

## Additional file 1. Targets analysis of all miRNAs of *Orientobilharzia turkestanicum*

Name	Length	Mfe (kcal/mol)	Number of targets	Name of Best matched Target	KEGG Orthology
<b>Novel miRNAs</b>					
Otu-miR-01	20	-30.2	66	Lipopolysaccharide-induced tumor necrosis factor-alpha factor homolog	/
Otu-miR-02	22	-37.3	57	hypothetical protein	/
Otu-miR-03	20	-30	2	/	/
Otu-miR-04	20	-42.1	21	Conserved hypothetical protein	/
Otu-miR-05	20	-29.4	35	Heterogeneous nuclear ribonucleoprotein A2 homolog 1	/
Otu-miR-06	20	-27.2	59	hypothetical protein	/
Otu-miR-07	20	-26.9	1	hypothetical protein	/
<b>Known miRNAs</b>					
miR-1*	22	-29.3	1270	/	/
miR-23*	21	-36.6	905	/	/
miR-1721	19	-34.4	673	Transmembrane protein 45B	/
miR-2303	21	-31.5	637	/	/
miR-2885	22	-40.3	354	U1 small nuclear ribonucleoprotein A	/
miR-595	20	-28.9	239	hypothetical protein	/
miR-361*	25	-27.9	202	H <sup>+</sup> -transporting ATPase	/
miR-3615	19	-36.5	190	/	/
miR-3201	20	-32	187	/	/
miR-2881	20	-43.3	175	Splicing factor 3A subunit 2	/
miR-1591	25	-40.2	171	/	/

miR-2305	18	-37.4	162	cleavage stimulation factor, 3' pre-RNA, subunit 2, 64kDa	/
miR-2861	21	-39.7	143	Ubiquinol-cytochrome-c reductase complex core protein 2, mitochondrial precursor	[EC:1.10.2.2]
miR-720	19	-36.6	132	RNA-binding protein 4	/
miR-1260	20	-36.9	124	Krt9	ko:K07604 type I keratin, acidic
miR-1400	19	-35.7	121	Krt9	ko:K07604 type I keratin, acidic
miR-4332	21	-38.4	108	Centrin-3	/
miR-1584	21	-36.4	107	Lysosomal protective protein precursor	[EC 3.4.16.5]
miR-769	20	-35.6	105	/	/
miR-1587	20	-36.4	100	IPP-2	/
miR-1934*	18	-36.3	97	hypothetical protein	/
miR-504*	21	-40.8	94	putative CCDC28B protein 65.9	/
miR-3058*	23	-46	91	hnRNP-K	/
miR-431	20	-32.1	90	/	/
miR-4300	19	-34	88	/	/
miR-669c*	25	-38.4	86	ribosomal protein S8	ko:K02993 small subunit ribosomal protein S7e
miR-242	22	-37.2	82	/	/
miR-347	19	-39.4	78	/	/
miR-194	22	-32.7	72	LSM1 homolog, U6 small nuclear RNA associated	/
miR-647	25	-35.9	70	Heterogeneous nuclear ribonucleoprotein K	/
miR-4020b-5p	18	-33.6	70	Zinc finger protein 207	/
miR-1254	21	-34.1	70	Ahcy	[EC:3.3.1.1] ko:K01251 adenosylhomocysteinase
miR-669c	20	-32.5	69	/	/

miR-574-5p	25	-41.7	69	hypothetical protein	/
miR-4320	20	-29.1	69	/	/
miR-1346	20	-37.2	68	hypothetical protein	/
miR-92e-5p	20	-36.2	67	Zinc finger protein 207	/
miR-423*	24	-37.1	66	hypothetical protein	/
miR-1607	18	-34.2	66	Ibp2(Intersectin-EH-binding protein 2)	/
miR-4281	20	-39.1	63	/	/
miR-671-5p	24	-38.1	61	Ras GTPase-activating protein-binding protein 1	[EC:3.6.1.-]
miR-1307	23	-36	61	ADP-ribosylation factor 1 GTPase-activating protein	/
miR-745*	23	-36.8	59	/	/
miR-92d-5p	20	-31.1	57	hypothetical protein	/
miR-1959	19	-35.7	57	/	/
miR-4170-5p	18	-33.2	56	putative 6-phosphogluconate dehydrogenase	[EC:1.1.1.44]
miR-1612	24	-36.6	56	/	/
miR-32*	24	-30.8	55	/	/
miR-1345	18	-32.5	55	putative KH-type splicing regulatory protein	/
miR-485-5p	24	-33.3	53	Histone H2A	/
miR-78	21	-31.9	51	hypothetical protein	/
miR-705	20	-36.5	51	CDC37	ko:K09554 cell division cycle protein 37
miR-4088-5p	21	-34	48	/	/
miR-125-2*	19	-36	47	Tubulin beta-2C chain	/
miR-194a	21	-32.3	46	/	/
miR-92b*	24	-34.7	45	lethal (2) 06225	[EC:3.6.3.14] ko:K02140 F-type H <sup>+</sup> -transporting ATPase g chain
miR-3652	20	-33.6	45	hypothetical protein	/
miR-277c*	21	-30.9	45	GTPase-activating protein ZNF289	/

miR-277c	22	-30.9	44	Ribosomal protein S11	ko:K02949 small subunit ribosomal protein S11e
miR-99b	22	-31.8	43	Ribosomal Protein, Large subunit	ko:K02894 large subunit ribosomal protein L23e
miR-27a*	22	-34.6	42	/	/
miR-148a*	20	-30.7	42	Extracellular superoxide dismutase [Cu-Zn] precursor	[EC:1.15.1.1]
miR-1231	18	-32.7	42	/	/
let-7b	22	-31.3	42	hypothetical protein	/
miR-2386	22	-30.1	41	/	/
miR-129-5p	21	-33.6	41	inositol polyphosphate-5-phosphatase E	[EC:3.1.3.36] ko:K01099 phosphatidylinositol-bisphosphatase
miR-106b*	21	-31.7	41	Small nuclear ribonucleoprotein SM D3	/
miR-980	21	-33.2	40	chloride intracellular channel 4	ko:K05024 chloride intracellular channel 4
miR-745b	22	-33.2	40	chloride intracellular channel 4	ko:K05024 chloride intracellular channel 4
miR-252	19	-36.8	40	Zinc finger protein 207	/
miR-1649*	18	-35	40	/	/
miR-3666	25	-35.3	39	ATPase, H <sup>+</sup> transporting, lysosomal, V0 subunit c	[EC:3.6.3.14] ko:K02155 V-type H <sup>+</sup> -transporting ATPase 16kDa proteolipid subunit
miR-276a	24	-31.4	39	rpl-23	ko:K02894 large subunit ribosomal protein L23e
miR-3622b-5p	18	-31.9	38	/	/
miR-1937a	19	-35.2	38	Heterogeneous nuclear ribonucleoprotein U-like protein 1	/
miR-423-5p	19	-30.4	37	putative transformer-2 protein	/
miR-1759	25	-37.4	36	hypothetical protein	/

miR-1183	24	-36.5	36	RpL9	ko:K02940 large subunit ribosomal protein L9e
miR-23a*	22	-31.4	35	Splicing factor, arginine/serine-rich 7	/
miR-10b	22	-32.6	35	Cellular retinaldehyde-binding protein	/
miR-205*	22	-32.9	34	NAP-1-related protein	/
miR-10a-5p	24	-34.7	34	Cellular retinaldehyde-binding protein	/
miR-10-5p	22	-32.8	34	hypothetical protein	/
miR-683	20	-32.6	33	Chromobox protein homolog 1	/
miR-669g	23	-32.1	33	heat shock 10kD protein 1	/
miR-466i-5p	20	-29.9	33	Basic helix-loop-helix dimerisation region bHLH,domain-containing protein	/
miR-2478	21	-33.8	33	cellular nucleic acid-binding protein	/
miR-200b*	22	-33.9	33	putative choline phosphotransferase 1	ko:K00994 diacylglycerol cholinephosphotransferase
miR-1816	21	-32.2	32	Pre-mRNA-splicing factor cwc15	/
miR-1638	21	-28.9	32	ribosomal protein S14	ko:K02955 small subunit ribosomal protein S14e
miR-339	22	-34	30	RAB family	ko:K07976 Rab family, other
miR-3180-3p	24	-39.1	30	/	/
miR-271	22	-36.7	30	Mastin precursor	[EC:3.4.21.-]
miR-483-3p	18	-30	29	/	/
miR-25	22	-30.2	29	hypothetical protein	/
miR-2411	20	-32.6	29	/	/
miR-222b	21	-32	29	hypothetical protein	/
miR-193a-5p	21	-32.2	29	hypothetical protein	/
miR-92a	22	-30.7	28	putative ATP synthase	[EC:3.6.3.14] ko:K02128 F-type

					H <sup>+</sup> -transporting ATPase subunit c
miR-2476	18	-31.5	28	hypothetical protein	/
miR-277b	23	-30.1	27	CRISP-9	/
miR-2489	23	-31.2	27	polyubiquitin	ko:K04551 ubiquitin B
miR-4148-5p	20	-33.6	26	TATA box binding protein like 2	ko:K03120 transcription initiation factor TFIID TATA-box-binding protein
miR-2b-3p	23	-37.8	26	Fh1	[EC:4.2.1.2] ko:K01679 fumarate hydratase
miR-190a-5p	30	-32.8	26	ribosomal protein S16	ko:K02960 small subunit ribosomal protein S16e
miR-190	24	-35.6	25	/	/
miR-149	22	-32.9	25	hypothetical protein	/
miR-652	21	-34.5	24	may be involved in transcription elongation by mediating interactions between RNA polymerase II and chromatin	/
miR-29a	22	-33.6	24	large subunit ribosomal protein L10e	/
miR-2387	25	-37.3	24	/	/
miR-739	20	-36.4	23	hypothetical protein	ko:K04645 clathrin, light polypeptide B
miR-604	18	-32	23	KH domain-containing, RNA-binding, signal transduction-associated protein 1	/
miR-3126-5p	24	-34.6	23	U3 small nucleolar RNA-interacting protein 2	/
miR-277	22	-28.7	23	putative U5 snRNP-specific protein	/
miR-466i-3p	24	-46.6	22	hypothetical protein	/
miR-3488	20	-33.4	22	hypothetical protein	/
miR-1556	25	-35	22	hypothetical protein	/
miR-1386	21	-42.9	22	/	/
miR-8-3p	22	-28.5	21	small subunit ribosomal protein S30e	/

miR-3095-3p	24	-36.4	21	/	/
miR-24	22	-33.5	21	High mobility group protein 20A	/
miR-184b	20	-34.1	21	/	/
miR-1786	21	-32.9	21	Import inner membrane translocase subunit TIM44, mitochondrial precursor	/
miR-147	21	-32.8	21	Cathepsin B-like cysteine proteinase precursor	[EC:3.4.22.-]
miR-99a	21	-32.3	20	/	/
miR-3176	19	-31.9	20	/	/
miR-3118	24	-34	20	putative 40S ribosomal protein S9	ko:K02997 small subunit ribosomal protein S9e
miR-2397	20	-34.4	20	PSMC3	ko:K03065 26S proteasome regulatory subunit T5
miR-1274b	20	-37.4	19	/	/
miR-3482-3p	23	-44.6	18	hypothetical protein	/
miR-320a	22	-34.3	18	Acidic leucine-rich nuclear phosphoprotein 32-related protein	/
miR-236	24	-31.7	18	signal peptidase complex subunit 2 homolog	/
miR-2230*	23	-34.5	18	Peptidase M8, leishmanolysin	/
miR-2200*	21	-32.7	18	hypothetical protein	/
miR-1603	18	-31.9	18	/	/
miR-765	21	-33.6	17	/	/
miR-749	25	-40.4	17	Basic-leucine zipper (bZIP) transcription factor	/
miR-677	21	-36.7	17	High mobility group protein DSP1	/
miR-423-3p	23	-37.6	17	/	/
miR-3483-5p	22	-40.1	17	hypothetical protein	/
miR-339b	20	-33.9	17	Centaurin-alpha 1 (Putative MAPK-activating protein	/

				PM25)	
miR-2440	19	-31.8	17	/	/
miR-150*	20	-34	17	Ubiquinol-cytochrome-c reductase complex core protein 2, mitochondrial precursor	[EC:1.10.2.2]
miR-767-3p	24	-33.4	16	Splicing factor, arginine/serine-rich 7	/
miR-2993	20	-33.7	16	/	/
miR-28-3p	22	-34.7	16	Heterogeneous nuclear ribonucleoprotein K	/
miR-2785	21	-31.5	16	/	/
miR-181a-2*	24	-37.5	16	/	/
miR-1614*	19	-31.7	16	/	/
miR-1	21	-33	16	/	/
miR-87b	22	-30.9	15	putative ribosomal protein L31	ko:K02910 large subunit ribosomal protein L31e
miR-87	22	-29	15	putative ribosomal protein L31	ko:K02910 large subunit ribosomal protein L31e
miR-500a*	23	-33.8	15	ARMET-like protein precursor	/
miR-4131-3p	20	-33.5	15	hypothetical protein	/
miR-4106-3p	21	-26.1	15	hypothetical protein	/
miR-3492	24	-32.8	15	/	/
miR-2065	19	-30	15	glutathione S-transferase M1	[EC:2.5.1.18] ko:K00799 glutathione S-transferase
miR-2020	25	-34.9	15	/	/
miR-1794	24	-31.8	15	/	/
miR-84	23	-32.1	14	ubiquitin conjugating enzyme 3b	[EC:6.3.2.19] ko:K02207 ubiquitin-conjugating enzyme E2
miR-745	22	-33.2	14	/	/

miR-341	19	-34.2	14	/	/
miR-2537*	20	-35.5	14	cytosolic malate dehydrogenase	[EC:1.1.1.37] ko:K00026 malate dehydrogenase
miR-1701	20	-31.7	14	/	/
miR-153*	20	-33	14	hypothetical protein	/
miR-133	23	-33.8	14	Heterogeneous nuclear ribonucleoprotein K	/
miR-92b	22	-34.7	13	THO complex subunit 4	/
miR-532-3p	22	-35.9	13	signal transduction-associated protein 1	/
miR-463	20	-30.5	13	Splicing factor, arginine/serine-rich 7	/
miR-4115-5p	22	-31	13	ATPase, H <sup>+</sup> transporting, lysosomal 31kDa, V1 subunit E	[EC:3.6.3.14] ko:K02150 V-type H <sup>+</sup> -transporting ATPase subunit E
miR-3475	21	-30.3	13	putative ubiquitin-conjugating enzyme	/
miR-320c	19	-31.1	13	Egg protein CP111	/
miR-2450b	24	-32.1	13	GrpE-like protein	ko:K03687 molecular chaperone GrpE
miR-1837	25	-35.4	13	NADH dehydrogenase (ubiquinone) 1 beta subcomplex 9	[EC:1.6.5.3 1.6.99.3]
miR-1639	18	-31.3	13	/	/
miR-146b-3p	23	-33.9	13	Voltage-dependent anion-selective channel protein 2	/
miR-106b	21	-33.3	13	cyclin B1 interacting protein 1	[EC:6.3.2.-]
miR-1010*	21	-30.4	13	Dynein light chain 2, cytoplasmic	/
miR-7c	22	-30.9	12	/	/
miR-4255	20	-33	12	/	/
miR-4139-3p	22	-31.1	12	TAR DNA-binding protein 43	/
miR-375-3p	20	-32.6	12	Brix domain-containing protein 1	/
miR-3500	19	-32.3	12	hypothetical protein	/
miR-253	21	-32.2	12	conserved hypothetical protein	/

miR-1939	22	-33.2	12	/	/
miR-107	23	-38.8	12	putative Vesicle-associated membrane protein-associated protein A	/
miR-103	23	-36.5	12	putative Vesicle-associated membrane protein-associated protein A	/
miR-669e	21	-31.4	11	hypothetical protein	/
miR-520d-5p	18	-31.7	11	putative ATP-dependent RNA helicase DDX17	[EC:3.6.1.-]
miR-4035-3p	21	-33.7	11	hypothetical protein	/
miR-3923	25	-33.7	11	/	/
miR-361-5p	22	-32.7	11	/	/
miR-3432	24	-34.1	11	/	/
miR-320	21	-28.9	11	putative ATP synthase	[EC:3.6.3.14] ko:K02128 F-type H <sup>+</sup> -transporting ATPase subunit c
miR-31b	23	-34.3	11	/	/
miR-3021	24	-35.1	11	Flot1	ko:K07192 flotillin
miR-295	23	-29.1	11	/	/
miR-2834	20	-33.4	11	calreticulin	ko:K08057 calreticulin
miR-193b*	21	-34.5	11	/	/
miR-181b	21	-35	11	/	/
miR-1269	26	-34.8	11	/	/
miR-124-5p	22	-32.2	11	/	/
miR-105	24	-28.7	11	small subunit ribosomal protein S27e	/
miR-541	20	-33.6	10	NECAP-like protein CG9132	/
miR-518d-5p	23	-31	10	/	/
miR-466f-3p	21	-33.1	10	/	/
miR-4294	20	-34.6	10	/	/

miR-34	20	-28.4	10	Huntingtin-interacting protein HYPK	/
miR-3229	22	-30	10	Nuclear ribonuclease Z	[EC:3.1.26.11]
miR-1642	26	-35.3	10	Glioma pathogenesis-related protein 1 precursor	/
miR-151-3p	22	-35.7	10	/	/
miR-1290	20	-31.3	10	/	/
bantam	22	-27.4	10	hypothetical protein	/
miR-486-3p	19	-29.1	9	hypothetical protein	/
miR-449d	18	-30.5	9	hypothetical protein	/
miR-3479-5p	23	-29.6	9	hypothetical protein	/
miR-30e	23	-32.8	9	/	/
miR-2941-1*	20	-34.2	9	succinate dehydrogenase complex, subunit B, iron sulfur	[EC:1.3.5.1] ko:K00235 succinate dehydrogenase (ubiquinone) iron-sulfur protein precursor
miR-1616	21	-34.1	9	hypothetical protein	/
miR-148b-3p	22	-28.9	9	/	/
miR-138	18	-30.8	9	Histone H2B	/
miR-96a	23	-32.8	8	/	/
miR-960	22	-29.2	8	/	/
miR-555	19	-31.3	8	Ras-related protein Rab-4A	/
miR-3505	25	-35.6	8	glyoxalase I	[EC:4.4.1.5] ko:K01759 lactoylglutathione lyase
miR-320e	19	-28.9	8	putative Brain protein 44-like	/
miR-31	22	-33.2	8	Peroxiredoxin 5037	[EC:1.11.1.15] ko:K03386 peroxiredoxin (alkyl hydroperoxide reductase subunit C)
miR-30e-5p	24	-32.8	8	/	/
miR-278	21	-34.6	8	/	/

miR-203	21	-30.8	8	Dfh	/
miR-1992-3p	18	-32.4	8	Rhabdoid tumor deletion region protein 1	/
miR-100	21	-27.4	8	hypothetical protein	/
miR-71a	25	-35	7	growth factor receptor bound protein 2	ko:K04364 growth factor receptor-binding protein 2
miR-532-5p	22	-33.2	7	DnaJ (Hsp40) homolog, subfamily A, member 1	ko:K09502 DnaJ homolog, subfamily A, member 1
miR-429	22	-31.9	7	putative Proline synthetase co-transcribed bacterial homolog protein	/
miR-4115-3p	19	-30.9	7	Sdhh	[EC:1.3.5.1] ko:K00235 succinate dehydrogenase (ubiquinone) iron-sulfur protein precursor
miR-4038-3p	19	-27.9	7	ATPase, F0 complex, subunit E, mitochondrial, domain-containing protein	/
miR-375	22	-34.4	7	Brix domain-containing protein 1	/
miR-36-3p	23	-35.1	7	Immunogenic miracidial antigen 8I'	/
miR-330-3p	21	-37.9	7	putative dihydrolipoamide S-acetyltransferase (E2 component of pyruvate dehydrogenase complex)	ko:K00627 pyruvate dehydrogenase E2 component
miR-2d-5p	21	-34.6	7	/	/
miR-277d-3p	24	-28.5	7	rps-21	ko:K02971 small subunit ribosomal protein S21e
miR-2549	18	-35.2	7	Heterogeneous nuclear ribonucleoprotein A2 homolog 1	/
miR-2231	18	-30.9	7	/	/
miR-2205	22	-34.2	7	/	/
miR-196d	22	-30.8	7	/	/
miR-1942	20	-31.7	7	Growth factor receptor-bound protein 2	/

miR-1274a	22	-34.3	7	/	/
miR-125b*	21	-33.2	7	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex 8	[EC:1.6.5.3 1.6.99.3]
miR-124-3p	21	-33.5	7	rps-26	ko:K02976 small subunit ribosomal protein S26e
miR-598	20	-30	6	Splicing factor, arginine/serine-rich 7	/
miR-509a	24	-30.8	6	isoamyl acetate-hydrolyzing esterase 1 homolog	/
miR-506	19	-29.1	6	succinate dehydrogenase complex	[EC:1.3.5.1] ko:K00236 succinate dehydrogenase (ubiquinone) cytochrome b subunit precursor
miR-466b-1*	22	-31.6	6	hypothetical protein	/
miR-4150-5p	19	-35.7	6	Zinc finger protein	/
miR-4101-3p	19	-28.5	6	Zinc finger CDGSH domain-containing protein 1	/
miR-377*	24	-32.8	6	Aquaporin-9 (AQP-9) (Small solute channel 1)	/
miR-302b	18	-31.5	6	hypothetical protein	/
miR-2c-5p	22	-30.6	6	/	/
miR-288	22	-30.8	6	hypothetical protein	/
miR-2269	19	-29.4	6	/	/
miR-196a	22	-32.9	6	/	/
miR-1967	24	-33.8	6	U3 small nucleolar RNA-interacting protein 2	/
miR-196	21	-31.6	6	/	/
miR-184	22	-32	6	/	/
miR-1480	24	-40.2	6	GPI-anchored membrane protein 1	/
let-7	21	-32.9	6	DNMAP1	/
miR-509-3p	21	-32.9	5	LIM/homeobox protein Lhx5	/
miR-483	20	-31.5	5	NAP-1-related protein	/

miR-4289	19	-29.8	5	/	/
miR-4144-3p	18	-30.2	5	NADH dehydrogenase (ubiquinone) Fe-S protein 8	[EC:1.6.5.3 1.6.99.3] ko:K03941 NADH dehydrogenase (ubiquinone) Fe-S protein 8
miR-3692*	23	-35.2	5	hypothetical protein	/
miR-3535	26	-41.2	5	ATP-dependent rRNA helicase RRP3	[EC:3.6.1.-]
miR-330	20	-31.3	5	hypothetical protein	ko:K07567 TdcF protein
miR-31b-1*	21	-31.8	5	putative UDP-galactose-4-epimerase	ko:K01784 UDP-glucose 4-epimerase
miR-2997	21	-29.7	5	prefoldin subunit 4	ko:K09550 prefoldin subunit 4
miR-2955	21	-34.2	5	/	/
miR-281	22	-30.1	5	/	/
miR-2772a	19	-30.5	5	/	/
miR-2448	24	-36.3	5	/	/
miR-23b	23	-31.6	5	/	/
miR-224	20	-33.7	5	putative alpha-1,3-mannosyltransferase	/
miR-2136	20	-32.1	5	SNAP-alpha	/
miR-205	23	-33.9	5	/	/
miR-2032a	18	-30.4	5	/	/
miR-1682	20	-34.4	5	SAPK substrate protein 1	/
miR-16	22	-31	5	/	/
miR-1381	19	-30.4	5	/	/
miR-1376	19	-32.2	5	hypothetical protein	/
miR-1247*	18	-34.8	5	/	/
miR-107b	24	-32	5	hypothetical protein	/
miR-106a	22	-32.7	5	/	/
miR-76	22	-29.1	4	/	/
miR-75*	20	-39.6	4	/	/

miR-632	19	-32.1	4	Phosducin-like protein 3	/
miR-486-5p	21	-31.8	4	Heat shock protein 60	ko:K04077 chaperonin GroEL
miR-4130-3p	20	-29.4	4	/	/
miR-4121-3p	19	-31.9	4	hypothetical protein	/
miR-4052-3p	21	-33.8	4	/	/
miR-378b	21	-34.2	4	VTI1A	ko:K08493 vesicle transport through interaction with t-SNAREs 1
miR-36a*	20	-30.2	4	isocitrate dehydrogenase (NAD+)	[EC:1.1.1.41]
miR-30d*	24	-31.6	4	Histidine-rich glycoprotein precursor	/
miR-302c	22	-32	4	/	/
miR-2779	22	-32.1	4	hypothetical protein	/
miR-272	20	-26.2	4	/	/
miR-2261	20	-28.2	4	/	/
miR-221	23	-29.2	4	hypothetical protein	/
miR-214	18	-31.6	4	Transmembrane emp24 domain-containing protein 10 precursor	/
miR-210	18	-30.1	4	/	/
miR-17-5p	26	-34.3	4	Transmembrane protein 112	/
miR-16b	22	-31.9	4	/	/
miR-1541	19	-31.8	4	coenzyme Q2 homolog, prenyltransferase	[EC:2.5.1.-] ko:K06125 4-hydroxybenzoate hexaprenyltransferase
miR-142-3p	21	-30.5	4	/	/
miR-139	19	-32.6	4	eIF-4E protein	ko:K03259 translation initiation factor eIF-4E
miR-1371	19	-31.1	4	Shwachman-Bodian-Diamond syndrome protein homolog	/

miR-1190	24	-35.6	4	Sorcin	/
miR-1019*	23	-29.3	4	Dynein light chain Tctex-type 1 (T-complex testis-specific protein 1 homolog)	/
miR-998	19	-32.9	3	/	/
miR-678	20	-30.6	3	/	/
miR-503	19	-31.4	3	V-type H <sup>+</sup> -transporting ATPase subunit F	[EC:3.6.3.14]
miR-466b-2*	21	-31.8	3	ribosomal protein S8	ko:K02993 small subunit ribosomal protein S7e
miR-4206-3p	19	-31.4	3	hypothetical protein	/
miR-4194-3p	20	-30.8	3	/	/
miR-4175-3p	19	-32.3	3	U1 small nuclear ribonucleoprotein A	/
miR-4104-5p	20	-32.1	3	/	/
miR-4088-3p	18	-26.5	3	/	/
miR-4001b-5p	21	-29.6	3	Ribosomal protein L37a	ko:K02922 large subunit ribosomal protein L37e
miR-3934	20	-31.8	3	Translocation-associated membrane protein 1	/
miR-383	19	-32	3	/	/
miR-382	22	-32.7	3	/	/
miR-378c	22	-36.9	3	protein KINase	[EC:2.7.11.1] ko:K02218 casein kinase 1
miR-378	22	-35.2	3	kin-19	[EC:2.7.11.1] ko:K02218 casein kinase 1
miR-36c	18	-30.7	3	heat shock protein 90kDa alpha	ko:K04079 molecular chaperone HtpG
miR-369-3p	20	-29.6	3	eukaryotic translation initiation factor 3, subunit 3 gamma	ko:K03247 translation initiation factor eIF-3 subunit 3
miR-3681	19	-32.5	3	carboxypeptidase N, polypeptide 1, 50kD	/
miR-3592	24	-35	3	Tubulin beta-2C chain	/
miR-3559-3p	20	-29.6	3	ATPase	/

miR-3499	23	-30.6	3	/	/
miR-3497	19	-32	3	Cleavage and polyadenylation specificity factor subunit 4	/
miR-331*	18	-30.4	3	Centaurin-alpha 1 (Putative MAPK-activating protein PM25)	/
miR-27a	21	-31.3	3	/	/
miR-2789	21	-31.6	3	/	/
miR-2772b	19	-28.2	3	/	/
miR-2764	24	-33.7	3	/	/
miR-2463	20	-31.4	3	/	/
miR-219-5p	23	-28.9	3	hypothetical protein	/
miR-1957	20	-26.3	3	/	/
miR-190-5p	23	-33	3	/	/
miR-18a	24	-34.7	3	CTD small phosphatase-like protein	/
miR-181c	23	-33.9	3	hypothetical protein	/
miR-181a	23	-34.2	3	/	/
miR-1742	20	-31.9	3	Intersectin-1 (SH3 domain-containing protein 1A)	/
miR-1733	23	-32.4	3	/	/
miR-1725	22	-27.6	3	/	/
miR-151-5p	21	-29.9	3	hypothetical protein	/
miR-150	23	-33.1	3	/	/
miR-148a	22	-28.9	3	/	/
miR-1421ah*	21	-27.7	3	/	/
miR-133c	21	-30.2	3	/	/
miR-1293	22	-28.9	3	/	/
miR-124a	19	-30.5	3	rps-26	ko:K02976 small subunit ribosomal protein

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						S26e
miR-124	19	-28	3	/		/
miR-9c	20	-29.7	2	/		/
miR-96	20	-28.8	2	/		/
miR-93	23	-29.9	2	ribosomal protein, large P2		ko:K02943 large subunit ribosomal protein LP2
miR-733	20	-29.3	2	/		/
miR-654-5p	19	-30.9	2	/		/
miR-61	23	-33.4	2	ITPKB		[EC:2.7.1.127] ko:K00911 1D-myo-inositol-triphosphate 3-kinase
miR-4162-5p	26	-31.6	2	ribosomal protein, large P2		ko:K02943 large subunit ribosomal protein LP2
miR-4156-3p	22	-28.1	2	/		/
miR-4154-3p	19	-30.4	2	Mitochondrial 28S ribosomal protein S29		/
miR-4082-3p	18	-30.5	2	transcription initiation factor TFIIH subunit H1		/
miR-4080-3p	21	-29.4	2	CDK-activating kinase assembly factor MAT1 (RING finger protein MAT1)		/
miR-4077a-5p	22	-31.6	2	/		/
miR-4055-5p	20	-28.7	2	Proteinase inhibitor I2, Kunitz metazoa, domain-containing protein		/
miR-4044-5p	19	-27.6	2	/		/
miR-4004-5p	19	-31.1	2	Transmembrane 9 superfamily protein member 4		/
miR-3915	21	-30.2	2	Sjogren syndrome/scleroderma autoantigen 1 homolog		/
miR-3650	19	-36.7	2	Homeobox protein ceh-18		/
miR-3271	23	-29.6	2	Guanine nucleotide-binding protein subunit beta 2-like 1		/

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miR-3203	22	-32.6	2	/	/
miR-3149	21	-27.9	2	hypothetical protein	/
miR-30a-5p	24	-31.4	2	/	/
miR-2f	19	-26.3	2	H/ACA ribonucleoprotein complex subunit 3	/
miR-2d-3p	24	-32.2	2	Uev1A	/
miR-2d-3p	24	-32.2	2	putative ubiquitin-conjugating enzyme	/
miR-2c-3p	29	-36.8	2	Sperm-associated antigen 6	/
miR-2840	20	-33.9	2	U1 small nuclear ribonucleoprotein C	/
miR-2807c*	22	-28.8	2	Major egg antigen (p40)	/
miR-24b	21	-32.6	2	/	/
miR-2178	20	-31	2	/	/
miR-21	23	-31.2	2	/	/
miR-2014	25	-37.1	2	/	/
miR-200a*	22	-29.8	2	/	/
miR-1948*	21	-28.5	2	U6 snRNA-associated Sm-like protein LSM5	/
miR-191	23	-32	2	Tctex1 domain containing-protein 1	/
miR-145*	23	-31.2	2	mitochondrial ribosomal protein L43	/
miR-144*	23	-31.9	2	Serine/threonine-protein phosphatase 4 catalytic subunit	[EC:3.1.3.16]
miR-143	20	-28	2	/	/
miR-1421ac	25	-35.4	2	Calcium-binding EF-hand, domain-containing protein	/
miR-141	23	-30.2	2	/	/
miR-140*	19	-27.1	2	hypothetical protein	/
miR-135b	23	-32.2	2	hypothetical protein	/
miR-128	22	-29.7	2	Suppressor of profilin 2	ko:K05757 actin related protein 2/3 complex, subunit 1A/1B, 41kDa
miR-1253	19	-29.7	2	hypothetical protein	/

miR-122b	25	-34.2	2	Universal stress protein	/
miR-122	24	-30.7	2	/	/
miR-98	23	-31.4	1	hypothetical protein	/
miR-891a	20	-32	1	kin-19	[EC:2.7.11.1] ko:K02218 casein kinase 1
miR-882	22	-33.9	1	/	/
miR-7b	23	-32.3	1	Ribosome biogenesis regulatory protein homolog	/
miR-753b-5p	21	-29.9	1	Immunogenic miracidial antigen 8I'	/
miR-750	22	-33	1	H <sup>+</sup> -transporting ATPase	/
miR-745a	20	-31.6	1	/	/
miR-71c	22	-31.5	1	/	/
miR-71b-5p	23	-32.3	1	hypothetical protein	/
miR-7	24	-32.3	1	Ribosome biogenesis regulatory protein homolog	/
miR-548p	23	-29.2	1	/	/
miR-548f	21	-29.8	1	NEDD8 precursor	/
miR-520c-5p	24	-32.6	1	hypothetical protein	/
miR-488	19	-25.2	1	/	/
miR-452	24	-27.5	1	/	/
miR-4272	20	-26	1	hypothetical protein	/
miR-4219-5p	19	-26.4	1	/	/
miR-4214-5p	20	-30.5	1	/	/
miR-421	20	-29.3	1	/	/
miR-4145-3p	18	-31.1	1	/	/
miR-4126-5p	22	-28	1	/	/
miR-4120-5p	18	-25.3	1	hypothetical protein	/
miR-4090-3p	19	-27.4	1	/	/
miR-4032-5p	20	-27.7	1	hypothetical protein	/

miR-4006f-5p	20	-26.7	1	/	/
miR-4006b-5p	22	-27.1	1	/	/
miR-4003a-3p	21	-26.8	1	hypothetical protein	/
miR-4001h-5p	21	-27.6	1	hypothetical protein	/
miR-36a	22	-31.2	1	Immunogenic miracidial antigen 8I'	/
miR-3668	21	-26.5	1	ATPase, F0 complex, subunit E, mitochondrial, domain-containing protein	/
miR-36-5p	23	-34.5	1	hypothetical protein	/
miR-3654	21	-29.8	1	/	/
miR-3558-3p	20	-31.7	1	/	/
miR-3526	20	-26.8	1	/	/
miR-3495	20	-28.4	1	/	/
miR-3493	21	-31.7	1	/	/
miR-327	19	-29.7	1	DNA replication licensing factor MCM2 (Minichromosome maintenance protein 2 homolog)	/
miR-31-5p	23	-35.1	1	hypothetical protein	/
miR-3148	24	-27.3	1	/	/
miR-3125	19	-27	1	/	/
miR-3115	18	-25.6	1	/	/
miR-3107*	18	-28.5	1	hypothetical protein	/
miR-30c	21	-27.3	1	/	/
miR-30a	23	-29.1	1	/	/
miR-3080-5p	19	-29.3	1	Peptidase C2, calpain, domain-containing protein	/
miR-308	20	-30.9	1	TRK-fused protein	ko:K09292 protein TFG
miR-3063*	23	-33	1	/	/
miR-3002	20	-30.7	1	Rab8	ko:K07976 Rab family, other

miR-2e-5p	22	-28.6	1	hypothetical protein	/
miR-2b-5p	22	-27.2	1	Histone H2A	/
miR-2989	18	-28.7	1	/	/
miR-2917	18	-29	1	/	/
miR-2812	20	-29.2	1	/	/
miR-27d	21	-31.8	1	/	/
miR-27b	21	-31.2	1	/	/
miR-279b*	18	-27.9	1	/	/
miR-277b-3p	20	-29.5	1	Translocon-associated protein subunit alpha precursor	/
miR-2755	22	-29.8	1	/	/
miR-2703*	23	-32	1	/	/
miR-26a	22	-25.9	1	Histone H2A	/
miR-2696	24	-28	1	/	/
miR-254	24	-27.9	1	hypothetical protein	/
miR-2479	19	-25.9	1	/	/
miR-2444	22	-28.4	1	Egg protein CP111	/
miR-2437	21	-27.9	1	/	/
miR-2434	23	-28.1	1	26 proteasome complex subunit DSS1	/
miR-2421	22	-29.3	1	/	/
miR-240	25	-30.4	1	/	/
miR-2318	22	-25.7	1	/	/
miR-2304	20	-30.4	1	/	/
miR-2238b	18	-27	1	Saposin B domain-containing protein	/
miR-2235	21	-25.9	1	/	/
miR-222a*	19	-29.4	1	/	/
miR-2206-3p	18	-30	1	Qprt	[EC:2.4.2.19] ko:K00767

					nicotinate-nucleotide pyrophosphorylase (carboxylating)
miR-214*	19	-28.1	1	/	/
miR-20a-2*	22	-28.8	1	hypothetical protein	/
miR-200c	23	-28.3	1	/	/
miR-1b	23	-28.4	1	/	/
miR-1a	24	-29.5	1	/	/
miR-196b	21	-29.5	1	/	/
miR-190b	24	-32.1	1	/	/
miR-190-3p	22	-29.9	1	ribosomal protein S12	ko:K02951 small subunit ribosomal protein S12e
miR-186	23	-32.7	1	/	/
miR-183	23	-29.7	1	hypothetical protein	/
miR-1814	20	-28.8	1	26 proteasome complex subunit DSS1	/
miR-1757	21	-29.2	1	roadblock	ko:K01509 adenosinetriphosphatase
miR-1738	23	-39.7	1	Sad1/unc-84-like protein 2	/
miR-1700	23	-30.6	1	/	/
miR-17	23	-28.5	1	hypothetical protein	/
miR-1689	20	-35.1	1	/	/
miR-1600	20	-28.1	1	hypothetical protein	/
miR-1568	18	-35	1	Sad1/unc-84-like protein 2	/
miR-155*	20	-27.7	1	/	/
miR-152	21	-29.6	1	Cupin, RmlC-type, domain-containing protein	/
miR-1422i	20	-31.1	1	Cell differentiation protein rcd1	/
miR-1422e	25	-35.4	1	Alpha-taxilin	/
miR-1421af*	19	-30.8	1	Cathepsin B-like cysteine proteinase precursor	[EC:3.4.22.-]

miR-140	22	-29.8	1	Peptidase C2, calpain, domain-containing protein	/
miR-1370	18	-28.1	1	/	/
miR-1358	20	-32.9	1	hypothetical protein	/
miR-1357	19	-25	1	/	/
miR-1339*	26	-29.9	1	hypothetical protein	/
miR-130b	23	-33.1	1	/	/
miR-1278	22	-29.9	1	SAM domain-containing protein	/
miR-126-5p	19	-30.2	1	/	/
miR-126-3p	22	-31.2	1	/	/
miR-10c	22	-29.8	1	proteasome (prosome, macropain) subunit, beta type, 6	[EC:3.4.25.1] ko:K02738 20S proteasome subunit beta 1
miR-101a	22	-33.2	1	putative protein affecting Mg <sup>2+</sup> /Co <sup>2+</sup> transport	ko:K06195 ApaG protein
miR-101	21	-31.5	1	putative protein affecting Mg <sup>2+</sup> /Co <sup>2+</sup> transport	ko:K06195 ApaG protein
lin-4	20	-31	1	Caltractin (Centrin)	/
let-7f	22	-28.1	1	/	/