

Supplementary Material

Supplementary Table S2: Differentially expressed miRNA ($|FC| \geq 2$) between HCT8 NC and HCT8 CTRL tumor samples

miRNA name	adj. <i>p</i> value	<i>p</i> value	Fold change (HCT8 NC/HCT8 CTRL)	Regulation	miRBase accession number
hsa-miR-15b-5p	NS	NS	2.37	up	MIMAT0000417
hsa-let-7g-5p	NS	NS	2.33	up	MIMAT0000414
hsa-let-7f-5p	NS	NS	2.33	up	MIMAT0000067
hsa-let-7b-5p	NS	NS	2.31	up	MIMAT0000063
hsa-miR-199a-5p	NS	NS	2.26	up	MIMAT0000231
hsa-let-7c-5p	NS	NS	2.24	up	MIMAT0000064
hsa-let-7a-5p	NS	NS	2.20	up	MIMAT0000062
hsa-let-7d-5p	NS	NS	2.17	up	MIMAT0000065
hsa-miR-27a-3p	NS	NS	2.14	up	MIMAT0000084
hsa-miR-21-5p	NS	NS	2.11	up	MIMAT0000076
hsa-miR-215-5p	NS	NS	2.08	up	MIMAT0000272
hsa-miR-20a-5p	NS	NS	2.07	up	MIMAT0000075
hsa-let-7i-5p	NS	NS	2.07	up	MIMAT0000415
hsa-miR-194-5p	NS	NS	2.03	up	MIMAT0000460
hsa-miR-29c-3p	NS	NS	2.03	up	MIMAT0000681
hsa-miR-203a-3p	NS	NS	2.02	up	MIMAT0000264
hsa-miR-5001-5p	NS	NS	-2.02	down	MIMAT0021021
hsa-miR-765	NS	NS	-2.10	down	MIMAT0003945
hsa-miR-4446-3p	NS	NS	-2.15	down	MIMAT0018965
hsa-miR-619-5p	NS	NS	-2.19	down	MIMAT0026622
hsa-miR-6858-5p	NS	NS	-2.35	down	MIMAT0027616
hsa-miR-3620-5p	2.92E-10	7.17E-13	-28.52	down*	MIMAT0022967

NS = not significant

* miRNAs not detected in HCT8 NC tumor samples

Supplementary Table S3: Differentially expressed miRNA ($|FC| \geq 2$) between HCT8 NC and HCT8 CTRL plasma samples

miRNA name	adj. <i>p</i> value	<i>p</i> value	Fold change (HCT8 NC/HCT8 CTRL)	Regulation	miRBase accession number
hsa-miR-6884-3p	NS	NS	2.17	up	MIMAT0027669
hsa-miR-494-3p	NS	NS	-2.01	down	MIMAT0002816
hsa-miR-122-5p	NS	NS	-2.01	down	MIMAT0000421
hsa-miR-3680-3p	8.91E-07	1.55E-09	-20.57	down*	MIMAT0018107

NS = not significant

* miRNAs not detected in HCT8 NC tumor samples

Supplementary Table S4: Experimentally validated targets (N = 57) of hsa-miR-3620-p5 according to TarBase v8 and miRTarBase v8 databases

Gene symbol	Entrez	Validation method	Pubmed ID
ABCG8	64241	PAR-CLIP	27292025
ADGRL1	22859	PAR-CLIP	26701625
AKT1S1	84335	PAR-CLIP	26701625
B4GALT7	11285	HITS-CLIP	23313552
BARX2	8538	PAR-CLIP	26701625
CCNF	899	PAR-CLIP	23592263
CLDN4	1364	PAR-CLIP	26701625
COL1A1	1277	PAR-CLIP	26701625
COX6B1	1340	HITS-CLIP	23313552
DAO	1610	HITS-CLIP	19536157
DMRT2	10655	PAR-CLIP	20371350
DRAXIN	374946	HITS-CLIP	23824327
ELK1	2002	HITS-CLIP	23824327
FADS6	283985	PAR-CLIP	22012620
FBXW8	26259	PAR-CLIP	26701625
FGF19	9965	PAR-CLIP	26701625
GDE1	51573	HITS-CLIP	23824327
GPX1	2876	PAR-CLIP	23446348 20371350
HIST1H1E	3008	PAR-CLIP	23446348
HLA-B	3106	HITS-CLIP	19536157
CHST3	9469	HITS-CLIP	23824327
INAFM1	255783	PAR-CLIP	26701625
IPCEF1	26034	HITS-CLIP	23824327
KBTBD12	166348	PAR-CLIP	23592263 27292025
LAX1	54900	HITS-CLIP	23824327
MAP1S	55201	PAR-CLIP	26701625
MED28	80306	HITS-CLIP	23824327
NPTX1	4884	HITS-CLIP	23824327
ORC6	23594	PAR-CLIP	27292025
PHF19	26147	PAR-CLIP	23592263
PKM	5315	PAR-CLIP	26701625
PLXND1	23129	PAR-CLIP	23592263
PNRC2	55629	PAR-CLIP	21572407
POM121C	100101267	PAR-CLIP	23592263
POU2F3	25833	HITS-CLIP	23824327 23313552
PPM1N	147699	HITS-CLIP	23824327
RAD54L2	23132	HITS-CLIP	23824327 23313552
RNF4	6047	PAR-CLIP	20371350 26701625
SKI	6497	PAR-CLIP	27292025
SLC12A7	10723	PAR-CLIP	27292025
SLC2A8	29988	HITS-CLIP	19536157
SLC35C2	51006	PAR-CLIP	23592263
SLC39A11	201266	HITS-CLIP	19536157
SLC6A8	6535	HITS-CLIP	23824327

SLC7A1	6541	PAR-CLIP	26701625
SPA17	53340	HITS-CLIP	19536157
SPTBN2	6712	PAR-CLIP	23446348 21572407
TAF8	129685	PAR-CLIP	20371350
TIAL1	7073	HITS-CLIP	23824327
TIMM8B	26521	PAR-CLIP	22100165
TMEM91	641649	PAR-CLIP	23592263
TRIM28	10155	PAR-CLIP	26701625
TUBB2A	7280	PAR-CLIP	20371350
UBALD2	283991	PAR-CLIP	27292025
WARS	7453	HITS-CLIP	23313552
ZMAT1	84460	HITS-CLIP	23824327
ZSCAN25	221785	HITS-CLIP	19536157

Supplementary Table S5: Experimentally validated targets (N = 178) of hsa-miR-3680-3p according to TarBase v8 and miRTarBase v8 databases

Gene symbol	Entrez ID	Validation method	Pubmed ID
AAGAB	79719	HITS-CLIP	23824327
ABCC12	94160	HITS-CLIP	23824327
ACER3	55331	HITS-CLIP	27418678
ACSL4	2182	HITS-CLIP//PAR-CLIP	21572407
ACSS3	79611	PAR-CLIP	22012620
ACTB	60	PAR-CLIP	20371350
ACVR1B	91	PAR-CLIP	23446348 26701625
ADAM19	8728	HITS-CLIP	23824327
AGO2	27161	PAR-CLIP	22012620 21572407
AKAP10	11216	PAR-CLIP	20371350
AKR7A2	8574	PAR-CLIP	20371350
ALDH6A1	4329	HITS-CLIP	23313552
ALKBH5	54890	PAR-CLIP	20371350
ANKEF1	63926	HITS-CLIP//PAR-CLIP	23592263 24398324 23446348 22012620 21572407 20371350 23706177 23313552 27292025
ARHGAP1	392	HITS-CLIP	23824327
ARHGAP31	57514	HITS-CLIP	23824327
ARHGEF3	50650	PAR-CLIP	22291592
ARID1A	8289	PAR-CLIP	20371350
AUTS8	282553	HITS-CLIP	23824327
AZF1	560	PAR-CLIP	22012620 20371350
BACH1	571	HITS-CLIP//PAR-CLIP	20371350 23824327
BCL7A	605	PAR-CLIP	20371350
BID	637	HITS-CLIP	23824327
BOD1	91272	HITS-CLIP	23824327 27418678 28735896
BRD4	23476	HITS-CLIP	23824327
BUB1	699	PAR-CLIP	22012620
C4orf26	152816	HITS-CLIP	19536157
CALM1	801	PAR-CLIP	23446348 21572407 20371350

CALM2	805	HITS-CLIP//PAR-CLIP	23592263 23446348 20371350 21572407
CASP3	836	PAR-CLIP	23592263
CBX4	8535	HITS-CLIP	23824327 27418678
CCDC39	339829	HITS-CLIP	23824327
CCNT2	905	PAR-CLIP	24398324
CDC42EP3	10602	HITS-CLIP	27418678
CDH6	1004	HITS-CLIP	23824327 27418678
CENPK	64105	HITS-CLIP	23313552
CERK	64781	HITS-CLIP	23313552
CFAP20	29105	HITS-CLIP	28735896
CLOCK	9575	HITS-CLIP	23824327
CNBP	7555	PAR-CLIP	22012620
COL9A2	1298	HITS-CLIP	23824327
COLEC10	10584	PAR-CLIP	21572407
CRIP1	9419	HITS-CLIP	23824327
CRK	1398	PAR-CLIP	27292025
CTNS	1497	HITS-CLIP	23824327
DNAJC15	29103	HITS-CLIP	23313552 27418678
DR1	1810	HITS-CLIP	28735896
DUSP14	11072	PAR-CLIP	21572407
DUSP8	1850	PAR-CLIP	21572407
DYM	54808	HITS-CLIP	23824327
EDN1	1906	HITS-CLIP	23824327
EI24	9538	HITS-CLIP	23824327 27418678
EOGT	285203	HITS-CLIP	27418678
ETS1	2113	HITS-CLIP	23313552
FAM210B	116151	HITS-CLIP	27418678
FAM46C	54855	PAR-CLIP	21572407
FAM9C	171484	HITS-CLIP	23824327
FER	2241	HITS-CLIP	23824327
FNIP2	57600	HITS-CLIP	23824327
FOXP2	93986	HITS-CLIP	27418678
FRK	2444	PAR-CLIP	24398324
FST	10468	HITS-CLIP	27418678
GABBR2	9568	HITS-CLIP	23824327 27418678
GDNF	2668	PAR-CLIP	21572407 20371350
GLCCI1	113263	HITS-CLIP	27418678
GM2A	2760	PAR-CLIP	22100165
GOLPH3	64083	HITS-CLIP	19536157
GPATCH8	23131	HITS-CLIP	23824327
GPC4	2239	PAR-CLIP	21572407 20371350
GTF2H1	2965	HITS-CLIP	23824327
GUCD1	83606	PAR-CLIP	23446348 20371350
HBS1L	10767	HITS-CLIP	23824327 27418678
HEG1	57493	HITS-CLIP	27418678
HMGB1	3146	HITS-CLIP	23824327
HMGXB4	10042	PAR-CLIP	21572407
HNRNPA3	220988	HITS-CLIP	19536157
HNRNPF	3185	PAR-CLIP	24398324 26701625 27292025

HSD17B12	51144	HITS-CLIP	23824327
CHIC1	53344	PAR-CLIP	21572407
IMP4	92856	HITS-CLIP	19536157
JCAD	57608	HITS-CLIP	23824327
KANK4	163782	HITS-CLIP	23824327
KCNIP3	30818	HITS-CLIP	23824327
KCNJ6	3763	HITS-CLIP	23824327
KCTD16	57528	HITS-CLIP	27418678
KIAA0408	9729	PAR-CLIP	21572407
KLF7	8609	HITS-CLIP	23824327
LIMS1	3987	PAR-CLIP	20371350
LRRC40	55631	HITS-CLIP	23824327
LRRC55	219527	HITS-CLIP//PAR-CLIP	23446348 21572407 20371350 23706177 27292025
MACC1	346389	HITS-CLIP	23824327 23313552
MAGEA3	4102	PAR-CLIP	27292025
MAGEA6	4105	PAR-CLIP	27292025
MAPK8	5599	PAR-CLIP	24398324 22012620
MED24	9862	HITS-CLIP	23824327 22927820
MLLT6	4302	HITS-CLIP	23824327
MMAB	326625	HITS-CLIP	23824327
MRPS10	55173	HITS-CLIP	21572407
MTRNR2L6	100463482	PAR-CLIP	23446348
MYO10	4651	PAR-CLIP	22012620 21572407
NRARP	441478	PAR-CLIP	20371350
NWD1	284434	PAR-CLIP	21572407
ONECUT3	390874	HITS-CLIP	23824327
P2RY1	5028	HITS-CLIP	23824327 23313552
PARP15	165631	HITS-CLIP//PAR-CLIP	24398324 23313552
PDE3A	5139	PAR-CLIP	22100165
PEX26	55670	HITS-CLIP	23824327
PHIP	55023	HITS-CLIP	27418678
PITPNC1	26207	PAR-CLIP	21572407
PLIN1	5346	HITS-CLIP	23824327
POGK	57645	PAR-CLIP	20371350
POTED	317754	HITS-CLIP	23824327 27418678 28735896
PRRC2B	84726	HITS-CLIP	23824327
PTCD2	79810	HITS-CLIP	23824327
PTPRM	5797	HITS-CLIP	23824327
PURB	5814	PAR-CLIP	23592263
RAB10	10890	PAR-CLIP	21572407 20371350 26701625
RAET1E	135250	HITS-CLIP	23824327
RBBP9	10741	PAR-CLIP	23446348
RBM47	54502	HITS-CLIP	23824327
RBPJ	3516	PAR-CLIP	26701625
RDH13	112724	PAR-CLIP	22012620
REEP1	65055	HITS-CLIP	23824327 27418678
REL	5966	HITS-CLIP	23824327
RLIM	51132	PAR-CLIP	21572407

RPL30	6156	PAR-CLIP	23592263
RPLP0	6175	PAR-CLIP	20371350
RPS6KA5	9252	HITS-CLIP	27418678
RRP7A	27341	PAR-CLIP	20371350
RYBP	23429	HITS-CLIP	23824327
SATB1	6304	PAR-CLIP	23446348 21572407
SBNO1	55206	HITS-CLIP	23824327
SCML2	10389	HITS-CLIP	23824327
SEMA6A	57556	PAR-CLIP	23592263
SEPT8	23176	PAR-CLIP	23592263
SESN3	143686	PAR-CLIP	20371350
SF3A1	10291	HITS-CLIP	23824327
SKI	6497	PAR-CLIP	20371350
SKIL	6498	PAR-CLIP	22012620
SLBP	7884	PAR-CLIP	21572407
SLC16A1	6566	PAR-CLIP	23592263 21572407
SLC30A10	55532	HITS-CLIP	23824327
SLC43A2	124935	HITS-CLIP	23824327
SLC7A2	6542	HITS-CLIP	23824327
SMU1	55234	HITS-CLIP//PAR-CLIP	22012620 21572407 23706177 26701625 27292025
SNED1	25992	HITS-CLIP	19536157
SNTB2	6645	PAR-CLIP	22012620 21572407
SPIN4	139886	HITS-CLIP	23313552
SPRY1	10252	HITS-CLIP//PAR-CLIP	21572407
ST8SIA3	51046	HITS-CLIP	23824327
STARD3NL	83930	HITS-CLIP	23824327
STRN3	29966	HITS-CLIP//PAR-CLIP	21572407 20371350 23706177
TBXA2R	6915	HITS-CLIP	23824327
TIAM2	26230	HITS-CLIP	27418678
TMCC1	23023	PAR-CLIP	20371350
TMEM245	23731	HITS-CLIP	27418678
TMEM251	26175	HITS-CLIP	27418678
TMEM59	9528	HITS-CLIP	23824327
TMEM64	169200	PAR-CLIP	23592263
UBTF	7343	HITS-CLIP	23824327
UNC5D	137970	HITS-CLIP	23824327
USP6NL	9712	PAR-CLIP	23446348
VCAN	1462	HITS-CLIP	27418678
WAC	51322	HITS-CLIP	27418678
WISP1	8840	HITS-CLIP	23824327
XIAP	331	HITS-CLIP	23824327
YIPF6	286451	PAR-CLIP	22012620
ZBTB5	9925	PAR-CLIP	22012620
ZNF154	7710	HITS-CLIP//PAR-CLIP	23446348 21572407 20371350
ZNF208	7757	HITS-CLIP	23313552
ZNF226	7769	PAR-CLIP	23446348 20371350
ZNF25	219749	HITS-CLIP	23824327
ZNF410	57862	PAR-CLIP	21572407

ZNF525	170958	PAR-CLIP	22100165
ZNF701	55762	PAR-CLIP	22100165
ZNF703	80139	PAR-CLIP	23446348 20371350
ZNF813	126017	PAR-CLIP	20371350
ZNRF2	223082	HITS-CLIP//PAR-CLIP	23446348 21572407 20371350 27292025

Supplementary Table S6: Differentially expressed miRNA ($|FC| \geq 2$, adj. $p < 0.05$) between colon cancer primocultures T47B and T48B

miRNA name	adj. p value	p value	Regulation	Fold change T47B/T48B	miRBase accession number
hsa-miR-3135b	1.65E-04	2.61E-05	up	269.23*	MIMAT0018985
hsa-miR-3654	3.08E-04	5.20E-05	up	160.63*	MIMAT0018074
hsa-miR-4499	4.07E-06	2.10E-08	up	151.57*	MIMAT0019035
hsa-miR-6887-5p	2.74E-04	4.43E-05	up	145.95*	MIMAT0027674
hsa-miR-218-5p	3.06E-05	3.11E-06	up	134.56*	MIMAT0000275
hsa-miR-4800-5p	1.21E-05	7.67E-07	up	114.62*	MIMAT0019978
hsa-miR-134-5p	7.28E-05	9.57E-06	up	114.55*	MIMAT0000447
hsa-miR-4478	4.64E-05	5.06E-06	up	113.68*	MIMAT0019006
hsa-miR-1181	1.21E-05	7.97E-07	up	109.64*	MIMAT0005826
hsa-miR-6833-5p	1.53E-04	2.29E-05	up	105.35*	MIMAT0027566
hsa-miR-3141	6.64E-05	8.37E-06	up	100.14*	MIMAT0015010
hsa-miR-7847-3p	2.98E-05	2.81E-06	up	96.58*	MIMAT0030422
hsa-miR-3663-3p	2.98E-05	2.40E-06	up	90.73*	MIMAT0018085
hsa-miR-142-5p	6.64E-05	8.08E-06	up	88.70*	MIMAT0000433
hsa-miR-135a-3p	1.09E-03	2.86E-04	up	87.60*	MIMAT0004595
hsa-miR-4291	1.14E-05	5.99E-07	up	84.91*	MIMAT0016922
hsa-miR-6867-5p	5.35E-05	6.03E-06	up	82.32*	MIMAT0027634
hsa-miR-6850-5p	4.31E-06	7.99E-08	up	80.10*	MIMAT0027600
hsa-miR-6812-5p	2.98E-05	2.84E-06	up	78.45*	MIMAT0027524
hsa-miR-6752-5p	2.98E-05	2.53E-06	up	71.23*	MIMAT0027404
hsa-miR-7108-5p	4.07E-06	4.43E-08	up	65.75*	MIMAT0028113
hsa-miR-4298	4.07E-06	4.59E-08	up	65.22*	MIMAT0016852
hsa-miR-6791-5p	2.45E-03	8.00E-04	up	36.52*	MIMAT0027482
hsa-miR-3652	4.56E-06	1.85E-07	up	23.16*	MIMAT0018072
hsa-miR-8060	4.56E-06	1.89E-07	up	22.80*	MIMAT0030987
hsa-miR-6756-5p	4.85E-06	2.19E-07	up	22.32*	MIMAT0027412
hsa-miR-4778-5p	1.21E-05	7.36E-07	up	22.22*	MIMAT0019936
hsa-miR-6840-3p	3.08E-04	5.29E-05	up	21.32*	MIMAT0027583
hsa-miR-1249-3p	8.27E-05	1.15E-05	up	21.13*	MIMAT0005901
hsa-miR-7107-5p	3.08E-03	1.11E-03	up	4.95	MIMAT0028111
hsa-miR-6723-5p	7.23E-03	3.39E-03	up	4.13	MIMAT0025855
hsa-miR-4485-3p	9.37E-04	2.25E-04	up	4.04	MIMAT0019019

hsa-miR-6724-5p	4.89E-03	2.02E-03	up	3.59	MIMAT0025856
hsa-miR-424-5p	4.41E-02	3.12E-02	up	3.39	MIMAT0001341
hsa-miR-5787	1.81E-02	1.09E-02	up	3.27	MIMAT0023252
hsa-miR-4281	1.03E-03	2.63E-04	up	3.19	MIMAT0016907
hsa-miR-4459	6.93E-03	3.18E-03	up	3.17	MIMAT0018981
hsa-miR-4516	1.68E-03	4.80E-04	up	2.95	MIMAT0019053
hsa-miR-188-5p	9.25E-04	2.18E-04	up	2.82	MIMAT0000457
hsa-miR-1973	4.86E-04	9.50E-05	up	2.76	MIMAT0009448
hsa-miR-8069	1.60E-04	2.47E-05	up	2.62	MIMAT0030996
hsa-miR-7110-5p	3.04E-03	1.06E-03	up	2.57	MIMAT0028117
hsa-miR-6869-5p	3.61E-03	1.44E-03	up	2.53	MIMAT0027638
hsa-miR-1225-5p	9.69E-04	2.40E-04	up	2.53	MIMAT0005572
hsa-miR-7150	9.75E-03	5.13E-03	up	2.52	MIMAT0028211
hsa-miR-125b-5p	2.96E-03	1.02E-03	up	2.52	MIMAT0000423
hsa-miR-6769b-5p	1.39E-02	8.07E-03	up	2.48	MIMAT0027620
hsa-miR-22-3p	2.22E-03	7.00E-04	up	2.42	MIMAT0000077
hsa-miR-642a-3p	2.22E-03	7.02E-04	up	2.42	MIMAT0020924
hsa-miR-6891-5p	3.72E-02	2.56E-02	up	2.33	MIMAT0027682
hsa-miR-8063	3.82E-02	2.65E-02	up	2.29	MIMAT0030990
hsa-miR-1207-5p	3.54E-03	1.39E-03	up	2.28	MIMAT0005871
hsa-miR-6821-5p	8.74E-03	4.37E-03	up	2.27	MIMAT0027542
hsa-miR-24-3p	3.54E-03	1.38E-03	up	2.24	MIMAT0000080
hsa-miR-1587	3.56E-03	1.40E-03	up	2.13	MIMAT0019077
hsa-miR-642b-3p	5.68E-03	2.44E-03	up	2.11	MIMAT0018444
hsa-miR-1275	1.32E-04	1.93E-05	up	2.11	MIMAT0005929
hsa-miR-6090	2.06E-02	1.25E-02	up	2.10	MIMAT0023715
hsa-miR-142-3p	9.08E-03	4.61E-03	up	2.10	MIMAT0000434
hsa-miR-4687-3p	5.91E-03	2.58E-03	up	2.08	MIMAT0019775
hsa-miR-6088	5.22E-03	2.18E-03	up	2.02	MIMAT0023713
hsa-miR-197-5p	1.39E-02	8.00E-03	down	-2.02	MIMAT0022691
hsa-miR-6131	9.25E-04	2.19E-04	down	-2.04	MIMAT0024615
hsa-miR-200a-3p	5.76E-04	1.17E-04	down	-2.09	MIMAT0000682
hsa-miR-125a-5p	2.22E-03	6.94E-04	down	-2.10	MIMAT0000443
hsa-miR-148a-3p	6.23E-03	2.74E-03	down	-2.11	MIMAT0000243
hsa-miR-374a-5p	1.41E-02	8.29E-03	down	-2.13	MIMAT0000727
hsa-miR-5581-5p	1.14E-03	3.09E-04	down	-2.17	MIMAT0022275
hsa-miR-4716-3p	2.52E-03	8.34E-04	down	-2.18	MIMAT0019827
hsa-miR-4728-5p	9.63E-04	2.35E-04	down	-2.24	MIMAT0019849
hsa-miR-1273g-3p	5.42E-03	2.28E-03	down	-2.28	MIMAT0022742
hsa-miR-331-3p	1.03E-03	2.61E-04	down	-2.29	MIMAT0000760
hsa-miR-5088-5p	5.68E-03	2.46E-03	down	-2.34	MIMAT0021080
hsa-miR-3125	3.54E-03	1.33E-03	down	-2.39	MIMAT0014988
hsa-miR-30c-5p	8.64E-04	1.98E-04	down	-2.42	MIMAT0000244

hsa-miR-130b-3p	2.12E-03	6.38E-04	down	-2.68	MIMAT0000691
hsa-miR-19a-3p	1.75E-03	5.08E-04	down	-2.68	MIMAT0000073
hsa-let-7a-5p	2.40E-02	1.52E-02	down	-2.76	MIMAT0000062
hsa-miR-324-5p	5.30E-04	1.06E-04	down	-3.23	MIMAT0000761
hsa-miR-4746-3p	6.35E-04	1.36E-04	down	-3.29	MIMAT0019881
hsa-let-7e-5p	1.82E-03	5.41E-04	down	-3.41	MIMAT0000066
hsa-miR-20a-5p	3.46E-04	6.38E-05	down	-3.70	MIMAT0000075
hsa-miR-203a-3p	2.41E-03	7.71E-04	down	-4.16	MIMAT0000264
hsa-miR-17-5p	2.36E-05	1.77E-06	down	-4.33	MIMAT0000070
hsa-miR-1914-3p	3.19E-04	5.64E-05	down	-4.73	MIMAT0007890
hsa-miR-20b-5p	3.04E-03	1.07E-03	down	-4.85	MIMAT0001413
hsa-miR-4497	3.52E-04	6.68E-05	down	-7.59	MIMAT0019032
hsa-miR-4299	3.08E-04	5.32E-05	down	-7.72	MIMAT0016851
hsa-miR-301a-3p	7.16E-04	1.59E-04	down	-14.23	MIMAT0000688
hsa-miR-338-5p	8.59E-03	4.26E-03	down	-24.07	MIMAT0004701
hsa-miR-221-3p	1.07E-04	1.53E-05	down	-24.79	MIMAT0000278
hsa-miR-146b-5p	5.88E-05	6.85E-06	down	-27.89	MIMAT0002809
hsa-miR-30e-3p	3.54E-03	1.36E-03	down	-41.88*	MIMAT0000693
hsa-miR-151a-5p	2.98E-05	2.92E-06	down	-45.51*	MIMAT0004697
hsa-miR-148b-3p	2.69E-03	9.09E-04	down	-56.57*	MIMAT0000759
hsa-miR-590-5p	2.59E-03	8.66E-04	down	-58.94*	MIMAT0003258
hsa-miR-532-3p	3.52E-04	6.75E-05	down	-73.29*	MIMAT0004780
hsa-miR-18b-5p	4.56E-06	1.79E-07	down	-79.16*	MIMAT0001412
hsa-miR-362-3p	4.31E-06	1.30E-07	down	-79.51*	MIMAT0004683
hsa-miR-33a-5p	7.76E-05	1.05E-05	down	-81.28*	MIMAT0000091
hsa-miR-185-5p	1.21E-05	8.20E-07	down	-89.77*	MIMAT0000455
hsa-miR-151a-3p	2.98E-05	2.92E-06	down	-97.29*	MIMAT0000757
hsa-miR-362-5p	3.25E-05	3.42E-06	down	-103.52*	MIMAT0000705
hsa-miR-151b	4.31E-06	8.82E-08	down	-105.68*	MIMAT0010214
hsa-miR-194-5p	6.64E-05	8.49E-06	down	-170.05*	MIMAT0000460
hsa-miR-532-5p	1.14E-05	5.81E-07	down	-190.43*	MIMAT0002888
hsa-miR-660-5p	4.31E-06	1.28E-07	down	-192.44*	MIMAT0003338
hsa-miR-18a-5p	4.31E-06	1.28E-07	down	-221.76*	MIMAT0000072
hsa-miR-215-5p	1.69E-05	1.21E-06	down	-1029.11*	MIMAT0000272

* miRNAs not detected in T48B or **T47B.

Supplementary Table S7: Significantly enriched Gene Ontology biological process terms

Gene ontology biological process terms	Number of genes	p value	adj. p value
positive regulation of metabolic process	359	1.53E-68	1.53E-66
cell proliferation	290	2.05E-65	1.03E-63
positive regulation of cellular metabolic process	340	7.54E-65	2.51E-63

regulation of developmental process	283	2.10E-62	5.25E-61
regulation of cell proliferation	242	6.23E-62	1.25E-60
positive regulation of developmental process	174	8.61E-58	1.44E-56
regulation of cell differentiation	222	1.89E-57	2.70E-56
positive regulation of transcription from RNA polymerase II promoter	167	5.24E-54	6.55E-53
regulation of transcription from RNA polymerase II promoter	245	1.42E-53	1.40E-52
positive regulation of transcription, DNA-dependent	213	1.54E-53	1.40E-52
positive regulation of cellular process	213	1.54E-53	1.40E-52
regulation of multicellular organismal process	472	3.96E-53	3.30E-52
positive regulation of nucleobase-containing compound metabolic process	314	2.24E-52	1.72E-51
positive regulation of RNA metabolic process	232	4.67E-52	3.34E-51
regulation of programmed cell death	215	2.14E-50	1.43E-49
negative regulation of cellular process	233	2.42E-49	1.51E-48
positive regulation of cell differentiation	421	5.93E-49	3.49E-48
regulation of apoptotic process	133	2.93E-48	1.63E-47
negative regulation of biological process	229	6.15E-48	3.24E-47
organ development	448	3.76E-47	1.88E-46
positive regulation of biological process	358	6.73E-45	3.20E-44
protein phosphorylation	495	6.95E-44	3.16E-43
transcription from RNA polymerase II promoter	216	4.82E-43	2.10E-42
phosphorylation	251	5.45E-42	2.27E-41
programmed cell death	230	9.75E-42	3.90E-41
apoptotic process	267	4.83E-41	1.86E-40
enzyme linked receptor protein signaling pathway	264	1.35E-40	4.82E-40
regulation of molecular function	264	1.35E-40	4.82E-40
negative regulation of programmed cell death	184	1.40E-40	4.83E-40
tissue development	273	1.63E-40	5.43E-40
regulation of cellular protein metabolic process	136	1.74E-40	5.61E-40
negative regulation of apoptotic process	228	2.22E-40	6.94E-40
regulation of protein metabolic process	217	3.47E-40	1.05E-39
regulation of phosphorylation	133	2.52E-39	7.20E-39
intracellular protein kinase cascade	133	2.52E-39	7.20E-39
positive regulation of signal transduction	237	3.94E-39	1.09E-38
tube development	171	7.64E-39	2.06E-38
negative regulation of cell proliferation	177	1.31E-38	3.45E-38
regulation of protein modification process	164	1.46E-38	3.74E-38
gland development	112	3.32E-38	8.30E-38
negative regulation of metabolic process	121	3.65E-38	8.90E-38
regulation of protein phosphorylation	186	5.72E-38	1.36E-37
response to organic substance	84	2.28E-36	5.30E-36

tissue morphogenesis	231	2.79E-36	6.34E-36
anatomical structure formation involved in morphogenesis	159	3.16E-36	7.02E-36
organ morphogenesis	282	5.75E-36	1.25E-35
cell development	115	1.85E-35	3.94E-35
positive regulation of cell proliferation	250	2.37E-35	4.94E-35
transmembrane receptor protein tyrosine kinase signaling pathway	155	4.69E-35	9.57E-35
response to abiotic stimulus	230	5.88E-35	1.18E-34
morphogenesis of an epithelium	137	9.75E-35	1.91E-34
regulation of signal transduction	136	2.28E-34	4.38E-34
hematopoietic or lymphoid organ development	144	1.22E-33	2.28E-33
cell migration	98	1.23E-33	2.28E-33
system development	272	1.26E-33	2.29E-33
positive regulation of protein metabolic process	124	2.08E-33	3.71E-33
hemopoiesis	160	2.87E-33	5.04E-33
growth	437	3.49E-33	6.02E-33
negative regulation of cellular metabolic process	162	6.35E-33	1.08E-32
vasculature development	119	8.27E-33	1.38E-32
immune system development	139	8.42E-33	1.38E-32
regulation of cellular component organization	211	9.49E-33	1.53E-32
anatomical structure morphogenesis	120	1.20E-32	1.90E-32
regulation of catalytic activity	127	1.54E-32	2.41E-32
regulation of cell cycle	199	1.86E-32	2.86E-32
positive regulation of response to stimulus	296	3.02E-32	4.58E-32
response to external stimulus	215	4.53E-32	6.76E-32
regulation of cell migration	142	6.29E-32	9.25E-32
positive regulation of cell migration	200	8.61E-32	1.25E-31
intracellular signal transduction	196	1.47E-31	2.10E-31
regulation of kinase activity	96	7.31E-31	1.02E-30
response to endogenous stimulus	72	7.36E-31	1.02E-30
negative regulation of transcription, DNA-dependent	266	1.15E-30	1.57E-30
negative regulation of biosynthetic process	126	1.16E-30	1.57E-30
regulation of transferase activity	182	1.21E-30	1.61E-30
regulation of growth	148	4.71E-30	6.12E-30
positive regulation of cellular protein metabolic process	148	4.71E-30	6.12E-30
response to wounding	170	8.15E-30	1.04E-29
negative regulation of cellular biosynthetic process	127	8.29E-30	1.05E-29
regulation of response to stimulus	104	2.07E-29	2.59E-29
epithelial cell differentiation	145	2.28E-29	2.81E-29
negative regulation of RNA metabolic process	175	2.59E-29	3.16E-29
negative regulation of developmental process	167	3.58E-29	4.31E-29
negative regulation of nucleobase-containing compound metabolic process	325	5.20E-29	6.19E-29

regulation of gene expression	79	1.39E-28	1.64E-28
positive regulation of protein modification process	148	2.72E-28	3.16E-28
tube morphogenesis	115	3.46E-28	3.98E-28
regulation of protein kinase activity	157	4.32E-28	4.91E-28
regulation of cellular metabolic process	394	6.62E-28	7.44E-28
cell surface receptor signaling pathway	133	6.76E-28	7.51E-28
neurogenesis	79	7.44E-28	8.18E-28
angiogenesis	116	2.21E-27	2.40E-27
positive regulation of phosphate metabolic process	489	2.49E-27	2.68E-27
response to chemical stimulus	319	2.53E-27	2.69E-27
positive regulation of phosphorylation	177	3.44E-27	3.62E-27
negative regulation of cell differentiation	87	5.38E-27	5.60E-27

Supplementary Table S8: Significantly enriched KEGG pathways

Gene ontology biological process terms	Number of genes	<i>p</i> value	adj. <i>p</i> value
Pathways in cancer	116	1.63E-45	1.63E-43
Prostate cancer	45	1.62E-24	8.10E-23
Chronic myeloid leukemia	41	2.94E-24	9.80E-23
Pancreatic cancer	37	4.99E-21	1.25E-19
Colorectal cancer	29	2.60E-18	5.20E-17
HTLV-I infection	60	1.14E-17	1.90E-16
Melanoma	33	3.95E-17	5.64E-16
Bladder cancer	21	3.05E-16	3.81E-15
Glioma	31	6.95E-16	7.72E-15
Focal adhesion	57	1.40E-15	1.40E-14
Neurotrophin signaling pathway	43	1.80E-15	1.64E-14
ErbB signaling pathway	35	6.11E-15	5.09E-14
Acute myeloid leukemia	28	7.09E-15	5.45E-14
TGF-beta signaling pathway	34	1.22E-14	8.71E-14
Non-small cell lung cancer	26	3.92E-14	2.61E-13
Osteoclast differentiation	40	8.37E-14	5.23E-13
MAPK signaling pathway	64	1.33E-13	7.82E-13
Cell cycle	40	3.93E-13	2.18E-12
Toxoplasmosis	34	4.22E-13	2.22E-12
Chagas disease (American trypanosomiasis)	33	5.97E-13	2.99E-12
Renal cell carcinoma	26	2.72E-12	1.30E-11
Measles	34	8.85E-12	4.02E-11
p53 signaling pathway	27	1.25E-11	5.43E-11
Hepatitis C	33	2.48E-11	1.03E-10
Adherens junction	27	2.81E-11	1.12E-10
Small cell lung cancer	29	3.07E-11	1.18E-10
Endometrial cancer	21	3.78E-11	1.40E-10

Epstein-Barr virus infection	29	1.08E-09	3.86E-09
Thyroid cancer	15	3.29E-09	1.13E-08
Toll-like receptor signaling pathway	29	5.70E-09	1.90E-08
Leishmaniasis	20	8.02E-09	2.59E-08
Jak-STAT signaling pathway	29	9.59E-09	3.00E-08
Influenza A	30	1.64E-08	4.97E-08
T cell receptor signaling pathway	28	3.19E-08	9.38E-08
Wnt signaling pathway	35	5.78E-08	1.65E-07
Cytokine-cytokine receptor interaction	50	1.18E-07	3.28E-07
Regulation of actin cytoskeleton	40	1.26E-07	3.41E-07
Insulin signaling pathway	32	5.80E-07	1.53E-06
B cell receptor signaling pathway	22	6.01E-07	1.54E-06
mTOR signaling pathway	16	1.25E-06	3.13E-06
Dorso-ventral axis formation	8	1.89E-06	4.61E-06
Tuberculosis	36	2.58E-06	6.14E-06
VEGF signaling pathway	21	3.19E-06	7.42E-06
Adipocytokine signaling pathway	18	9.73E-06	0.000022
Fc epsilon RI signaling pathway	20	9.9E-06	0.000022
GnRH signaling pathway	23	1.03E-05	2.24E-05
Pertussis	16	1.08E-05	2.3E-05
Endocytosis	24	1.14E-05	2.38E-05
Apoptosis	21	1.45E-05	2.96E-05
Herpes simplex infection	24	1.62E-05	3.24E-05
Type II diabetes mellitus	15	1.65E-05	3.24E-05
Chemokine signaling pathway	36	1.86E-05	3.58E-05
Progesterone-mediated oocyte maturation	20	0.000028	5.28E-05
Axon guidance	25	6.06E-05	0.000112
Epithelial cell signaling in Helicobacter pylori infection	12	7.81E-05	0.000142
Rheumatoid arthritis	8	0.00016	0.000286
Legionellosis	12	0.000182	0.000319
Salmonella infection	17	0.000237	0.000409
Melanogenesis	21	0.000309	0.000524
NOD-like receptor signaling pathway	13	0.000382	0.000637
Gap junction	19	0.000418	0.000685
Fc gamma R-mediated phagocytosis	20	0.00048	0.000774
Basal cell carcinoma	12	0.000929	0.001475
African trypanosomiasis	8	0.00138	0.002156
Long-term potentiation	15	0.0016	0.002462
Malaria	5	0.00197	0.002985
Cholinergic synapse	18	0.00251	0.003746
Aldosterone-regulated sodium reabsorption	9	0.00307	0.004515
Arrhythmogenic right ventricular cardiomyopathy (ARVC)	5	0.00312	0.004522
Shigellosis	11	0.00319	0.004557
Natural killer cell mediated cytotoxicity	23	0.00389	0.005479
Bacterial invasion of epithelial cells	12	0.00459	0.006288
Leukocyte transendothelial migration	19	0.00459	0.006288

Transcriptional misregulation in cancer	6	0.00598	0.008081
Amyotrophic lateral sclerosis (ALS)	9	0.00817	0.010893
Tight junction	19	0.012	0.015789
Hedgehog signaling pathway	11	0.0127	0.016494
Carbohydrate digestion and absorption	5	0.0212	0.027179
Notch signaling pathway	9	0.0271	0.034304
Viral myocarditis	6	0.0291	0.036375
Cytosolic DNA-sensing pathway	5	0.0328	0.040494
RIG-I-like receptor signaling pathway	9	0.0346	0.042195
Prion diseases	5	0.0399	0.048072
Oocyte meiosis	16	0.0406	0.048333
