 cell infected with SHVV (24 h) was compared to SSN-1 cell (24 h).

Name	Fold Change ($Log_2^{I24/C24}$)*	*p* Value
let-7a	−3.23603	0
let-7b	−3.14206	0
let-7c-3p>let-7d-3p	−4.00125	1.23×10^{-7}
let-7c-5p	−2.58041	3.58×10^{-133}
let-7d-5p	−2.99895	2.66×10^{-32}
let-7e	−3.35087	0

Table S3. *Cont.*

Name	Fold Change (Log_2 $^{I24/C24}$)*	*p* Value
let-7f	−3.29203	0
let-7g	−2.732	0
let-7h	−2.51911	0
let-7i	−2.29029	9.44×10^{-99}
let-7j	−3.0519	0
miR-100-3p	−3.61793	1.18×10^{-163}
miR-100-5p	−5.84746	0
miR-101a	−3.05599	6.30×10^{-237}
miR-101b	−2.73747	0
miR-103	−2.61915	8.57×10^{-304}
miR-107a-3p	−2.81985	1.02×10^{-221}
miR-10a-3p	−4.60532	5.79×10^{-12}
miR-10a-5p	−2.1018	0
miR-10b-2-3p	−3.94807	1.89×10^{-65}
miR-10b-5p	−2.39311	0
miR-10d-5p	−2.63848	0
miR-125a	−3.16476	1.38×10^{-33}
miR-125b-2-3p	−5.51039	0
miR-125b-5p	−3.43276	0
miR-125c-5p	−5.07926	4.37×10^{-284}
miR-126a-3p	−4.2054	1.78×10^{-20}
miR-126a-5p>miR-126b-5p	−2.66274	1.47×10^{-31}
miR-128-3p	−4.92859	0
miR-1306	−3.21539	1.84×10^{-7}
miR-130a	−3.11229	0
miR-130c-3p	−3.38263	0
miR-130c-5p	−4.79246	6.23×10^{-120}
miR-132-3p	−3.89345	1.75×10^{-30}
miR-135c	−1.6469	0.002498916
miR-138-5p	−4.94236	1.53×10^{-29}
miR-1388-3p	−2.04562	2.08×10^{-126}
miR-140-3p	−3.03951	0
miR-140-5p	−3.46115	2.52×10^{-112}
miR-143	−3.5958	7.15×10^{-37}
miR-145-3p	−6.05784	6.42×10^{-18}
miR-145-5p	−7.017	7.15×10^{-7}
miR-146a	−1.98658	0
miR-146b	−3.91539	9.52×10^{-55}
miR-148	−3.23654	6.54×10^{-111}
miR-150	−2.63751	3.77×10^{-13}
miR-153a-3p	−2.95278	6.56×10^{-163}
miR-153b-3p	−2.41897	3.60×10^{-57}
miR-153b-5p	−3.67933	6.62×10^{-11}
miR-153c-3p	−2.27796	1.80×10^{-24}
miR-15a-5p	−4.25559	0
miR-15b-5p	−3.87608	0
miR-16a	−4.02428	0
miR-16b	−2.99958	0

Table S3. *Cont.*

Name	Fold Change (Log_2 $^{I24/C24}$)*	*p* Value
miR-16c-5p	−1.91909	0
miR-17a-2-3p	−3.23186	5.89×10^{-6}
miR-17a-3p	−3.16475	1.29×10^{-11}
miR-17a-5p	−3.15537	0
miR-181a-3p	−3.1716	0
miR-181a-5p	−1.97076	0
miR-181b-5p	−1.75554	0
miR-181c-3p	−5.01275	1.17×10^{-38}
miR-181c-5p	−1.84696	3.98×10^{-70}
miR-183-5p	−1.57979	0.000204525
miR-184	−2.16476	0.004007859
miR-18a	−3.26618	1.23×10^{-83}
miR-192	−4.12293	1.60×10^{-72}
miR-193a-3p	−4.76167	0
miR-196a-5p	−2.96858	0
miR-199-3-3p	−3.81683	1.38×10^{-74}
miR-199-3p	−2.97786	0
miR-199-5p	−3.96545	0
miR-19a-3p	−1.85964	0
miR-19b-3p	−2.03149	0
miR-19b-5p	−7.73689	8.22×10^{-11}
miR-19c-3p	−3.0051	3.09×10^{-57}
miR-19d-3p	−2.12699	0
miR-204-5p	−3.14817	1.68×10^{-144}
miR-205-5p	−3.74971	2.46×10^{-6}
miR-20a-5p	−3.19422	0
miR-21	−3.39804	0
miR-210-3p	−3.67693	0
miR-210-5p	−5.51449	0.006223011
miR-212	−2.62749	1.63×10^{-15}
miR-214	−4.27387	8.54×10^{-123}
miR-216b	−6.73689	8.49×10^{-6}
miR-221-3p	−2.48955	0
miR-221-5p	−5.56686	1.10×10^{-12}
miR-222a-3p	−3.55456	0
miR-222a-5p	−2.8953	0
miR-22a-3p	−3.09154	0
miR-22a-5p	−3.04137	7.28×10^{-80}
miR-22b-3p	−4.02414	0
miR-22b-5p	−2.84283	1.22×10^{-27}
miR-23a-3-5p	−7.92953	3.04×10^{-12}
miR-23a-3p	−2.13028	0
miR-23a-5p	−6.09946	0.000524275
miR-23b	−2.73405	4.47×10^{-250}
miR-24	−3.40993	0
miR-25-3p	−2.31239	0
miR-26a-2-3p	−3.8599	9.31×10^{-10}
miR-26a-5p	−3.35436	0

Table S3. *Cont.*

Name	Fold Change (Log_2 $^{I24/C24}$)*	*p* Value
miR-26b	−3.6547	0
miR-27a-3p	−2.4537	0
miR-27b-3p	−3.29876	0
miR-27b-5p	−3.24885	1.49×10^{-189}
miR-27c-3p	−2.77851	0
miR-27d	−3.95566	4.61×10^{-29}
miR-27e	−4.40179	2.76×10^{-10}
miR-29a	−3.25812	0
miR-29b	−3.20471	1.75×10^{-178}
miR-301a	−2.1425	2.71×10^{-27}
miR-301b-3p	−4.92954	0.032381332
miR-301c-3p	−2.45693	4.21×10^{-6}
miR-30b	−3.714	0
miR-30c-5p	−2.58964	3.93×10^{-59}
miR-30d	−3.15037	0
miR-30e-3p	−3.06374	0
miR-30e-5p	−3.38238	0
miR-31	−2.45693	4.21×10^{-6}
miR-338	−4.16476	8.00×10^{-5}
miR-34a	−2.5756	0
miR-363-3p	−3.26429	0.000196783
miR-365	−4.92954	0.032381332
miR-375	−3.3029	0
miR-429a	−2.44487	0.000616735
miR-454b	−2.98676	5.94×10^{-21}
miR-455-5p	−2.3574	0.000266601
miR-456	−3.03714	1.36×10^{-70}
miR-457a	−3.01561	1.53×10^{-21}
miR-462	−2.53661	7.36×10^{-231}
miR-499-3p	−5.25146	0.014195401
miR-7147	−4.7948	4.43×10^{-20}
miR-722	−6.25146	0.000229833
miR-724	−2.63081	2.42×10^{-106}
miR-730	−4.60532	5.79×10^{-12}
miR-731	−3.18425	3.20×10^{-188}
miR-737-5p	−3.65232	0
miR-9-4-3p	−4.65508	4.74×10^{-18}
miR-9-5p	−1.54182	0.002096158
miR-92a-3p	−3.97976	0
miR-92b-3p	−4.75081	0
miR-99	−4.71935	4.02×10^{-283}

* I24: SSN-1 cell infected with SHVV (24 h); C24: SSN-1 cell (24 h).

Table S4. Summary of targeted virus gene prediction of the differentially expressed miRNAs when the sample SSN-1 cell infected with SHVV (3 h) was compared to SSN-1 cell (3 h).

Name	Sequence (5′→3′)	Target	Fold Change ($Log_2^{I3/C3}$)*
miR-199-5p	CCCAGUGUUCAGACUACCUGUUC	N, L	1.20884
miR-135c	UAUGGCUUUCUAUUCCUAUGUG	M	2.50178
miR-7147	UGUACCAUGCUGGUAGCCAGU	G	1.10041
miR-145-5p	GUCCAGUUUUCCCAGGAAUCCC	G	1.91682
miR-184	UGGACGGAGAACUGAUAAGGGC	G	3.17985
miR-153a-3p	UUGCAUAGUCACAAAAGUGAUC	G, L	1.25586
miR-146a	UGAGAACUGAAUUCCAUAGAUGG	L	1.61184
miR-153c-3p	UUGCAUAGUCACAAAAAUGAUC	L	1.09739
miR-183-5p	UAUGGCACUGGUAGAAUUCACUG	L	1.51688
miR-203a-3p	GUGAAAUGUUUAGGACCACUUG	L	−9.77787

* I3: SSN-1 cell infected with SHVV (3 h), C3: SSN-1 cell (3 h). N: nucleoprotein; P: phosphoprotein; M: matrix protein; G: glycoprotein; L: RNA-dependent RNA polymerase protein (large protein).

Table S5. Primers sequences for RT-PCR and qRT-PCR.

Name	RT Primers	qRT-PCR	qRT-PCR
	(5′-3′)	Forward primers (5′-3′)	Reverse primers (5′-3′)
miR-135c	Unique Oligo-dT Adaptor primer *	TATGGCTTTCTATTCCTATGTG	Universal primer *
miR-140-5p	As above	CAGTGGTTTTACCCTATGGTAG	As above
miR-153a-3p	As above	TTGCATAGTCACAAAAGTGATC	As above
miR-153c-3p	As above	TTGCATAGTCACAAAAATGATC	As above
miR-24	As above	TGGCTCAGTTCAGCAGGAACAG	As above
5S rRNA	Oligo-dT primer and Random 6	GGAGACCGCCTGGGAATA	As above
N	As above	CCGCATCGGAAATCAAGCAG	GTTGACCGCTTGCCCAATTT
P	As above	ACAGCTATCCTCAAGCCGTG	ACAGCACCATTTGCTGAACC
β-actin	As above	CACTGTGCCCATCTACGAG	CCATCTCCTGCTCGAAGTC

*: provided from All-in-One™ miRNA qRT-PCR Detection Kit.