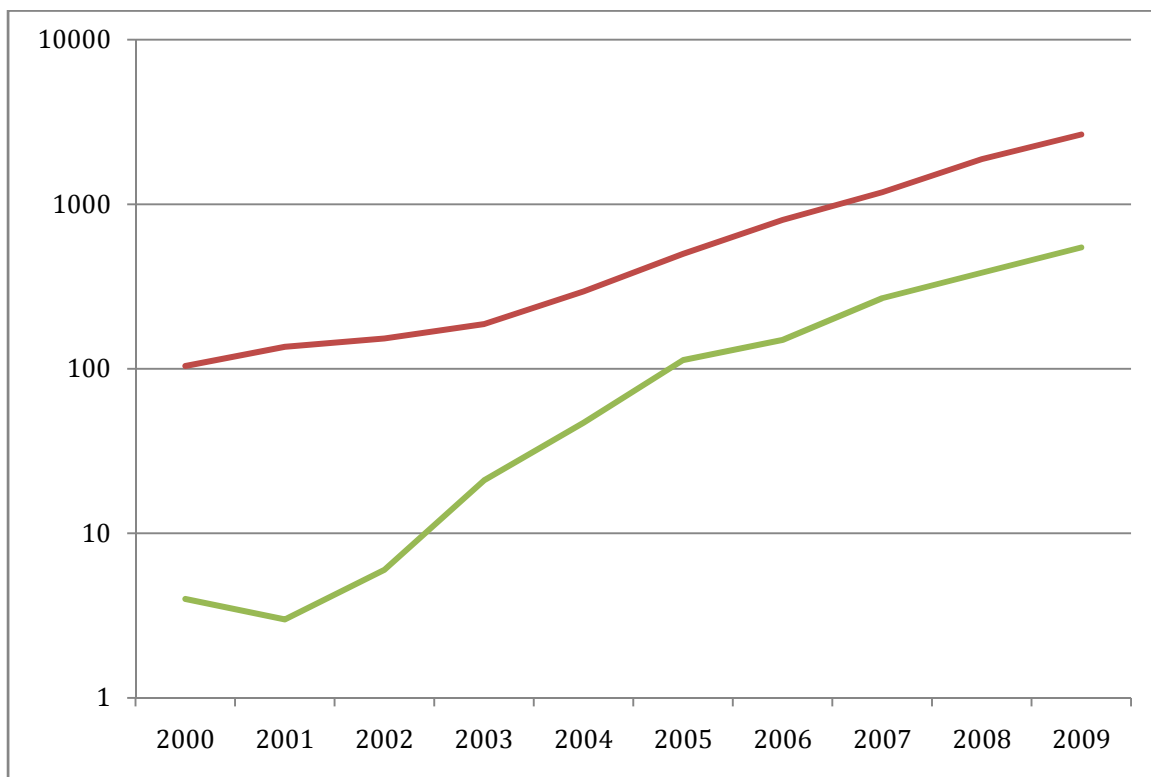
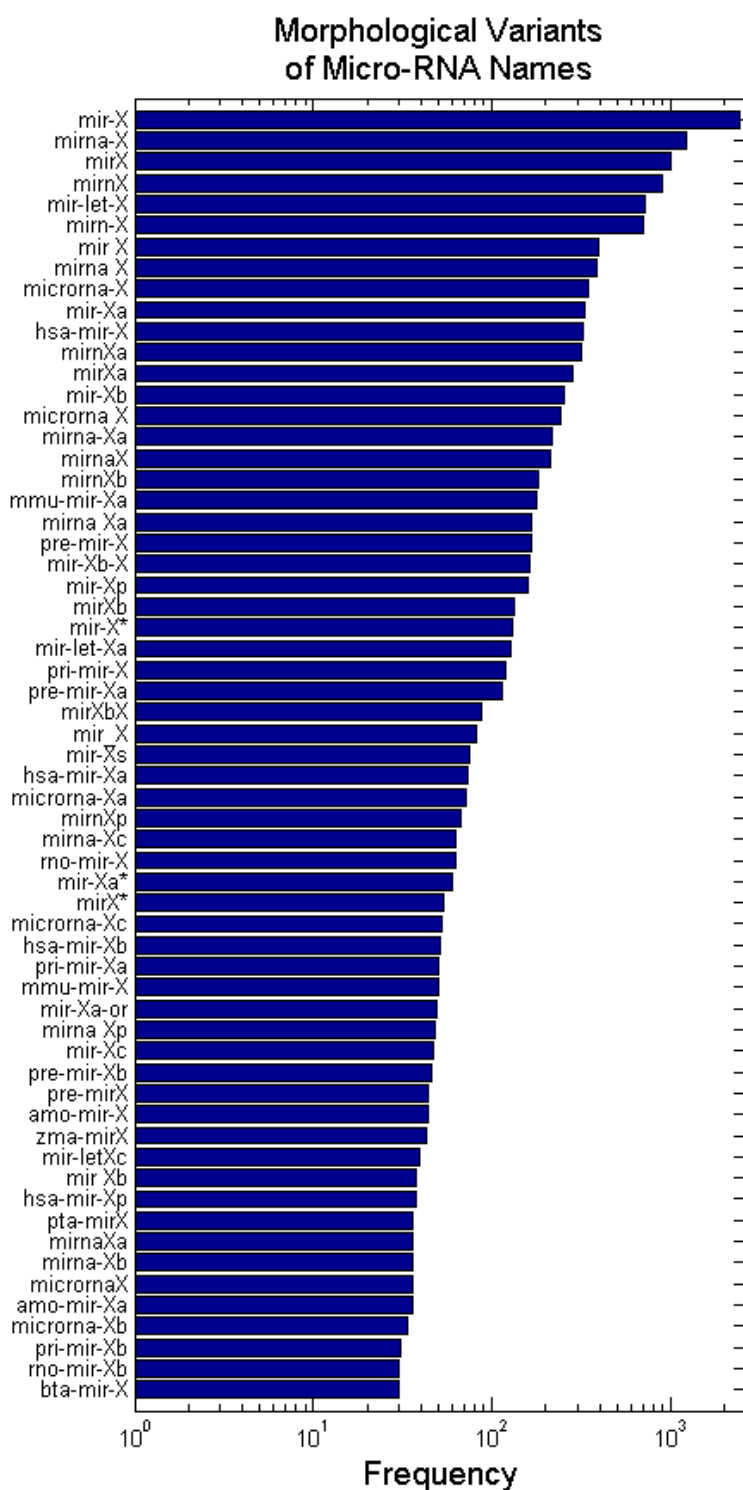


Supplementary Fig. 1
A



B



Figure/table Legends

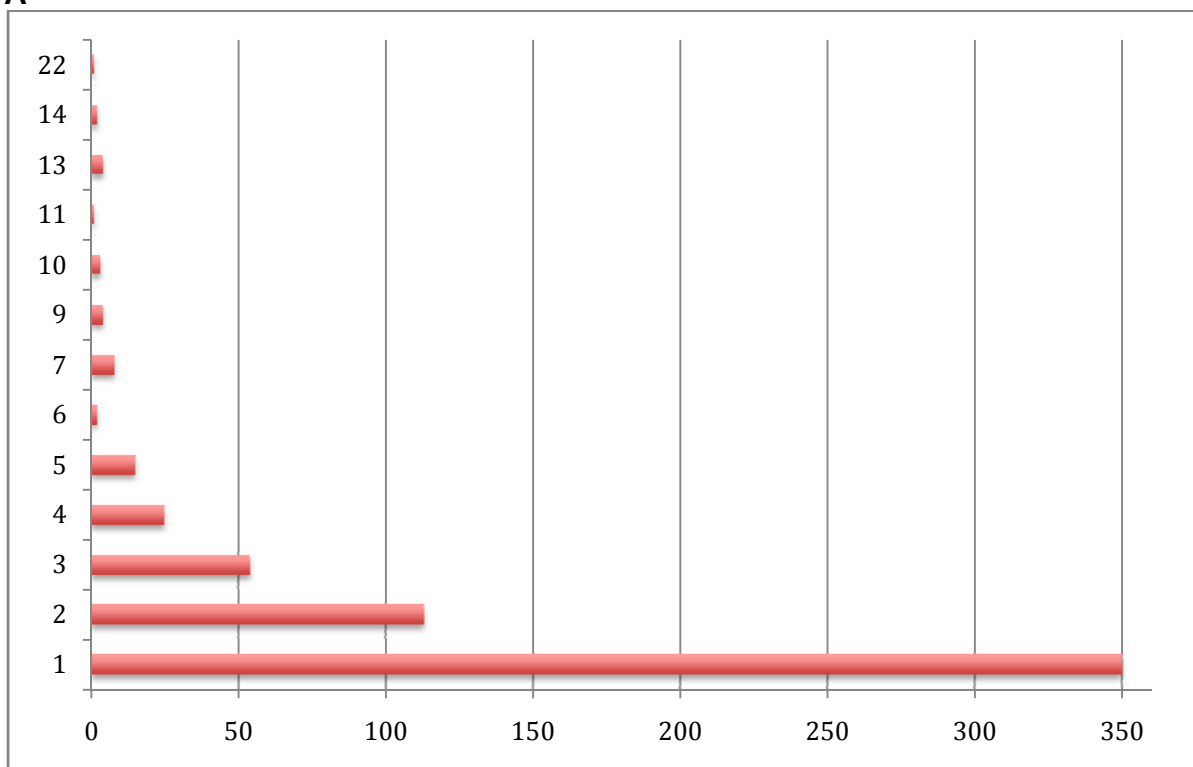
Fig. 1

A: The rate of appearance of individual miRNAs against the background of publications citing miRNAs. Rate of publication of novel miRNAs over time (green) compared to the incidence of all publications that refer to miRNAs (red). Novel miRNAs are plotted as preferred terms to unify all morphological variants under single identifiers. A logarithmic scale was used to unify both data sets on one graph.

B: Histogram of occurrence of major morphological stems for all miRNAs. Term-frequency analysis was used to analyze all miRNA-stems identified during text mining. Numerical designations were truncated and omitted from analysis. Species and other specific prefixes were included in our analyses.

Supplementary Fig. 2

A



B

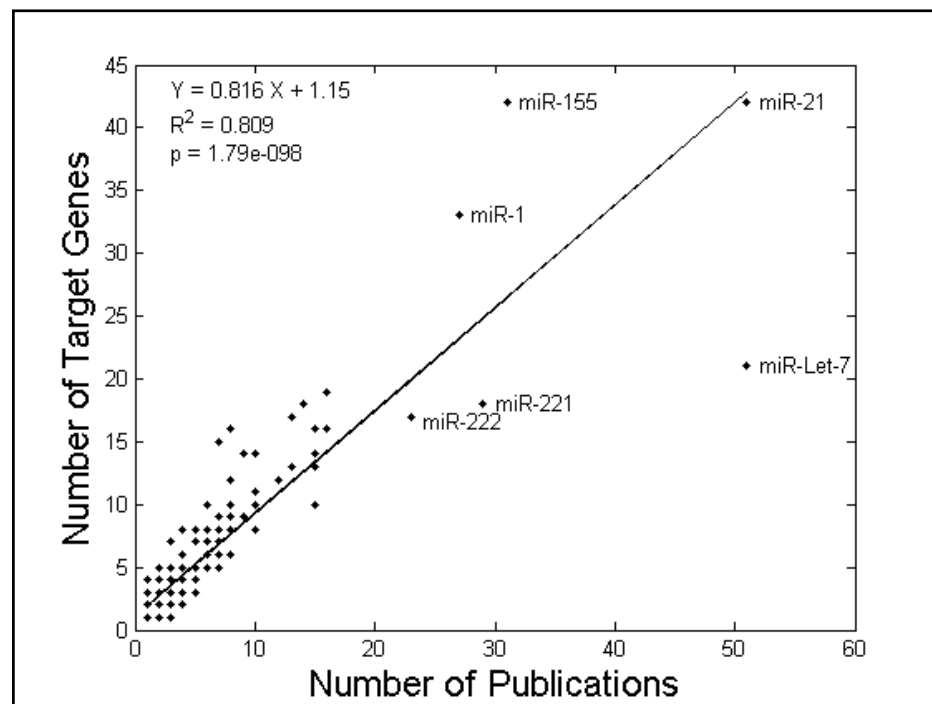


Fig. 2

A: Incidences of genes targeted by individual miRNAs. Histogram corresponding to binned sets of genes targeted by individual miRNAs, each bar represents a bin of genes (y-axis) targeted by a specific number of miRNAs (x-axis), in general most miRNAs targeted few genes with a small number of individual miRNAs having a wide range of targets.

B: Graph illustrating the relationship between the frequency of publication of individual miRNAs and the number of gene targeted by that miRNA. Each point on the graph represents an individual miRNA (as preferred term). We observed a correlation between publication rate and number of gene targets, with a correlation coefficient of 0.816 (R^2 is 0.0809) and p-value of 1.79e-98.

Table 4a: Top 20 KEGG Pathways

No of genes is the number of miRNA target genes found in the KEGG pathway. A p-value cut-off of 0.05 was used to determine enrichment KEGG pathways. The top 20 pathways were selected on the basis of p-value rank.

Table 4b Top 20 PANTHER Biological Processes

of genes is the number of miRNA target genes found in the BP category, Freq (%) describes the distribution of miRNA target genes across all PANTHER BP categories. A p-value cut-off of 0.05 was used to determine enrichment of hits in the MF category against randomly generated sets of genes found in literature.

SI: Number of morphological variants for miRNAs

No. of terms used	microRNA (preferred term)
27	miR-222
23	miR-21
22	miR-221
15	miR-155
13	miR-124a
12	miRs-143; 145; 16
11	miRs-206; 34a
10	miRs-127
9	miRs-10a; 126; 132; 15a; 166; 17-5p; 181a; 192; 194; 203; 20a; 210; 223; 23b; 29a; 451
8	miRs-1; 125b; 146a; 16-1; 26a; 31; Let-7
7	miRs-122; 126*; 135a; 140; 150; 165; 17-92; 191; 205; 34; 373; 9*; 98; Let-7a
6	miRs-100; 107; 124; 133; 137; 169; 17*; 181; 181b; 18a; 215; 27a; 34b; 399; 433; 449; 96; Let-7c
5	miRs-103; 106a; 10b; 122a; 125; 125a; 134; 151; 156; 157; 17; 172; 18; 182; 196a; 200c; 212; 22; 24; 27b; 30; 330; 338; 346; 34c; 372; 375; 93; Let-7b
4	miRs-135b; 142; 146b; 149; 15; 159; 15b; 164; 167; 183; 184; 195; 196a2; 199a; 199a*; 199b; 19a; 19a*; 20; 200; 200b; 204; 217; 218; 224; 23; 298; 29b; 29c; 30d; 320; 326; 328; 342; 370; 378; 39; 396; 427; 499; 510; 92; 92b; 99a; Let-7g
3	miRs-106; 106b; 1204; 124a2; 125a-5p; 128; 128b; 129-2; 130a; 139; 141; 144; 146; 146a*; 152; 153; 160; 163; 164b; 169d; 181c; 182*; 187; 196a-2; 199b-5p; 200a; 213; 216; 23a; 27; 28; 29; 296; 301; 302; 30b; 338-3p; 339; 34a*; 371; 373*; 395; 398; 424; 500; 503; 520c; 520h; 638; 824; 9-1; 92a; Let-7d; Let-7e
2	miRs-1-1; 1-2; 101; 101a; 106-363; 125b-1; 125b-2; 125b-5p; 128a; 129; 129*; 133a; 133b; 136; 138; 140*; 142-5p; 142s; 144*; 146b-5p; 148; 148b; 159*; 159a; 162; 166a; 167b; 168; 169n; 169o; 16a; 17-3p; 171; 171a; 181a*; 181d; 188; 18b; 190; 193; 194-2; 196; 198; 199; 208a; 211; 214; 219; 24-1; 24a; 25; 26a-1; 277; 2861; 299; 299-5p; 3; 302-367; 302b; 30a; 30a-3p; 30a-5p; 30c; 30e; 310; 312; 319a; 32; 32*; 323; 324-5p; 330*; 335; 342-3p; 345; 34s; 362; 363*; 365; 377; 378*; 379; 381; 382; 384; 384*; 390; 399s; 410; 423; 430; 449a; 449b; 453; 463; 494; 497; 498; 5; 512-5p; 513; 516; 518c*; 528; 562; 601; 605; 608; 615-3p; 656; 658; 660; 661; 663; 690; 709; 71; 720; 778; 7b; 827; 9-3; 9/9*; 9a; Let-7a-2; Let-7a-3; Let-7b*; Let-7f; Let-7s
1	miRs-001; 10; 101b; 104; 105; 106b-25; 10b*; 10c; 112-1; 12; 1206; 122*; 1224; 1224-5p; 1228*; 123; 124a-1; 124a-2; 124a-3; 124a3; 124b; 125b1; 125b2; 126/126*; 1262; 127-3p; 128-1; 128-a; 129-1; 13; 130; 130b; 130c; 131; 1310; 1314; 132-is; 133a-1; 133a-2; 135; 139-5p; 13a; 13a*; 13b; 14; 140-3p; 142-3p; 142.3p; 143-3p; 143-5p; 147; 148a; 14U; 1507; 151-3p; 154; 154*; 155-; 156a; 156b; 157a; 157b; 158; 159ab; 159b; 159C; 159s; 15a-1; 162a; 163s; 164a; 164c; 165a; 165b; 166g; 168a; 168b; 169a; 169g; 17-19b-1; 17-5p-92; 17/20; 17/92; 172a; 172a-1; 172b; 173; 173-; 173-m; 173*; 173*-m; 175; 1792; 181a-1; 181b-1; 181s; 1826; 185; 186; 1885; 189; 18a; 18a*; 19; 193a; 193a-3b; 193b; 193c; 194-1; 1942; 195*; 196a-1; 196a1; 196b; 197; 1984; 1997; 199a-1; 199a-3p; 19b; 19b-1; 19b-2; 1d; 2; 200c.; 200s; 202; 202-5p; 202*; 208; 208b; 20b; 2110; 2111; 2118; 2119; 216a; 218-2; 218a; 2199; 234; 241; 252; 26; 263a; 26a-2; 26b; 273; 274; 275; 278; 279; 281; 284; 290; 290-295; 291-3p; 291-5p; 293; 294; 295; 299-3p; 29b1; 29s; 2a-1; 2a-1*; 2a-2; 2b; 30-3p; 301a; 302a; 302b*; 302c; 302d; 302s; 303; 309; 309-6; 30a-5b; 30a-5c; 30a-5d; 30b*; 30c-1; 30c-2; 30e-3p; 30e-5p; 31-a; 311; 315; 319; 31a; 31b; 322; 325; 327; 329; 33; 331; 331-3p; 331-5p; 333; 337; 337-3p; 33a; 340*; 341; 342-5p; 34a-c; 34a.; 350; 355; 357; 36; 361; 362-3p; 363; 363-5p; 367; 368; 369-3; 373-1; 374; 376; 376a; 376a2; 376b; 379-410; 383; 391; 393; 394; 396a; 396b; 396d; 397; 398a; 399*; 399b; 399d; 399f; 399j; 403; 405; 408; 412; 421; 422a; 422b; 423-5p; 425; 425-5p; 429; 43; 431; 432; 437; 444; 447; 448; 452; 452*; 454-3p; 455; 455-3p; 455-5p; 468; 470; 48; 480; 482; 483; 483-3p; 483-5p; 483*; 484; 485-3p; 486; 486-5p; 489; 491-3p; 492; 493; 493-5p; 495; 496; 502; 504; 506; 508-5p; 509; 511; 512-5p.; 513-1; 513-2; 513a-5p; 513b; 514; 515-3p; 516-3p; 517a; 517c; 519; 519c; 520; 520b; 520d; 520d-3p; 520g; 521; 523; 529; 532; 532-5p; 535; 537; 541; 542-3p; 548; 548d-3p; 551b; 558; 559; 561; 575; 579; 582; 582-5p; 584; 586; 589; 589*; 590; 590-3p; 592; 595; 599; 61; 615; 616; 62; 621; 629; 629*; 640; 650; 657; 659; 664; 669c; 675; 691; 7; 7-1*; 705; 708; 72; 757; 762; 765; 768-3p; 774; 802; 825; 828; 84; 840; 854; 855; 856; 857; 859; 869; 873; 885-3p; 9; 9-5; 92-1; 92-2; 920; 92a-1*; 92a-2*; 95; 97; 99; 99b; H10; H2-3p; H-3p; H-5p; K10-3p; K12-11; K12-3; K12-7; Let-7a-1; Let-7e*; Let-7h; Let-7i; m01-4; m21-1; M23-2; M44-1; N367; R-181b; UL112; UL112-1; US25-1; US25-2; x1; x2; x3; x4

SII: Genes regulated by miRs

[pt] microRNA	EntrezGene Symbol [Entrezgene ID]
miR-1	BCL2 [596]; CACNA1C [775]; CDK9 [1025]; CKM [1158]; DLL1 [28514]; FN1 [2335]; FOXP1 [27086]; Gata4 [2626]; GJA1 [2697]; HCN2 [610]; HCN4 [10021]; HDAC4 [9759]; HSPA4 [3308]; HSPD1 [3329]; IGF1 [3479]; IGF1R [3480]; KCNE1 [3753]; KCNJ2 [3759]; KCNQ1 [3784]; ME1 [4199]; Mef2a [4205]; MET [4233]; MSTN [2660]; MYEF2 [50804]; MYH6 [4624]; Nkx2-5 [1482]; PPP2R4 [5524]; PTBP1 [5725]; RASA1 [5921]; RHEB [6009]; SRF [6722]; TWF1 [5756]; XPO6 [23214]
miR-1-2	HAND2 [9464]
miR-1/206	MET [4233]
miR-10	HOXB1a [30337]; HOXB3a [30339]
miR-100	FRAP1 [2475]; KIAA1303 [57521]; PLK1 [5347]
miR-101	ATXN1 [6310]; EZH2 [2146]; FOS [2353]; FRAP1 [2475]; MCL1 [4170]
miR-103	FOXJ2 [55810]
miR-106a	APP [351]; CDKN1A [1026]; E2F1 [1869]; IL10 [3586]; RUNX1 [861]
miR-106b	APP [351]; CDH1 [999]; CDKN1A [1026]; CDKN1B [1027]; CDKN1C [1028]; E2F1 [1869]; ITCH [83737]; MAPK14 [1432]; PTEN [5728]; STAT3 [6774]
miR-106b-25	BCL2L11 [10018]; CDKN1A [1026]; TGFB1 [7040]
miR-107	BACE1 [23621]; CDK6 [1021]; HIF1A [3091]
miR-10a	HOXA1 [3198]; HOXA3 [3200]; HOXB1 [3211]; HOXB3 [3212]; HOXD10 [3236]; HOXD4 [3233]; USF2 [7392]
miR-10b	HOXD10 [3236]; PLAUR [5329]; PPARA [5465]; RHOC [389]
miR-11	GRIM [2706]; HID [2706]; REAPER [2706]; SICKLE [2706]
miR-122	ADAM17 [6868]; APOB [338]; BACH1 [571]; BCL2L2 [599]; HMOX1 [3162]; IL1A [3552]; PPARA [5465]; SCAP [22937]; SLC7A1 [6541]; TP53 [7157]
miR-122a	CCNG1 [900]; TNP2 [7142]; TSN [7247]
miR-124	ACTL6A [86]; CDC42 [998]; CDK6 [1021]; CREB1 [1385]; CTDSP1 [58190]; Impdh1 [3614]; MTPN [136319]; NR3C2 [4306]; PTBP1 [5725]; RDH10 [157506]; SLC16A1 [65566]; SYCP1 [6847]
miR-124a	C14orf24 [283635]; CCL2 [6347]; CDK2 [1017]; CDK6 [1021]; FOXA2 [3170]; GLI3 [2737]; HEY2 [23493]; IL1B [3553]; LHX2 [9355]; NEUROD1 [4760]; RAB27A [5873]; Rab3A [5864]; RPH3AL [9501]; SNAP25 [6616]; SYN1 [24949]
miR-124a2	ABCC8 [6833]; CDK6 [1021]; KCNJ11 [3767]; MMP2 [4313]
miR-125	LIN28 [79727]
miR-125a	AKT1 [207]; ELAVL1 [1994]; ERBB2 [2064]; ERBB3 [2065]; NTRK3 [4916]
miR-125b	AKT1 [207]; BMF [90427]; BMPR1B [658]; CDC25A [993]; CDK6 [1021]; CYP24A1 [1591]; CYP27B1 [1594]; EIF4EBP1 [1978]; ERBB2 [2064]; ERBB3 [2065]; IRF4 [3662]; LIN28 [79727]; PRDM1 [639]; RAF1 [5894]; SMO [6608]; TNFSF4 [7292]; TP53 [7157]; TRIM71 [131405]
miR-125b-2	CASP3 [836]
miR-126	CRK [1398]; CXCL12 [6387]; EGFL7 [51162]; FLI1 [2313]; HOXA9 [3205]; IRS1 [3667]; PIK3R1 [5295]; PIK3R2 [5296]; PLK2 [10769]; SPI1 [6688]; SPRED1 [161742]; VCAM1 [7412]; VEGFA [7422]
miR-126*	EGFL7 [51162]; PLK2 [10769]; SLC45A3 [85414]
miR-127	BCL6 [604]; ESRRG [2104]; NR0B2 [8431]; PRDM1 [639]; XBP1 [7494]
miR-128	ANGPTL6 [83854]; BMI1 [648]; DCX [1641]; RELN [5649]
miR-128a	SNAP25 [6616]
miR-128b	AFF1 [4299]; EGFR [1956]; MITF [4286]
miR-129	GALNT1 [2589]; SOX4 [6659]
miR-129-2	SOX4 [6659]
miR-13	GRIM [2706]; HID [2706]; REAPER [2706]; SICKLE [2706]
miR-130	ATXN1 [6310]
miR-130a	HOXA5 [3202]; MAFB [9935]; meox2 [4223]; ZFPM2 [24314]
miR-130b	MECP2 [4204]; TP53INP1 [94241]
miR-132	ACHE [43]; BDNF [627]; CTBP1 [1487]; GNRH1 [2796]; MECP2 [4204]; RAC1 [5879]; RICS [9743]; SIRT1 [23411]
miR-133	CACNA1C [775]; CASP9 [842]; CTGF [1490]; FGFR2 [2263]; HCN2 [610]; HCN4 [10021]; KCNE1 [3753]; KCNH2 [3757]; KCNQ1 [3784]; KLF15 [28999]; Nkx2-5 [1482]; PTBP1 [5725]; PTBP2 [58155]; RUNX2 [860]; SLC2A4 [6517]; SRF [6722]; TGFB1 [7040]; TGFB2 [7048]

miR-133a	CCND2 [894]; KCNQ1 [3784]; KRT7 [3855]; PKM2 [5315]; RHOA [387]; SRF [6722]; UCP2 [7351]
miR-133B	BCL2 [596]; BCL2L2 [599]; IGF1R [3480]; KCNQ1 [3784]; MCL1 [4170]; PITX3 [5309]; PKM2 [5315]; tubb3 [10381]
miR-134	LIMK1 [3984]; NANOG [79923]; NR5A2 [2494]; PUM2 [23369]; SFRS2 [6427]
miR-135a	HIF1A [3091]; NR3C2 [4306]
miR-137	CDK6 [1021]; MITF [4286]
miR-138	ABCB1 [5243]; BCL2 [596]; TERT [7015]
miR-139	FOXO1A [2308]
miR-140	DKC1 [1736]; HDAC4 [9759]; IGF1R [3488]; MMP13 [4322]; PDGFRA [5156]
miR-141	CDH1 [999]; DLX5 [1749]; MAP2K4 [6416]; SFRS2IP [9169]; SIP1 [8487]; ZEB2 [9839]
miR-142-3p	ADCY7 [113]; ADCY9 [115]
miR-143	BCL2 [596]; DNMT3A [1788]; FN1 [2335]; FNDC3B [64778]; HRAS [3265]; KRAS [3845]; MAPK12 [6300]; MAPK7 [5598]
miR-144	HBQ1 [3049]
miR-145	ESR1 [2099]; FLI1 [2313]; GATA6 [2667]; IGF1R [3480]; IRS1 [3667]; KLF4 [9314]; LMO2 [4005]; MUC1 [4582]; MYC [4609]; MYH10 [4628]; POU5F1 [5460]; RTKN [6242]; SMTN [6525]; Sox2 [6657]
miR-146	IL1RAPL2 [26280]; NFKB1 [4790]; TNF [7124]; TRAF6 [7189]
miR-146a	BRCA1 [672]; BRCA2 [675]; CCL5 [6352]; CCNA2 [890]; CFH [3075]; CXCR4 [7852]; EGFR [1956]; FADD [8772]; IFNA1 [3439]; IL1B [3553]; IL8 [3576]; IRAK1 [3654]; IRAK2 [3656]; NFKB1 [4790]; PA2G4 [5036]; ROCK1 [6093]; STAT1 [6772]; TNF [7124]; TRAF6 [7189]
miR-146b	CCL5 [6352]; EGFR [1956]; IL8 [3576]; NFKB1 [4790]
miR-148	DNMT3B [1789]
miR-148a	DNMT1 [1786]; NR1I2 [8856]
miR-15	ACVR2A [92]; BCL2 [596]; CCND1 [595]; CTNNB1 [1499]
miR-150	BIRC5 [332]; FOXP1 [27086]; MYB [4602]; P2RX7 [5027]; RAC1 [5879]
miR-151	DKC1 [1736]
miR-153	BCL2 [596]; MCL1 [4170]
miR-155	ACOT7 [11332]; AGT [183]; AGTR1 [185]; AICDA [57379]; APC [324]; ARID2 [196528]; AT1R [24180]; BACH1 [571]; BCL2L11 [10018]; C11orf6 [742]; CD209 [30835]; CEBPB [1051]; CHUK [1147]; CISH [1154]; CSF3 [1440]; CXXC1 [30827]; EDN1 [1906]; ETS1 [2113]; FADD [8772]; FGF7 [2252]; HIVP2 [4090]; IFNG [3458]; INPP5D [3635]; JARID2 [3720]; MEIS1 [4211]; MMP3 [4314]; NFKB1 [4790]; NFKBIE [4794]; PDCD4 [27250]; PTEN [5728]; RHOA [387]; SMAD2 [4087]; SMAD5 [4090]; SOCS1 [8651]; SPI1 [6688]; TGFB1 [7040]; TNF [7124]; TP53INP1 [94241]; TSHZ3 [57616]; tubb3 [10381]; ZIC3 [7547]; ZNF652 [22834]
miR-159	MYB [4602]
miR-15a	BCL2 [596]; BDNF [627]; CCND1 [595]; CDC25A [993]; CLDN12 [9069]; DLEU2 [8847]; HRAS [3265]; MYB [4602]; NEUROG3 [50674]; PCNA [5111]; PRKCA [5578]; SLC12A2 [6558]; WNT3A [89780]
miR-15b	ARL2 [402]; BCL2 [596]; casp3 [836]; casp8 [841]; CASP9 [842]; MAP2K4 [6416]; NEUROG3 [50674]
miR-16	ACVR2A [92]; BCL2 [596]; casp3 [836]; casp8 [841]; CASP9 [842]; CCND1 [595]; CDC25A [993]; CTNNB1 [1499]; EIF2C2 [27161]; HMGA1 [3159]; MYB [4602]; NEUROG3 [50674]; PTGS2 [5743]; VEGFA [7422]
miR-16-1	BCL2 [596]; CCND1 [595]; CCNE1 [898]; DLEU2 [8847]; HRAS [3265]; WNT3A [89780]
miR-165	DAPK3 [1613]
miR-166	DAPK3 [1613]
miR-168	EIF2C1 [26523]
miR-169	NFYA [4800]
miR-17	BCL2L11 [10018]; CCND1 [595]; CDH1 [999]; CDKN1A [1026]; E2F1 [1869]; FN1 [2335]; MAPK14 [1432]; PKD2 [5311]; STAT3 [6774]
miR-17-19b-1	BCL2 [596]; BCL2L11 [10018]
miR-17-3p	ICAM [3383]; SELE [20339]; VIM [7431]
miR-17-5p	ANIB1 [116833]; APC [324]; APP [351]; BCL2L11 [10018]; BMPR2 [659]; CCND1 [595]; E2F1 [1869]; NCOA3 [8202]; RUNX1 [861]; TGFB1 [7040]
miR-17-92	ADAMTSL1 [92949]; BCL2L11 [10018]; BLR1 [643]; CCND1 [595]; CDKN1A [1026]; CDKN1C [1028]; CLU [1191]; CTGF [1490]; E2F1 [1869]; HIF1A [3091];

	PTEN [5728]; PTPRO [5800]; RBL2 [5934]; TGFB1 [7040]; TGFB2 [7048]; THBS1 [7057]
miR-17/92	SHH [6469]
miR-181	CTNNB1 [1499]; HOXA11 [3207]; TCL1A [8115]; TIMP3 [7078]
miR-181a	BCL2 [596]; CD69 [969]; DXS435E [8248]; HOXA11 [3207]; TCRA [21473]
miR-181b	AICDA [57379]; TIMP3 [7078]
miR-181d	ARNTL [406]; CLOCK [9575]
miR-182	FOXO3 [2309]; MITF [4286]
miR-183	BMI1 [648]; EZR [7430]; ITBG1 [3688]; KIF2A [3796]; SFRS2 [6427]
miR-184	KRT10 [3858]; MECP2 [4204]; NFATC2 [4773]
miR-186	P2RX7 [5027]
miR-18a	CTGF [1490]; ESR1 [2099]; NCOA3 [8202]; RUNX1 [861]
miR-18a*	GBA [2629]; HRAS [3265]
miR-18b	ESR1 [2099]; HIF1A [3091]
miR-19	ATXN1 [6310]; PTEN [5728]
miR-190	NEUROD1 [4760]
miR-191	ARNTL [406]; BNC2 [54796]; CLOCK [9575]
miR-192	DHFR [1719]; RAPGEF5 [9771]; SIP1 [8487]; TP53 [7157]
miR-193b	ESR1 [2099]; PLG [5340]
miR-194	DNMT1 [1786]; MECP2 [4204]; MYB [4602]; RAC1 [5879]
miR-195	CCND1 [595]; CDK6 [1021]; E2F3 [1871]; NEUROG3 [50674]; RB1 [5925]
miR-196	BMP4 [652]; HoxA7 [3204]; HOXB8 [3218]; MSX2 [4488]; PAX7 [5081]
miR-196a	AKT1 [207]; ANXA1 [301]; HOXB8 [3218]; HOXC8 [3224]; KRT5 [3852]; [(blank)]; PYCARD [29108]; S100A9 [6280]; SPRR2C [6702]
miR-196b	ANXA1 [301]
miR-197	FUS [2521]
miR-198	CCNT1 [904]
miR-199	EDN1 [1906]; HIF1A [3091]
miR-199a	HIF1A [3091]; IKKB [3551]
miR-199a*	FN1 [2335]; KRT7 [3855]; MAPK1 [5594]; MET [4233]; RUNX1 [861]; SMAD1 [4086]; SMAD4 [4089]; VCAN [1462]
miR-199b	DUSP19 [142679]; SET [6418]
miR-199b-5p	HES1 [3280]
miR-19a	PTEN [5728]; SOCS1 [8651]
miR-19b	ESR1 [2099]; NCOA3 [8202]; SOCS1 [8651]
miR-2	GRIM [2706]; HID [2706]; REAPER [2706]; SICKLE [2706]
miR-20	CCND1 [595]
miR-200	AFPM2 [23414]; CDH1 [999]; ERFF1 [54206]; LBX1 [10660]; SNAI2 [6591]; TCF8 [6935]; VIM [7431]; ZEB1 [6935]; ZEB2 [9839]; ZFPM2 [24314]
miR-200a	CCND1 [595]; CDH1 [999]; CTNNB1 [1499]; DLX5 [1749]; SIP1 [8487]; ZEB1 [6935]; ZEB2 [9839]
miR-200b	MATR3 [9782]; SNAI2 [6591]; TCF8 [6935]; ZEB1 [6935]; ZEB2 [9839]
miR-200c	BMI1 [648]; CDH1 [999]; KLF13 [51621]; MBNL2 [10150]; TCF8 [6935]; TRPS1 [7227]; tubb3 [10381]; ZEB1 [6935]; ZEB2 [9839]
miR-203	ABL1 [25]; BCR-ABL1 [25]; BMI1 [648]; CDK6 [1021]; EGF [1950]; FGF7 [2252]; LEF1 [51176]
miR-204	BCL2 [596]; HOXA10 [3206]; MCL1 [4170]; MEIS1 [4211]; RUNX2 [860]
miR-205	E2F1 [1869]; E2F5 [1875]; ERBB3 [2065]; INPPL1 [3636]; JPH4 [84502]; N-CHIMAERIN [498895]; PRKCE [5581]; TCF8 [6935]; ZEB1 [6935]; ZEB2 [9839]
miR-206	ACTB [60]; ESR1 [2099]; FSTL1 [11167]; GATA3 [2625]; GJA1 [2697]; ID1 [3397]; ID2 [3398]; ID3 [3399]; IGF1 [3479]; MSC [9242]; MSTN [2660]; NCOA3 [8202]; NOTCH3 [4854]; PTBP1 [5725]; SRA1 [10011]; TPPP [11076]; UTRN [7402]
miR-208b	GDF8 [2660]; MEF2C [4208]
miR-20a	APP [351]; BMPR2 [659]; CCND1 [595]; CDH1 [999]; CDKN1A [1026]; E2F1 [1869]; E2F2 [1870]; E2F3 [1871]; MAPK14 [1432]; RUNX1 [861]; STAT3 [6774]
miR-20b	ESR1 [2099]; HIF1A [3091]; NCOA3 [8202]; VEGFA [7422]
miR-21	APC [324]; BCL2 [596]; BCL2L1 [598]; BCL2L11 [10018]; BTG2 [7832]; casp3 [836]; CDC25A [993]; E2F1 [1869]; E2F2 [1870]; FMOD [2331]; FOXP3 [50943]; HRAS [3265]; IL10 [3586]; IL12A [3592]; IL13 [3596]; IL6 [3569]; IL8 [3576]; ILF2 [3608]; INPP5D [3635]; JAG1 [182]; MAPK10 [5602]; MARCKS [4082]; MMP2 [4313]; MYC [4609]; NANOG [79923]; NFIB [4781]; NFKB1 [4790]; PDCC4 [27250]; POU5F1 [5460]; PTEN [5728]; RECK [8434]; SERPINB5 [5268]; SLC14A2 [8170];

miR-210	Sox2 [6657]; spry1 [24063]; SPRY2 [10253]; TGFB1 [7040]; TGFB2 [7048];
miR-211	TIMP3 [7078]; TP53 [7157]; TPM1 [7168]; WNT1 [7471]
miR-212	ACVR1B [91]; CASP8AP2 [9994]; EFNA3 [1944]; HBG1 [3047]
miR-214	RUNX2 [860]
miR-215	CXXC1 [30827]; GNRH1 [2796]; MECP2 [4204]; TJP1 [7082]
miR-216a	EZH2 [2146]; MAP2K3 [5606]; MAPK8 [5599]; NOS3 [4846]; PTEN [5728]
miR-217	DKC1 [1736]; TP53 [7157]
miR-218	PTEN [5728]
miR-219	FOXO1A [2308]; PTEN [5728]; SIRT1 [23411]
miR-22	LAMB3 [3914]; NFKB1 [4790]; ONECUT1 [3175]; ONECUT2 [9480]
miR-221	ELOVL7 [79993]
	BMP7 [655]; ESR1 [2099]; PPARA [5465]; SP1 [6667]
	BAX [581]; BBC3 [27113]; BCL2 [596]; BIRC1 [4671]; BMF [90427]; casp3 [836];
	CDKN1A [1026]; CDKN1B [1027]; CDKN1C [1028]; ESR1 [2099]; GBA [2629];
	GJA1 [2697]; HOXB5 [3215]; KIT [3815]; NOS3 [4846]; P57 [(blank)]; PTEN [5728];
	TIMP3 [7078]
miR-222	BAX [581]; BBC3 [27113]; BCL2 [596]; casp3 [836]; CDKN1A [1026]; CDKN1B
	[1027]; CDKN1C [1028]; ESR1 [2099]; GJA1 [2697]; ICAM [3383]; KIT [3815];
	MMP1 [4312]; NOS3 [4846]; P57 [(blank)]; PTEN [5728]; SOD2 [6648]; TIMP3
	[7078]
miR-223	ACSL3 [2181]; CSF1R [1436]; EFNA1 [1942]; HRAS [3265]; LMO2 [4005]; NFIA
	[4774]; RHOB [388]; RUNX1 [861]; RUNX1T1 [862]
miR-224	API5 [8539]; CD40 [958]; CDC42 [998]; CXCR4 [7852]; IER3 [8870]
miR-23	HES1 [3280]; LMNB1 [4001]; PPARGC1A [10891]
miR-23a	GBA [2629]; GBA3 [57733]; GDF8 [2660]; GLS [2744]; MEF2C [4208]
miR-23b	GLS [2744]; HES1 [3280]; MDH2 [4191]; MET [4233]; OPRM1 [4988]; PLAU [5328]
miR-24	ACVR1B [91]; AURKB [9212]; CCNA2 [890]; CDK1 [983]; CDK4 [1019]; CDKN2A
	[1029]; DHFR [1719]; DUSP16 [80824]; E2F2 [1870]; FEN1 [2237]; H2AFX [3014];
	MAP2K4 [6416]; MYC [4609]; TRIB3 [57761]
miR-241	HBL1 [100007982]
miR-24a	APAF1 [317]; CASP9 [842]
miR-25	BCL2L1 [10018]; CDKN1A [1026]; CDKN1B [1027]; CDKN1C [1028]; KLF4
	[9314]; MAP2K4 [6416]; MITF [4286]
miR-26a	EZH2 [2146]; PTEN [5728]; SFRS2IP [9169]; SGCG [6445]; SMAD1 [4086]
miR-27	PAX3 [5077]; RUNX1 [861]
miR-27a	ABCB1 [5243]; BAX [581]; BCL2 [596]; IGFBP5 [3488]; MMP13 [4322]; PHB
	[5245]; RUNX1 [861]; ZBTB10 [65986]
miR-27b	CYP1B1 [1545]; CYP3A4 [1576]; PAX3 [5077]; PPARG [5468]; ST14 [6768]
miR-28	BCL6 [604]
miR-2861	BMP2 [650]; HDAC5 [10014]; RUNX2 [860]
miR-29	BCL2 [596]; CD274 [29126]; CDC42 [998]; Impdh1 [3614]; MCL1 [4170]; NFKB1
	[4790]; PIK3R1 [5295]; RDH10 [157506]; SPARC [6678]; TCL1A [8115]; TP53
	[7157]; YY1 [7528]
miR-290	ARID4A [5926]; ARID4B [51742]; DNMT1 [1786]
miR-296	HGS [9146]
miR-298	CYP3A4 [1576]
miR-29a	AKT1 [207]; BACE1 [23621]; CD274 [29126]; GLUL [2752]; PMP22 [5376]; SPARC
	[6678]; TP53 [7157]; ZFP36 [7538]
miR-29b	ACVR2A [92]; AKT1 [207]; COL1A1 [1277]; COL1A2 [1278]; COL4A2 [1284];
	COL5A3 [50509]; CTNNBIP1 [56998]; DNMT3A [1788]; DNMT3B [1789]; DUSP2
	[1844]; HDAC4 [9759]; MCL1 [4170]; SP1 [6667]; TGFB3 [7043]; TP53 [7157];
	ZFP36L1 [677]
miR-29b-1	BACE1 [23621]
miR-29c	AKT1 [207]; CLEC4D [338339]; MCL1 [4170]; SPARC [6678]; TCL1A [8115]; TP53
	[7157]
miR-29s	DNMT3A [1788]; DNMT3B [1789]
miR-30	CTGF [1490]; LHX1 [3975]; UBE2I [7329]
miR-30-3p	KRT7 [3855]
miR-302	ARID4A [5926]; ARID4B [51742]
miR-302a	CCND1 [595]
miR-302b	CCND2 [894]; POU5F1 [5460]
miR-302b*	BIRC5 [332]

miR-302c	ESR1 [2099]
miR-302d	KLF13 [51621]; MBNL2 [10150]; TRPS1 [7227]
miR-308	GRIM [2706]; HID [2706]; REAPER [2706]; SICKLE [2706]
miR-30a	BECN1 [8678]
miR-30a-5p	BDNF [627]
miR-30c	CTGF [1490]; RUNX1 [861]
miR-30e	UBE2I [7329]
miR-31	FOXP3 [50943]; ICAM [3383]; SELE [20339]
miR-315	AXIN1 [8312]; Notum [147111]
miR-319	CCT6B [10693]; MYB [4602]
miR-32	BCL2L1 [10018]
miR-320	BCL2 [596]; CDK6 [1021]; HSPB6 [12693]; IGF1 [3479]; IGF1R [3480]; KDR [3791]; MCL1 [4170]; TFRC [7037]
miR-324-5p	GLI1 [2735]
miR-326	CD9 [928]; ETS1 [2113]; SMO [6608]
miR-328	ABCG2 [9429]; CD44 [960]; GNG7 [2788]
miR-330	AGTR2 [186]; E2F1 [1869]
miR-331-3p	AR [367]; ERBB2 [2064]
miR-335	SOX4 [6659]
miR-337-5p	LYN [4067]
miR-338	COX4I1 [1327]; CYCS [54205]; PLA2G4B [8681]
miR-339	ICAM [3383]
miR-34	ACTB [60]; BCL2 [596]; E2F1 [1869]; HMGA2 [8091]; NOTCH1 [4851]; NOTCH2 [4853]; SIRT1 [23411]; TP53 [7157]
miR-346	BTK [695]; GRID1 [2894]; IL18 [3606]; NRIP1 [8204]
miR-34a	BCL2 [596]; BIRC5 [332]; CCND1 [595]; CDK6 [1021]; E2F3 [1871]; GRM7 [2917]; JAG1 [182]; MYB [4602]; MYC [4609]; SIRT1 [23411]; TCL1A [8115]; TP53 [7157]; WNT1 [7471]
miR-34b	CREB1 [1385]; MYC [4609]; TCL1A [8115]
miR-34c	CCNE1 [898]; TCL1A [8115]
miR-372	ESR1 [2099]; KLF13 [51621]; LATS2 [26524]; MBNL2 [10150]; NEO1 [4756]; TP53 [7157]; TRPS1 [7227]
miR-373	CD44 [960]; CDH1 [999]; ESR1 [2099]; LATS2 [26524]; NEO1 [4756]; TP53 [7157]
miR-375	MTPN [136319]; PDPK1 [5170]; TIMM8A [1678]
miR-376	PRPS1 [5631]
miR-378	CYP2E1 [1571]; FUS [2521]; GALNT7 [51809]; IL1A [3552]; NPNT [255743]; SUFU [51684]
miR-381	BIRC5 [332]
miR-396	GHRH [2691]
miR-398	TGFB1 [7045]
miR-399	GGH [8836]; UBC [7316]
miR-421	CBX7 [23492]; RBMXL1 [494115]
miR-424	NFIA [4774]
miR-425	BNC2 [54796]
miR-429	TCF8 [6935]; ZEB2 [9839]
miR-430	DAZL [1618]; NANOS1 [340719]; TDRD7 [23424]
miR-433	ESRRG [2104]; FGF20 [26281]; GRB2 [2885]; NROB2 [8431]; RAB34 [83871]
miR-449	E2F1 [1869]; E2F5 [1875]; RB1 [5925]; WISP2 [8839]; WNT1 [7471]
miR-449a	CDC25A [993]; CDK6 [1021]; E2F1 [1869]
miR-449b	CDC25A [993]; CDK6 [1021]
miR-451	ABCB1 [5243]; MIF [4282]
miR-453	ESR1 [2099]
miR-463	BIRC5 [332]
miR-468	HELLS [3070]
miR-471	BIRC5 [332]
miR-48	HBL1 [100007982]
miR-486	CD40 [958]
miR-491	BCL2L1 [598]
miR-491_5p	AFP [174]; HSP90AA1 [3320]; NFKB1 [4790]
miR-494	CDK6 [1021]; PTEN [5728]
miR-495	ONECUT1 [3175]; ONECUT2 [9480]
miR-499	GDF8 [2660]; MEF2C [4208]; PURB [5814]; SOX6 [55553]

miR-503	CCND1 [595]
miR-504	DRD1 [1812]
miR-510	HTR3A [3359]
miR-512-5p	CLEC4D [338339]; MCL1 [4170]
miR-513	CD274 [29126]
miR-519	ELAVL1 [1994]
miR-519c	ABCG2 [9429]
miR-520b	MICA [4276]
miR-520c	APP [351]; CD44 [960]
miR-520h	ABCG2 [9429]
miR-532-5p	RUNX3 [864]
miR-548d-3p	ERBB2 [2064]
miR-559	ERBB2 [2064]
miR-562	EYA1 [2138]
miR-584	ANXA1 [301]; LTF [4057]
miR-590	TGFB1 [7040]; TGFB2 [7048]
miR-6	GRIM [2706]; HID [2706]; REAPER [2706]; SICKLE [2706]
miR-605	DKC1 [1736]; SEC24D [9871]
miR-61	VAV1 [7409]
miR-657	IGF2R [3482]
miR-659	GRN [2896]
miR-661	MTA1 [9112]
miR-664	DKC1 [1736]
miR-675	RB1 [5925]
miR-7	AKT1 [207]; EGFR [1956]; HELLS [3070]; PAK1 [5058]; SLC3A2 [6520]; SLC7A5 [8140]; SNCA [6622]
miR-709	CTCF [140690]
miR-8	AFPM2 [23414]; GPR177 [79971]; HNF4A [3172]; ZFPM2 [24314]
miR-802	CXXC1 [30827]
miR-84	HBL1 [100007982]
miR-9	BACE1 [23621]; CBX7 [23492]; CDH1 [999]; COL9A1 [1297]; GRB2 [2885]; LOC619511 [619511]; MMP13 [4322]; NFKB1 [4790]; NR2E1 [7101]; NTRK3 [4916]; PMP22 [5376]; RAB34 [83871]; RCOR1 [23186]; REST [5978]; RUNX1 [861]; SYTL4 [94121]
miR-9*	ACTL6A [86]; RCOR1 [23186]; REST [5978]
miR-92-1	VHL [7428]
miR-920	BTRC [8945]
miR-92b	CDKN1C [1028]; PRMT5 [10419]
miR-93	CDKN1A [1026]; CDKN1B [1027]; CDKN1C [1028]; E2F1 [1869]; FUS [2521]; TP53INP1 [94241]
miR-96	PRMT5 [10419]; VAMP8 [8673]
miR-98	BIRC5 [332]; CISH [1154]; E2F2 [1870]; FUS [2521]; MYC [4609]
miR-K12-11	ACOT7 [11332]
miR-K12-3	IL10 [3586]; IL6 [3569]
miR-K12-7	IL10 [3586]; IL6 [3569]
miR-K9(*)	MRGPRF [116535]
miR-Let-7	ADAMTSL1 [92949]; C16orf35 [8131]; CDC34 [997]; CDH1 [999]; CISH [1154]; CPB1 [1360]; E2F2 [1870]; HBL1 [100007982]; HMGA2 [8091]; HRAS [3265]; IL6 [3569]; KLF2 [10365]; KRAS [3845]; LIN28 [79727]; MYC [4609]; NFKB1 [4790]; PRDM1 [639]; REM1 [28954]; TLR4 [7099]; TRIM71 [131405]; VIM [7431]
miR-Let-7a	BCL2 [596]; CDKN1A [1026]; HRAS [3265]; ILF2 [3608]; MYC [4609]; REM1 [28954]; TRIM71 [131405]; UHRF2 [115426]
miR-Let-7a-3	IGF2 [3481]
miR-Let-7b	BCL7A [605]; CDC25A [993]; CDKN2A [1029]; HMGA2 [8091]; MTPN [136319]
miR-Let-7c	MYC [4609]; TRIM71 [131405]
miR-Let-7e	TLR4 [7099]
miR-Let-7f	KLK10 [5655]; KLK6 [5653]
miR-Let-7g	KRAS [3845]; LIN28 [79727]
miR-Let-7i	TLR4 [7099]
miR-Let-7s	HMGA2 [8091]
miR-Let7	HRAS [3265]
miR-N367	S100B [6285]

SIII: Molecular function (PANTHER) of miRNA-target genes

Category ID	Category Name	No. of genes	Freq (%)	p-value
MF00036	Transcription factor	145	25.9	0
MF00042	Nucleic acid binding	135	24.1	0
MF00016	Signaling molecule	67	12.0	0.999999
MF00001	Receptor	58	10.4	0.999836
MF00107	Kinase	52	9.3	0.065259
MF00108	Protein kinase	50	8.9	0.04102
MF00039	Other transcription factor	49	8.8	0
MF00208	Molecular function unclassified	49	8.8	0.245113
MF00093	Select regulatory molecule	48	8.6	0.021451
MF00038	Homeobox transcription factor	29	5.2	0
MF00286	Other DNA-binding protein	29	5.2	0
MF00222	Zinc finger transcription factor	28	5.0	0
MF00213	Non-receptor serine/threonine protein kinase	25	4.5	0.223781
MF00023	Other signaling molecule	24	4.3	0.011775
MF00091	Cytoskeletal protein	24	4.3	0.139081
MF00197	Miscellaneous function	19	3.4	0.712984
MF00153	Protease	19	3.4	0.998121
MF00241	Protein kinase receptor	17	3.0	0.005227
MF00178	Extracellular matrix	17	3.0	0.351616
MF00094	Kinase modulator	16	2.9	0.000543
MF00019	Growth factor	16	2.9	0.849325
MF00141	Hydrolase	15	2.7	0.974961
MF00123	Oxidoreductase	15	2.7	0.999883
MF00097	G-protein	14	2.5	0.019783
MF00099	Small GTPase	13	2.3	0.00602
MF00017	Cytokine	13	2.3	0.999971
MF00227	Basic helix-loop-helix transcription factor	12	2.1	0.016297
MF00202	Other miscellaneous function protein	12	2.1	0.392497
MF00024	Ion channel	12	2.1	0.43398
MF00131	Transferase	12	2.1	0.992775
MF00013	Tyrosine protein kinase receptor	11	2.0	0.250151
MF00261	Actin binding cytoskeletal protein	11	2.0	0.357795
MF00003	Nuclear hormone receptor	10	1.8	0.57225
MF00087	Transfer/carrier protein	10	1.8	0.979402
MF00082	Transporter	10	1.8	0.986557
MF00040	Cell adhesion molecule	10	1.8	0.998589
MF00275	Transcription cofactor	9	1.6	0.018702
MF00267	Membrane traffic protein	9	1.6	0.082197
MF00102	Protease inhibitor	9	1.6	0.845852
MF00188	Select calcium binding protein	9	1.6	0.992254
MF00002	G-protein coupled receptor	9	1.6	0.999864
MF00095	Kinase inhibitor	8	1.4	9.50E-05
MF00225	Other zinc finger transcription factor	8	1.4	0.001506
MF00113	Phosphatase	8	1.4	0.430318
MF00015	Other receptor	8	1.4	0.936448
MF00170	Ligase	7	1.3	0.543671
MF00124	Oxygenase	7	1.3	0.931111
MF00232	Interleukin	7	1.3	0.978434
MF00216	Serine protease	7	1.3	0.997328
MF00173	Defense/immunity protein	7	1.3	1
MF00014	Serine/threonine protein kinase receptor	6	1.1	7.20E-05
MF00065	mRNA processing factor	6	1.1	0.003345
MF00179	Extracellular matrix structural protein	6	1.1	0.022136
MF00053	Other RNA-binding protein	6	1.1	0.022508
MF00211	Kinase activator	6	1.1	0.154716
MF00247	Membrane-bound signaling molecule	6	1.1	0.24171
MF00031	Voltage-gated ion channel	6	1.1	0.247437
MF00114	Protein phosphatase	6	1.1	0.273863

MF00198	Structural protein	6	1.1	0.445725
MF00154	Metalloprotease	6	1.1	0.817558
MF00005	Cytokine receptor	6	1.1	0.92311
MF00218	Calmodulin related protein	6	1.1	0.988506
MF00068	mRNA splicing factor	5	0.9	0.003622
MF00071	Translation factor	5	0.9	0.03319
MF00034	Voltage-gated potassium channel	5	0.9	0.101454
MF00284	Other ligase	5	0.9	0.117101
MF00044	Nuclease	5	0.9	0.201427
MF00256	Intermediate filament	5	0.9	0.233479
MF00070	Chromatin/chromatin-binding protein	5	0.9	0.273956
MF00264	Microtubule family cytoskeletal protein	5	0.9	0.317512
MF00008	Ligand-gated ion channel	5	0.9	0.344002
MF00126	Dehydrogenase	5	0.9	0.470817
MF00181	Other extracellular matrix	5	0.9	0.637018
MF00077	Chaperone	5	0.9	0.775842
MF00100	G-protein modulator	5	0.9	0.792049
MF00069	Ribonucleoprotein	4	0.7	0.008157
MF00133	Methyltransferase	4	0.7	0.26987
MF00262	Non-motor actin binding protein	4	0.7	0.826222
MF00215	Cysteine protease	4	0.7	0.843481
MF00086	Other transporter	4	0.7	0.939015
MF00219	Annexin	4	0.7	0.957112
MF00118	Synthase and synthetase	4	0.7	0.994828
MF00020	Peptide hormone	4	0.7	1
MF00278	TGF-beta receptor	3	0.5	0.007168
MF00050	DNA methyltransferase	3	0.5	0.018883
MF00226	HMG box transcription factor	3	0.5	0.022964
MF00294	Double-stranded DNA binding protein	3	0.5	0.028837
MF00076	Other nucleic acid binding	3	0.5	0.039665
MF00230	Actin binding motor protein	3	0.5	0.079517
MF00146	Deacetylase	3	0.5	0.171832
MF00224	KRAB box transcription factor	3	0.5	0.230034
MF00255	Non-motor microtubule binding protein	3	0.5	0.251504
MF00117	Other phosphatase	3	0.5	0.259316
MF00212	Other G-protein modulator	3	0.5	0.435235
MF00276	Cell junction protein	3	0.5	0.581354
MF00258	CAM family adhesion molecule	3	0.5	0.828413
MF00157	Lyase	3	0.5	0.926678
MF00260	Other cell adhesion molecule	3	0.5	0.967269
MF00090	Other transfer/carrier protein	3	0.5	0.968558
MF00214	Non-receptor tyrosine protein kinase	3	0.5	0.972187
MF00018	Chemokine	3	0.5	0.979571
MF00250	Serine protease inhibitor	3	0.5	0.980353
MF00244	Cyclic nucleotide-gated ion channel	2	0.4	0.006852
MF00163	Adenylate cyclase	2	0.4	0.0071
MF00268	Vesicle coat protein	2	0.4	0.060605
MF00288	Amino acid transporter	2	0.4	0.094524
MF00078	Chaperonin	2	0.4	0.108831
MF00055	Single-stranded DNA-binding protein	2	0.4	0.108842
MF00096	Phosphatase modulator	2	0.4	0.129324
MF00254	Actin and actin related protein	2	0.4	0.139897
MF00162	Cyclase	2	0.4	0.151198
MF00269	SNARE protein	2	0.4	0.258962
MF00072	Translation initiation factor	2	0.4	0.308638
MF00182	Gap junction	2	0.4	0.31268
MF00271	Other membrane traffic protein	2	0.4	0.371107
MF00229	Extracellular matrix linker protein	2	0.4	0.379261
MF00251	Other protease inhibitor	2	0.4	0.3795
MF00085	Carbohydrate transporter	2	0.4	0.418108
MF00270	Membrane traffic regulatory protein	2	0.4	0.465687
MF00063	Histone	2	0.4	0.482895

MF00150	Glycosidase	2	0.4	0.498856
MF00012	Other ligand-gated ion channel	2	0.4	0.512388
MF00089	Mitochondrial carrier protein	2	0.4	0.662889
MF00139	Acyltransferase	2	0.4	0.7226
MF00144	Esterase	2	0.4	0.731147
MF00060	Damaged DNA-binding protein	2	0.4	0.731324
MF00101	Guanyl-nucleotide exchange factor	2	0.4	0.789362
MF00283	Ubiquitin-protein ligase	2	0.4	0.796555
MF00290	Other enzyme regulator	2	0.4	0.824537
MF00180	Extracellular matrix glycoprotein	2	0.4	0.871281
MF00137	Glycosyltransferase	2	0.4	0.953858
MF00233	Interferon	2	0.4	0.980172
MF00119	Synthase	2	0.4	0.997703
MF00238	Phosphatase activator	1	0.2	0.005998
MF00061	Centromere DNA-binding protein	1	0.2	0.157153
MF00145	Amylase	1	0.2	0.206724
MF00151	Glucosidase	1	0.2	0.253923
MF00033	Voltage-gated calcium channel	1	0.2	0.308704
MF00265	Tubulin	1	0.2	0.354335
MF00073	Translation elongation factor	1	0.2	0.377726
MF00239	Phosphatase inhibitor	1	0.2	0.422179
MF00231	Microtubule binding motor protein	1	0.2	0.436954
MF00062	Reverse transcriptase	1	0.2	0.465549
MF00092	Other cytoskeletal proteins	1	0.2	0.567344
MF00112	Other kinase	1	0.2	0.580651
MF00075	Ribosomal protein	1	0.2	0.599125
MF00147	Deaminase	1	0.2	0.603184
MF00109	Carbohydrate kinase	1	0.2	0.629618
MF00120	Synthetase	1	0.2	0.657302
MF00045	Exodeoxyribonuclease	1	0.2	0.665009
MF00184	Tight junction	1	0.2	0.66871
MF00210	Hsp 90 family chaperone	1	0.2	0.676221
MF00064	DNA polymerase processivity factor	1	0.2	0.711303
MF00248	Metalloprotease inhibitor	1	0.2	0.730238
MF00161	Decarboxylase	1	0.2	0.787916
MF00098	Large G-protein	1	0.2	0.790089
MF00257	CREB transcription factor	1	0.2	0.833936
MF00009	Glutamate receptor	1	0.2	0.844564
MF00046	Endodeoxyribonuclease	1	0.2	0.852884
MF00174	Complement component	1	0.2	0.875911
MF00209	Hsp 70 family chaperone	1	0.2	0.884651
MF00292	Other enzyme inhibitor	1	0.2	0.897963
MF00189	Other select calcium binding proteins	1	0.2	0.901061
MF00259	Cadherin	1	0.2	0.911606
MF00079	Other chaperones	1	0.2	0.918331
MF00243	DNA helicase	1	0.2	0.935915
MF00128	Oxidase	1	0.2	0.941473
MF00006	Interleukin receptor	1	0.2	0.947565
MF00293	Transmembrane receptor regulatory/adaptor protein	1	0.2	0.956118
MF00110	Nucleotide kinase	1	0.2	0.960045
MF00084	ATP-binding cassette (ABC) transporter	1	0.2	0.962162
MF00143	Phospholipase	1	0.2	0.962484
MF00051	Helicase	1	0.2	0.966469
MF00083	Cation transporter	1	0.2	0.969346
MF00136	Acetyltransferase	1	0.2	0.971537
MF00156	Other hydrolase	1	0.2	0.975137
MF00130	Other oxidoreductase	1	0.2	0.976094
MF00175	Major histocompatibility complex antigen	1	0.2	0.976742
MF00279	Tumor necrosis factor receptor	1	0.2	0.981472
MF00022	Neurotrophic factor	1	0.2	0.983292
MF00177	Other defense and immunity protein	1	0.2	0.989921
MF00088	Apolipoprotein	1	0.2	0.991578

MF00127	Reductase	1	0.2	0.992658
MF00282	Aspartic protease	1	0.2	0.993559
MF00246	Other cytokine receptor	1	0.2	0.993682
MF00142	Lipase	1	0.2	0.994747
MF00234	Other cytokine	1	0.2	0.999623
MF00281	Tumor necrosis factor family member	1	0.2	0.999984

SIV: A: Top PANTHER pathways

Pathway Name	No. of Genes
Angiogenesis	44
Inflammation mediated by chemokine and cytokine signaling pathway	41
Interleukin signaling pathway	35
TGF-beta signaling pathway	31
Wnt signaling pathway	31
Apoptosis signaling pathway	29
Integrin signalling pathway	28
PDGF signaling pathway	28
EGF receptor signaling pathway	26
Ras Pathway	24
FGF signaling pathway	22
p53 pathway feedback loops 2	22
PI3 kinase pathway	21
T cell activation	21
B cell activation	20
p53 pathway	19
Insulin/IGF pathway-protein kinase B signaling cascade	18
VEGF signaling pathway	18
Oxidative stress response	16
Toll receptor signaling pathway	16
Alzheimer disease-presenilin pathway	14
Endothelin signaling pathway	14
Huntington disease	14
Insulin/IGF pathway-mitogen activated protein kinase kinase/MAP kinase cascade	13
p38 MAPK pathway	13
Alzheimer disease-amyloid secretase pathway	12
Cytoskeletal regulation by Rho GTPase	12
Angiotensin II-stimulated signaling through G proteins and beta-arrestin	11
Parkinson disease	10
Axon guidance mediated by Slit/Robo	9

B: Top 20 KEGG Pathways

KEGG Pathways	No. genes	p-value
hsa05212:Pancreatic cancer	37	3.04E-23
hsa05215:Prostate cancer	37	5.12E-20
hsa05220:Chronic myeloid leukemia	32	1.51E-17
hsa05210:Colorectal cancer	34	2.07E-17
hsa05219:Bladder cancer	23	6.71E-16
hsa05222:Small cell lung cancer	31	3.13E-14
hsa05218:Melanoma	27	1.59E-13
hsa05214:Glioma	25	3.02E-13
hsa05223:Non-small cell lung cancer	23	7.79E-13
hsa05213:Endometrial cancer	22	3.15E-12
hsa04510:Focal adhesion	42	1.12E-10
hsa04620:Toll-like receptor signaling pathway	29	1.23E-10
hsa04350:TGF-beta signaling pathway	27	1.69E-10
hsa05221:Acute myeloid leukemia	20	1.91E-09
hsa04115:p53 signaling pathway	22	2.73E-09
hsa04010:MAPK signaling pathway	46	4.55E-09
hsa04664:Fc epsilon RI signaling pathway	22	1.49E-08
hsa04012:ErbB signaling pathway	23	4.29E-08
hsa04110:Cell cycle	26	1.76E-07
hsa04930:Type II diabetes mellitus	16	1.77E-07

SV: Biological Processes (PANTHER) of miRNA-target genes

Category ID	Category Name	No. of genes	Freq (%)	p-value
BP00031	Nucleoside, nucleotide and nucleic acid metabolism	179	32.0	0
BP00193	Developmental processes	165	29.5	0
BP00040	mRNA transcription	140	25.0	0
BP00044	mRNA transcription regulation	122	21.8	0
BP00246	Ectoderm development	56	10.0	0
BP00199	Neurogenesis	51	9.1	0
BP00245	Segment specification	16	2.9	0
BP00242	Embryogenesis	21	3.8	2.00E-05
BP00109	Receptor protein serine/threonine kinase signaling pathway	10	1.8	3.60E-05
BP00264	Tumor suppressor	18	3.2	0.000202
BP00244	Anterior/posterior patterning	7	1.3	0.000212
BP00281	Oncogenesis	61	10.9	0.00039
BP00203	Cell cycle	77	13.8	0.000408
BP00207	Cell cycle control	60	10.7	0.000721
BP00224	Cell proliferation and differentiation	99	17.7	0.001133
BP00250	Muscle development	12	2.1	0.001336
BP00285	Cell structure and motility	58	10.4	0.001881
BP00048	mRNA splicing	7	1.3	0.00229
BP00047	Pre-mRNA processing	9	1.6	0.002526
BP00248	Mesoderm development	53	9.5	0.003734
BP00282	Mitosis	22	3.9	0.007541
BP00286	Cell structure	28	5.0	0.007603
BP00256	RNA catabolism	4	0.7	0.009016
BP00287	Cell motility	28	5.0	0.011669
BP00243	Determination of dorsal/ventral axis	3	0.5	0.012237
BP00126	Exocytosis	8	1.4	0.01485
BP00251	Heart development	5	0.9	0.015107
BP00061	Protein biosynthesis	7	1.3	0.025092
BP00064	Protein phosphorylation	53	9.5	0.033044
BP00206	Chromosome segregation	6	1.1	0.034525
BP00063	Protein modification	61	10.9	0.048397
BP00188	Vision	11	2.0	0.049883
BP00204	Cytokinesis	5	0.9	0.058818
BP00247	Endoderm development	2	0.4	0.062547
BP00276	General vesicle transport	7	1.3	0.077103
BP00119	Other intracellular signaling cascade	11	2.0	0.081279
BP00201	Skeletal development	14	2.5	0.088222
BP00273	Chromatin packaging and remodeling	8	1.4	0.095013
BP00301	Non-vertebrate process	2	0.4	0.097468
BP00132	Receptor mediated endocytosis	5	0.9	0.119642
BP00127	Regulated exocytosis	3	0.5	0.138563
BP00051	mRNA end-processing and stability	1	0.2	0.186612
BP00008	Tricarboxylic acid pathway	2	0.4	0.188355
BP00024	Acyl-CoA metabolism	1	0.2	0.193987
BP00208	Other cell cycle process	1	0.2	0.204523
BP00189	Hearing	2	0.4	0.213252
BP00043	mRNA transcription elongation	1	0.2	0.222508
BP00046	Other mRNA transcription	1	0.2	0.236678
BP00016	Amino acid transport	2	0.4	0.246974
BP00110	Other receptor mediated signaling pathway	12	2.1	0.27134
BP00014	Amino acid biosynthesis	2	0.4	0.300123
BP00197	Spermatogenesis and motility	2	0.4	0.312792
BP00194	Gametogenesis	13	2.3	0.329432
BP00073	Translational regulation	3	0.5	0.334414
BP00136	Other intracellular protein traffic	2	0.4	0.338999
BP00275	Extracellular matrix protein-mediated signaling	7	1.3	0.35302

BP00263	Inhibition of apoptosis	22	3.9	0.3686
BP00077	Oxidative phosphorylation	2	0.4	0.369813
BP00265	Oncogene	15	2.7	0.370899
BP00252	Sex determination	1	0.2	0.385935
BP00182	Sensory perception	14	2.5	0.397236
BP00067	Protein glycosylation	3	0.5	0.398272
BP00216	Biological process unclassified	46	8.2	0.4186
BP00283	Other oncogenesis	7	1.3	0.449744
BP00125	Intracellular protein traffic	20	3.6	0.454892
BP00042	mRNA transcription initiation	1	0.2	0.474778
BP00058	Nucleoside, nucleotide and nucleic acid transport	1	0.2	0.476606
BP00035	DNA replication	4	0.7	0.476807
BP00052	Reverse transcription	1	0.2	0.48302
BP00027	Regulation of lipid, fatty acid and steroid metabolism	4	0.7	0.505967
BP00055	rRNA metabolism	1	0.2	0.516012
BP00041	General mRNA transcription activities	1	0.2	0.519261
BP00012	Other carbohydrate metabolism	1	0.2	0.524352
BP00056	Metabolism of cyclic nucleotides	2	0.4	0.53059
BP00254	Apoptotic processes	2	0.4	0.535096
BP00249	Gut mesoderm development	1	0.2	0.535454
BP00033	Pyrimidine metabolism	2	0.4	0.587411
BP00001	Carbohydrate metabolism	21	3.8	0.604039
BP00020	Fatty acid metabolism	6	1.1	0.631236
BP00129	Endocytosis	8	1.4	0.640209
BP00108	Receptor protein tyrosine kinase signaling pathway	22	3.9	0.667692
BP00003	Regulation of carbohydrate metabolism	1	0.2	0.676442
BP00195	Meiosis	3	0.5	0.680519
BP00120	Cell adhesion-mediated signaling	15	2.7	0.713706
BP00152	B-cell- and antibody-mediated immunity	7	1.3	0.718849
BP00017	Amino acid catabolism	1	0.2	0.737635
BP00060	Protein metabolism and modification	98	17.5	0.73982
BP00087	Porphyrin metabolism	1	0.2	0.743992
BP00009	Other polysaccharide metabolism	2	0.4	0.75112
BP00147	Other transport	1	0.2	0.756108
BP00270	Growth factor homeostasis	1	0.2	0.76363
BP00116	JNK cascade	6	1.1	0.773452
BP00111	Intracellular signaling cascade	65	11.6	0.775934
BP00168	Neurotransmitter release	2	0.4	0.775964
BP00240	Fertilization	1	0.2	0.777691
BP00114	MAPKKK cascade	23	4.1	0.782904
BP00169	Nerve-nerve synaptic transmission	4	0.7	0.812346
BP00167	Synaptic transmission	10	1.8	0.814278
BP00143	Cation transport	12	2.1	0.814581
BP00272	Phospholipid metabolism	4	0.7	0.822796
BP00138	Protein targeting	1	0.2	0.824669
BP00179	Apoptosis	51	9.1	0.833991
BP00123	Other signal transduction	2	0.4	0.835119
BP00142	Ion transport	15	2.7	0.839012
BP00026	Cholesterol metabolism	2	0.4	0.840744
BP00062	Protein folding	4	0.7	0.846231
BP00013	Amino acid metabolism	6	1.1	0.853109
BP00095	Phosphate metabolism	4	0.7	0.863016
BP00005	Glycolysis	1	0.2	0.863473
BP00032	Purine metabolism	1	0.2	0.866143
BP00145	Small molecule transport	2	0.4	0.879793
BP00171	Action potential propagation	1	0.2	0.884705
BP00170	Neuromuscular synaptic transmission	1	0.2	0.889027
BP00202	Other developmental process	4	0.7	0.89589
BP00271	Other homeostasis activities	5	0.9	0.896718
BP00223	Angiogenesis	6	1.1	0.904733
BP00011	Monosaccharide metabolism	2	0.4	0.905372

BP00190	Pain sensation	2	0.4	0.909941
BP00156	Interferon-mediated immunity	4	0.7	0.910731
BP00292	Other carbon metabolism	2	0.4	0.919397
BP00115	NF-kappaB cascade	8	1.4	0.921664
BP00211	Miscellaneous	2	0.4	0.923949
BP00083	Vitamin metabolism	1	0.2	0.927015
BP00072	Protein complex assembly	2	0.4	0.928406
BP00034	DNA metabolism	15	2.7	0.928754
BP00146	Extracellular transport and import	2	0.4	0.930086
BP00153	Complement-mediated immunity	1	0.2	0.931646
BP00124	Cell adhesion	18	3.2	0.943685
BP00295	Steroid metabolism	6	1.1	0.945787
BP00255	Cytokine/chemokine mediated immunity	12	2.1	0.952518
BP00284	Hematopoiesis	6	1.1	0.952854
BP00137	Protein targeting and localization	1	0.2	0.953156
BP00253	Induction of apoptosis	15	2.7	0.959176
BP00210	Other blood circulation and gas exchange activity	1	0.2	0.961738
BP00299	Steroid hormone metabolism	1	0.2	0.96248
BP00004	Carbohydrate transport	3	0.5	0.962864
BP00038	DNA recombination	2	0.4	0.9649
BP00290	Lipid metabolism	2	0.4	0.966982
BP00141	Transport	37	6.6	0.967992
BP00157	Natural killer cell mediated immunity	2	0.4	0.969077
BP00269	Glucose homeostasis	1	0.2	0.970638
BP00155	Macrophage-mediated immunity	11	2.0	0.972764
BP00112	Calcium mediated signaling	5	0.9	0.97674
BP00268	Antioxidation and free radical removal	1	0.2	0.978315
BP00196	Oogenesis	4	0.7	0.97862
BP00076	Electron transport	8	1.4	0.980087
BP00161	Other immune and defense	5	0.9	0.98024
BP00277	Phagocytosis	1	0.2	0.980587
BP00298	Glycogen metabolism	1	0.2	0.988786
BP00090	Nitrogen metabolism	3	0.5	0.989051
BP00178	Stress response	13	2.3	0.989315
BP00081	Coenzyme and prosthetic group metabolism	2	0.4	0.989593
BP00209	Blood circulation and gas exchange	9	1.6	0.992735
BP00267	Homeostasis	10	1.8	0.993032
BP00121	Steroid hormone-mediated signaling	4	0.7	0.993501
BP00176	Blood clotting	7	1.3	0.994778
BP00180	Detoxification	1	0.2	0.995123
BP00289	Other metabolism	11	2.0	0.995467
BP00173	Muscle contraction	6	1.1	0.995877
BP00019	Lipid, fatty acid and steroid metabolism	22	3.9	0.996431
BP00174	Regulation of vasoconstriction, dilation	5	0.9	0.996846
BP00150	MHCI-mediated immunity	1	0.2	0.998121
BP00092	Nitric oxide biosynthesis	2	0.4	0.998697
BP00107	Cytokine and chemokine mediated signaling pathway	27	4.8	0.999133
BP00118	NO mediated signal transduction	1	0.2	0.999507
BP00036	DNA repair	6	1.1	0.999555
BP00028	Lipid and fatty acid transport	2	0.4	0.99965
BP00071	Proteolysis	25	4.5	0.999668
BP00149	T-cell mediated immunity	12	2.1	0.999695
BP00102	Signal transduction	188	33.6	0.999783
BP00274	Cell communication	79	14.1	0.999784
BP00117	JAK-STAT cascade	9	1.6	0.999792
BP00166	Neuronal activities	18	3.2	0.999957
BP00172	Other neuronal activity	3	0.5	0.99999
BP00288	Granulocyte-mediated immunity	3	0.5	0.99999
BP00103	Cell surface receptor mediated signal transduction	85	15.2	0.999998
BP00122	Ligand-mediated signaling	40	7.1	0.999998
BP00104	G-protein mediated signaling	20	3.6	0.999998

BP00148	Immunity and defense	73	13.0	1
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SVI: PANTHER pathways associated with miRNA-target genes

Pathway Accession	Pathway Name	Components	No. of Genes	Freq(%)
P00005	Angiogenesis	77	44	19.1
P00031	Inflammation mediated by chemokine and cytokine signaling pathway	58	41	17.8
P00036	Interleukin signaling pathway	36	35	15.2
P00052	TGF-beta signaling pathway	20	31	13.5
P00057	Wnt signaling pathway	49	31	13.5
P00006	Apoptosis signaling pathway	72	29	12.6
P00034	Integrin signalling pathway	46	28	12.2
P00047	PDGF signaling pathway	36	28	12.2
P00018	EGF receptor signaling pathway	28	26	11.3
P04393	Ras Pathway	39	24	10.4
P00021	FGF signaling pathway	26	22	9.6
P04398	p53 pathway feedback loops 2	32	22	9.6
P00048	PI3 kinase pathway	35	21	9.1
P00053	T cell activation	45	21	9.1
P00010	B cell activation	37	20	8.7
P00059	p53 pathway	70	19	8.3
P00033	Insulin/IGF pathway-protein kinase B signaling cascade	18	18	7.8
P00056	VEGF signaling pathway	25	18	7.8
P00046	Oxidative stress response	20	16	7.0
P00054	Toll receptor signaling pathway	46	16	7.0
P00004	Alzheimer disease-presenilin pathway	70	14	6.1
P00029	Huntington disease	60	14	6.1
P00019	Endothelin signaling pathway	27	14	6.1
P00032	Insulin/IGF pathway-mitogen activated protein kinase kinase/MAP kinase cascade	12	13	5.7
P05918	p38 MAPK pathway	36	13	5.7
P00003	Alzheimer disease-amyloid secretase pathway	31	12	5.2
P00016	Cytoskeletal regulation by Rho GTPase	20	12	5.2
P05911	Angiotensin II-stimulated signaling through G proteins and beta-arrestin	21	11	4.8
P00049	Parkinson disease	37	10	4.3
P00008	Axon guidance mediated by Slit/Robo	14	9	3.9
P00035	Interferon-gamma signaling pathway	10	9	3.9
P00012	Cadherin signaling pathway	16	9	3.9
P00027	Heterotrimeric G-protein signaling pathway-Gq alpha and Go alpha mediated pathway	21	9	3.9
P00020	FAS signaling pathway	31	9	3.9
P00045	Notch signaling pathway	23	8	3.5
P00030	Hypoxia response via HIF activation	14	7	3.0
P00026	Heterotrimeric G-protein signaling pathway-Gi alpha and Gs alpha mediated pathway	27	7	3.0
P00025	Hedgehog signaling pathway	20	7	3.0
P00009	Axon guidance mediated by netrin	11	6	2.6
P00050	Plasminogen activating cascade	22	6	2.6
P00042	Muscarinic acetylcholine receptor 1 and 3 signaling pathway	12	6	2.6
P00044	Nicotinic acetylcholine receptor signaling pathway	13	6	2.6
P04374	5HT2 type receptor mediated signaling pathway	9	6	2.6
P04391	Oxytocin receptor mediated signaling pathway	6	6	2.6
P00007	Axon guidance mediated by semaphorins	14	5	2.2
P00038	JAK/STAT signaling pathway	8	5	2.2
P04377	Beta1 adrenergic receptor signaling pathway	7	5	2.2
P04378	Beta2 adrenergic receptor signaling pathway	7	5	2.2
P04394	Thyrotropin-releasing hormone receptor signaling pathway	9	5	2.2

P04397	p53 pathway by glucose deprivation	13	5	2.2
P05912	Dopamine receptor mediated signaling pathway	27	5	2.2
P05915	Opioid proenkephalin pathway	11	5	2.2
P05917	Opioid proopiomelanocortin pathway	9	5	2.2
P00043	Muscarinic acetylcholine receptor 2 and 4 signaling pathway	11	4	1.7
P00040	Metabotropic glutamate receptor group II pathway	7	4	1.7
P00011	Blood coagulation	59	4	1.7
P00039	Metabotropic glutamate receptor group III pathway	12	4	1.7
P00013	Cell cycle	12	4	1.7
P04376	5HT4 type receptor mediated signaling pathway	7	4	1.7
P04379	Beta3 adrenergic receptor signaling pathway	4	4	1.7
P05913	Enkephalin release	10	4	1.7
P05916	Opioid prodynorphin pathway	12	4	1.7
P00002	Alpha adrenergic receptor signaling pathway	6	3	1.3
P04373	5HT1 type receptor mediated signaling pathway	8	3	1.3
P04380	Corticotropin releasing factor receptor signaling pathway	9	3	1.3
P04375	5HT3 type receptor mediated signaling pathway	5	3	1.3
P04385	Histamine H1 receptor mediated signaling pathway	5	3	1.3
P05734	Synaptic vesicle trafficking	12	3	1.3
P05731	GABA-B receptor II signaling	9	3	1.3
P00041	Metabotropic glutamate receptor group I pathway	10	2	0.9
P00015	Circadian clock system	14	2	0.9
P00037	Ionotropic glutamate receptor pathway	29	2	0.9
P04386	Histamine H2 receptor mediated signaling pathway	4	2	0.9
P02772	Pyruvate metabolism	10	2	0.9
P04396	Vitamin D metabolism and pathway	11	2	0.9
P00001	Adrenaline and noradrenaline biosynthesis	12	1	0.4
P02721	ATP synthesis	12	1	0.4
P02745	Glutamine glutamate conversion	3	1	0.4
P00028	Heterotrimeric G-protein signaling pathway-rod outer segment phototransduction	15	1	0.4
P00017	DNA replication	18	1	0.4
P00024	Glycolysis	10	1	0.4
P00055	Transcription regulation by bZIP transcription factor	25	1	0.4
P04392	P53 pathway feedback loops 1	11	1	0.4
P00060	Ubiquitin proteasome pathway	6	1	0.4
P02738	De novo purine biosynthesis	23	1	0.4
P02743	Formyltetrahydroformate biosynthesis	7	1	0.4
P02742	Tetrahydrofolate biosynthesis	11	1	0.4
P05730	Endogenous cannabinoid signaling	9	1	0.4

SVII: Conservation of miRNA targets: Targeting housekeeping and tissue-enriched genes

	Housekeeping genes	Tissue-Enriched genes
All RefSeq	18149	18149
HKG or TEG	1573	926
% genes surveyed	8.7	5.1
miRNA target match	51	20
All miRNA targets	560	560
% miRNA targets	9.1	3.0

SVIII: OMMIM disorders linked to miRNA-target genes

microRNA	EntrezGene Symbol	Entrezgene ID	Disorder	Class
miR-1	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-1	CACNA1C	775	Timothy syndrome, 601005 (3)	multiple
miR-1	Gata4	2626	Atrial septal defect-2, 607941 (3)	Cardiovascular
miR-1	GJA1	2697	Atrioventricular septal defect, 600309 (3)	Cardiovascular
miR-1	GJA1	2697	Hypoplastic left heart syndrome, 241550 (3)	Cardiovascular
miR-1	GJA1	2697	Oculodentodigital dysplasia, 164200 (3)	Skeletal
miR-1	GJA1	2697	Syndactyly, type III, 186100 (3)	Skeletal
miR-1	HSPD1	3329	Spastic paraplegia-13, 605280 (3)	Neurological
miR-1	IGF1	3479	Growth retardation with deafness and mental retardation due to IGF1 deficiency, 608747 (3)	Developmental
miR-1	IGF1R	3480	Intrauterine and postnatal growth retardation (3)	Developmental
miR-1	KCNE1	3753	Jervell and Lange-Nielsen syndrome, 220400 (3)	multiple
miR-1	KCNE1	3753	Long QT syndrome-5 (3)	Cardiovascular
miR-1	KCNJ2	3759	Long QT syndrome-7, 170390 (3)	Cardiovascular
miR-1	KCNQ1	3784	Atrial fibrillation, familial, 607554 (3)	Cardiovascular
miR-1	KCNQ1	3784	Jervell and Lange-Nielsen syndrome, 220400 (3)	multiple
miR-1	KCNQ1	3784	Long QT syndrome-1, 192500 (3)	Cardiovascular
miR-1	Mef2a	4205	Coronary artery disease, autosomal dominant, 1, 608320 (3)	Cardiovascular
miR-1	MET	4233	Hepatocellular carcinoma, childhood type, 114550 (3)	Cancer
miR-1	MET	4233	Renal cell carcinoma, papillary, familial and sporadic, 605074 (3)	Cancer
miR-1	MSTN	2660	Muscle hypertrophy (3)	Muscular
miR-1	MYH6	4624	Atrial septal defect 3 (3)	Cardiovascular
miR-1	MYH6	4624	Cardiomyopathy, familial hypertrophic, 192600 (3)	Cardiovascular
miR-1	RASA1	5921	Basal cell carcinoma (3)	Cancer
miR-1	RASA1	5921	Capillary malformation-arteriovenous malformation, 608354 (3)	Cardiovascular
miR-1	RASA1	5921	Parkes Weber syndrome, 608355 (3)	multiple
miR-1/206	MET	4233	Hepatocellular carcinoma, childhood type, 114550 (3)	Cancer
miR-1/206	MET	4233	Renal cell carcinoma, papillary, familial and sporadic, 605074 (3)	Cancer
miR-101	ATXN1	6310	Spinocerebellar ataxia-1, 164400 (3)	Neurological
miR-106a	APP	351	Alzheimer disease-1, APP-related (3)	Neurological
miR-106a	APP	351	Amyloidosis, cerebroarterial, Dutch type (3)	Neurological
miR-106a	APP	351	Schizophrenia, chronic (3)	Psychiatric
miR-106a	IL10	3586	Graft-versus-host disease, protection against (3)	Immunological
miR-106a	IL10	3586	HIV-1, susceptibility to (3)	Immunological
miR-106a	IL10	3586	Rheumatoid arthritis, progression of, 180300 (3)	Connective tissue
miR-106a	RUNX1	861	Leukemia, acute myeloid, 601626 (3)	Cancer
miR-106a	RUNX1	861	Platelet disorder, familial, with associated myeloid malignancy, 601399 (3)	Hematological
miR-106a	RUNX1	861	Rheumatoid arthritis, susceptibility to,	Connective

miR-106b	APP	351	180300 (3)	tissue
miR-106b	APP	351	Alzheimer disease-1, APP-related (3)	Neurological
			Amyloidosis, cerebroarterial, Dutch type (3)	Neurological
miR-106b	APP	351	Schizophrenia, chronic (3)	Psychiatric
miR-106b	CDH1	999	Breast cancer, lobular (3)	Cancer
miR-106b	CDH1	999	Endometrial carcinoma (3)	Cancer
miR-106b	CDH1	999	Gastric cancer, familial diffuse, 137215 (3)	Cancer
miR-106b	CDH1	999	Listeria monocytogenes, susceptibility to (3)	Immunological
miR-106b	CDH1	999	Ovarian carcinoma (3)	Cancer
miR-106b	CDKN1C	1028	Beckwith-Wiedemann syndrome, 130650 (3)	multiple
miR-106b	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-106b	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-106b	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-106b	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-106b	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-106b	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-106b	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-106b	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-106b	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-106b	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-106b-25	TGFB1	7040	Camurati-Engelmann disease, 131300 (3)	Skeletal
miR-10a	HOXA1	3198	Athabaskan brainstem dysgenesis syndrome, 601536 (3)	Neurological
miR-10a	HOXA1	3198	Bosley-Salih-Alorainy syndrome, 601536 (3)	Neurological
miR-10a	HOXD10	3236	Charcot-Marie-Tooth disease, foot deformity of (3)	Neurological
miR-10a	HOXD10	3236	Vertical talus, congenital, 192950 (3)	Skeletal
miR-10a	HOXD4	3233	Leukemia, acute lymphoblastic, susceptibility to (3)	Cancer
miR-10b	HOXD10	3236	Charcot-Marie-Tooth disease, foot deformity of (3)	Neurological
miR-10b	HOXD10	3236	Vertical talus, congenital, 192950 (3)	Skeletal
miR-10b	PPARA	5465	Hyperapobetalipoproteinemia, susceptibility to (3)	Metabolic
miR-11	HID	2706	Bart-Pumphrey syndrome, 149200 (3)	multiple
miR-11	HID	2706	Deafness, autosomal dominant 3, 601544 (3)	Ear,Nose,Throat
miR-11	HID	2706	Deafness, autosomal recessive 1, 220290 (3)	Ear,Nose,Throat
miR-11	HID	2706	Hystrix-like ichthyosis with deafness, 602540 (3)	multiple
miR-11	HID	2706	Keratitits-ichthyosis-deafness syndrome, 148210 (3)	multiple
miR-11	HID	2706	Keratoderma, palmoplantar, with deafness, 148350 (3)	Dermatological
miR-11	HID	2706	Vohwinkel syndrome, 124500 (3)	multiple
miR-122	APOB	338	Abetalipoproteinemia (3)	Metabolic
miR-122	APOB	338	Hypercholesterolemia, due to ligand-defective apo B, 144010 (3)	Metabolic
miR-122	APOB	338	Hypobetalipoproteinemia (3)	Metabolic
miR-122	BACH1	571	Breast cancer, early-onset, 114480 (3)	Cancer
miR-122	BACH1	571	Fanconi anemia, complementation	multiple

miR-122	HMOX1	3162	group J, 609054 (3)	
miR-122	PPARA	5465	Heme oxygenase-1 deficiency (3)	Metabolic
			Hyperapobetalipoproteinemia, susceptibility to (3)	Metabolic
miR-122	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-122	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-122	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-122	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-122	TP53	7157	Histiocytoma (3)	Cancer
miR-122	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-122	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-122	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer
miR-122	TP53	7157	Osteosarcoma (3)	Cancer
miR-122	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-122	TP53	7157	Thyroid carcinoma (3)	Cancer
miR-124	Impdh1	3614	Retinitis pigmentosa-10, 180105 (3)	Ophthalmological
miR-124	NR3C2	4306	Hypertension, early-onset, autosomal dominant, with exacerbation in pregnancy, 605115 (3)	Cardiovascular
miR-124	NR3C2	4306	Pseudohypoaldosteronism type I, autosomal dominant, 177735 (3)	Endocrine
miR-124a	GLI3	2737	Acrocallosal syndrome, 200990 (3)	multiple
miR-124a	GLI3	2737	Greig cephalopolysyndactyly syndrome, 175700 (3)	Skeletal
miR-124a	GLI3	2737	Pallister-Hall syndrome, 146510 (3)	multiple
miR-124a	GLI3	2737	Polydactyly, postaxial, types A1 and B, 174200 (3)	Skeletal
miR-124a	GLI3	2737	Polydactyly, preaxial, type IV, 174700 (3)	Skeletal
miR-124a	IL1B	3553	Gastric cancer risk after H. pylori infection, 137215 (3)	Cancer
miR-124a	NEUROD1	4760	Diabetes mellitus, noninsulin-dependent, 125853 (3)	Endocrine
miR-124a	RAB27A	5873	Griscelli syndrome, type 2, 607624 (3)	Dermatological
miR-124a	SYN1	24949	Epilepsy, X-linked, with variable learning disabilities and behavior disorders, 300491 (3)	Neurological
miR-124a2	ABCC8	6833	Diabetes mellitus, 125853 (3)	Endocrine
miR-124a2	ABCC8	6833	Hypoglycemia of infancy, leucine-sensitive, 240800 (3)	Metabolic
miR-124a2	ABCC8	6833	Hypoglycemia of infancy, persistent hyperinsulinemic, 256450 (3)	Metabolic
miR-124a2	KCNJ11	3767	Diabetes mellitus, permanent neonatal, with neurologic features, 606176 (3)	Endocrine
miR-124a2	KCNJ11	3767	Diabetes, permanent neonatal, 606176 (3)	Endocrine
miR-124a2	KCNJ11	3767	Persistent hyperinsulinemic hypoglycemia of infancy, 256450 (3)	Metabolic
miR-124A2	MMP2	4313	Osteolysis, idiopathic, Saudi type, 605156 (3)	Bone
miR-125a	ERBB2	2064	Adenocarcinoma of lung, somatic, 211980 (3)	Cancer
miR-125a	ERBB2	2064	Gastric cancer, somatic, 137215 (3)	Cancer
miR-125a	ERBB2	2064	Glioblastoma, somatic, 137800 (3)	Cancer
miR-125a	ERBB2	2064	Ovarian cancer, somatic, (3)	Cancer
miR-125b	BMPR1B	658	Brachydactyly, type A2, 112600 (3)	Skeletal
miR-125b	CYP27B1	1594	Pseudovitamin D deficiency rickets 1 (3)	Bone
miR-125b	ERBB2	2064	Adenocarcinoma of lung, somatic, 211980 (3)	Cancer
miR-125b	ERBB2	2064	Gastric cancer, somatic, 137215 (3)	Cancer

miR-125b	ERBB2	2064	Glioblastoma, somatic, 137800 (3)	Cancer
miR-125b	ERBB2	2064	Ovarian cancer, somatic, (3)	Cancer
miR-125b	IRF4	3662	Multiple myeloma (3)	Cancer
miR-125b	SMO	6608	Basal cell carcinoma, sporadic (3)	Cancer
miR-125b	TNFSF4	7292	Myocardial infarction, susceptibility to, 608446 (3)	Cardiovascular
miR-125b	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-125b	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-125b	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-125b	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-125b	TP53	7157	Histiocytoma (3)	Cancer
miR-125b	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-125b	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-125b	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer
miR-125b	TP53	7157	Osteosarcoma (3)	Cancer
miR-125b	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-125b	TP53	7157	Thyroid carcinoma (3)	Cancer
miR-126	CXCL12	6387	AIDS, resistance to (3)	Immunological
miR-126	IRS1	3667	Diabetes mellitus, noninsulin-dependent (3)	Endocrine
miR-127	NR0B2	8431	Obesity, mild, early-onset, 601665 (3)	Nutritional
miR-127	XBP1	7494	Bipolar disorder, susceptibility to, 125480 (3)	Psychiatric
miR-128	DCX	1641	Lissencephaly, X-linked, 300067 (3)	Neurological
miR-128	DCX	1641	Subcortical laminal heteropia, X-linked, 300067 (3)	Neurological
miR-128	RELN	5649	Lissencephaly syndrome, Norman-Roberts type, 257320 (3)	Neurological
miR-128b	EGFR	1956	Adenocarcinoma of lung, response to tyrosine kinase inhibitor in, 211980 (3)	Cancer
miR-128b	EGFR	1956	Nonsmall cell lung cancer, response to tyrosine kinase inhibitor in, 211980 (3)	Cancer
miR-128b	MITF	4286	Tietz syndrome, 103500 (3)	multiple
miR-128b	MITF	4286	Waardenburg syndrome, type IIA, 193510 (3)	multiple
miR-128b	MITF	4286	Waardenburg syndrome/ocular albinism, digenic, 103470 (3)	multiple
miR-13	HID	2706	Bart-Pumphrey syndrome, 149200 (3)	multiple
miR-13	HID	2706	Deafness, autosomal dominant 3, 601544 (3)	Ear,Nose,Throat
miR-13	HID	2706	Deafness, autosomal recessive 1, 220290 (3)	Ear,Nose,Throat
miR-13	HID	2706	Hystrix-like ichthyosis with deafness, 602540 (3)	multiple
miR-13	HID	2706	Keratitis-ichthyosis-deafness syndrome, 148210 (3)	multiple
miR-13	HID	2706	Keratoderma, palmoplantar, with deafness, 148350 (3)	Dermatological
miR-13	HID	2706	Vohwinkel syndrome, 124500 (3)	multiple
miR-130	ATXN1	6310	Spinocerebellar ataxia-1, 164400 (3)	Neurological
miR-130a	ZFPM2	24314	Tetralogy of Fallot, 187500 (3)	Cardiovascular
miR-130b	MECP2	4204	Angelman syndrome, 105830 (3)	Developmental
miR-130b	MECP2	4204	Autism, X-linked, 300425 (3)	Psychiatric
miR-130b	MECP2	4204	Mental retardation, X-linked, 300458 (3)	Neurological
miR-130b	MECP2	4204	Mental retardation, X-linked, with progressive spasticity, 300279 (3)	Neurological
miR-130b	MECP2	4204	PPM-X syndrome, 300055 (3)	Neurological
miR-130b	MECP2	4204	Rett syndrome, 312750 (3)	Neurological
miR-130b	MECP2	4204	Rett syndrome, preserved speech variant, 312750 (3)	Neurological

miR-132	ACHE	43	Blood group, Yt system, 112100 (3)	Hematological
miR-132	BDNF	627	Central hypoventilation syndrome, congenital, 209880 (3)	Respiratory
miR-132	BDNF	627	Memory impairment, susceptibility to (3)	Neurological
miR-132	BDNF	627	Obsessive-compulsive disorder, protection against, 164230 (3)	Psychiatric
miR-132	MECP2	4204	Angelman syndrome, 105830 (3)	Developmental
miR-132	MECP2	4204	Autism, X-linked, 300425 (3)	Psychiatric
miR-132	MECP2	4204	Mental retardation, X-linked, 300458 (3)	Neurological
miR-132	MECP2	4204	Mental retardation, X-linked, with progressive spasticity, 300279 (3)	Neurological
miR-132	MECP2	4204	PPM-X syndrome, 300055 (3)	Neurological
miR-132	MECP2	4204	Rett syndrome, 312750 (3)	Neurological
miR-132	MECP2	4204	Rett syndrome, preserved speech variant, 312750 (3)	Neurological
miR-133	CACNA1C	775	Timothy syndrome, 601005 (3)	multiple
miR-133	FGFR2	2263	Apert syndrome, 101200 (3)	Connective tissue
miR-133	FGFR2	2263	Beare-Stevenson cutis gyrata syndrome, 123790 (3)	multiple
miR-133	FGFR2	2263	Craniofacial-skeletal-dermatologic dysplasia (3)	multiple
miR-133	FGFR2	2263	Craniosynostosis, nonspecific (3)	Skeletal
miR-133	FGFR2	2263	Crouzon syndrome, 123500 (3)	Skeletal
miR-133	FGFR2	2263	Gastric cancer, somatic, 137215 (3)	Cancer
miR-133	FGFR2	2263	Jackson-Weiss syndrome, 123150 (3)	Skeletal
miR-133	FGFR2	2263	Pfeiffer syndrome, 101600 (3)	Skeletal
miR-133	FGFR2	2263	Saethre-Chotzen syndrome, 101400 (3)	Developmental
miR-133	KCNE1	3753	Jervell and Lange-Nielsen syndrome, 220400 (3)	multiple
miR-133	KCNE1	3753	Long QT syndrome-5 (3)	Cardiovascular
miR-133	KCNH2	3757	Acquired long QT syndrome, susceptibility to (3)	Cardiovascular
miR-133	KCNH2	3757	Long QT syndrome-2 (3)	Cardiovascular
miR-133	KCNQ1	3784	Atrial fibrillation, familial, 607554 (3)	Cardiovascular
miR-133	KCNQ1	3784	Jervell and Lange-Nielsen syndrome, 220400 (3)	multiple
miR-133	KCNQ1	3784	Long QT syndrome-1, 192500 (3)	Cardiovascular
miR-133	RUNX2	860	Cleidocranial dysplasia, 119600 (3)	Skeletal
miR-133	RUNX2	860	Dental anomalies, isolated (3)	Skeletal
miR-133	SLC2A4	6517	Diabetes mellitus, noninsulin-dependent (3)	Endocrine
miR-133	TGFB1	7040	Camurati-Engelmann disease, 131300 (3)	Skeletal
miR-133	TGFBR2	7048	Colon cancer (3)	Cancer
miR-133	TGFBR2	7048	Colorectal cancer, hereditary nonpolyposis, type 6 (3)	Cancer
miR-133	TGFBR2	7048	Esophageal cancer, 133239 (3)	Cancer
miR-133	TGFBR2	7048	Loeys-Dietz syndrome, 609192 (3)	Connective tissue
miR-133a	KCNQ1	3784	Atrial fibrillation, familial, 607554 (3)	Cardiovascular
miR-133a	KCNQ1	3784	Jervell and Lange-Nielsen syndrome, 220400 (3)	multiple
miR-133a	KCNQ1	3784	Long QT syndrome-1, 192500 (3)	Cardiovascular
miR-133a	UCP2	7351	Obesity, susceptibility to, 601665 (3)	Nutritional
miR-133b	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-133b	IGF1R	3480	Intrauterine and postnatal growth retardation (3)	Developmental
miR-133b	KCNQ1	3784	Atrial fibrillation, familial, 607554 (3)	Cardiovascular

miR-133b	KCNQ1	3784	Jervell and Lange-Nielsen syndrome, 220400 (3)	multiple
miR-133b	KCNQ1	3784	Long QT syndrome-1, 192500 (3)	Cardiovascular
miR-133b	PITX3	5309	Anterior segment mesenchymal dysgenesis and cataract, 107250 (3)	Ophthalmological
miR-133b	PITX3	5309	Cataract, congenital (3)	Ophthalmological
miR-135a	NR3C2	4306	Hypertension, early-onset, autosomal dominant, with exacerbation in pregnancy, 605115 (3)	Cardiovascular
miR-135a	NR3C2	4306	Pseudohypoaldosteronism type I, autosomal dominant, 177735 (3)	Endocrine
miR-137	MITF	4286	Tietz syndrome, 103500 (3)	multiple
miR-137	MITF	4286	Waardenburg syndrome, type IIA, 193510 (3)	multiple
miR-137	MITF	4286	Waardenburg syndrome/ocular albinism, digenic, 103470 (3)	multiple
miR-138	ABCB1	5243	Colchicine resistance (3)	Unclassified
miR-138	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-138	TERT	7015	Aplastic anemia, susceptibility to, 609135 (3)	Hematological
miR-140	DKC1	1736	Dyskeratosis congenita-1, 305000 (3)	Dermatological
miR-140	DKC1	1736	Hoyeraal-Hreidarsson syndrome, 300240 (3)	multiple
miR-140	PDGFRA	5156	Gastrointestinal stromal tumor, somatic, 606764 (3)	Cancer
miR-140	PDGFRA	5156	Hypereosinophilic syndrome, idiopathic, resistant to imatinib, 607685 (3)	Hematological
miR-141	CDH1	999	Breast cancer, lobular (3)	Cancer
miR-141	CDH1	999	Endometrial carcinoma (3)	Cancer
miR-141	CDH1	999	Gastric cancer, familial diffuse, 137215 (3)	Cancer
miR-141	CDH1	999	Listeria monocytogenes, susceptibility to (3)	Immunological
miR-141	CDH1	999	Ovarian carcinoma (3)	Cancer
miR-141	SIP1	8487	Mowat-Wilson syndrome, 235730 (3)	Developmental
miR-143	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-143	HRAS	3265	Bladder cancer, somatic, 109800 (3)	Cancer
miR-143	HRAS	3265	Costello syndrome, 218040 (3)	multiple
miR-143	HRAS	3265	Thyroid carcinoma, follicular, somatic, 188470 (3)	Cancer
miR-145	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-145	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-145	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-145	IGF1R	3480	Intrauterine and postnatal growth retardation (3)	Developmental
miR-145	IRS1	3667	Diabetes mellitus, noninsulin-dependent (3)	Endocrine
miR-145	MYC	4609	Burkitt lymphoma, 113970 (3)	Cancer
miR-145	Sox2	6657	Anophthalmia 3, 206900 (3)	Ophthalmological
miR-146	TNF	7124	Asthma, susceptibility to, 600807 (3)	Respiratory
miR-146	TNF	7124	Dementia, vascular, susceptibility to (3)	Neurological
miR-146	TNF	7124	Malaria, cerebral, susceptibility to (3)	Immunological
miR-146	TNF	7124	Migraine without aura, susceptibility to, 157300 (3)	Neurological
miR-146	TNF	7124	Septic shock, susceptibility to (3)	Immunological
miR-146a	BRCA1	672	Breast cancer-1 (3)	Cancer
miR-146a	BRCA1	672	Breast-ovarian cancer (3)	Cancer
miR-146a	BRCA1	672	Ovarian cancer (3)	Cancer
miR-146a	BRCA1	672	Papillary serous carcinoma of the	Cancer

miR-146a	BRCA2	675	peritoneum (3)	
miR-146a	BRCA2	675	Breast cancer 2, early onset (3)	Cancer
			Breast cancer, male, susceptibility to, 114480 (3)	Cancer
miR-146a	BRCA2	675	Fanconi anemia, complementation group D1, 605724 (3)	multiple
miR-146a	BRCA2	675	Pancreatic cancer, 260350 (3)	Cancer
miR-146a	BRCA2	675	Prostate cancer, 176807 (3)	Cancer
miR-146a	BRCA2	675	Wilms tumor, 194070 (3)	Cancer
miR-146a	CCL5	6352	HIV-1 disease, delayed progression of (3)	Immunological
miR-146a	CCL5	6352	HIV-1 disease, rapid progression of (3)	Immunological
miR-146a	CFH	3075	Factor H and factor H-like 1 (3)	Hematological
miR-146a	CFH	3075	Hemolytic-uremic syndrome, 235400 (3)	Hematological
miR-146a	CFH	3075	Macular degeneration, age-related, 1, 603075 (3)	Ophthalmological
miR-146a	CFH	3075	Nephropathy, chronic hypocomplementemic (3)	Renal
miR-146a	CXCR4	7852	Myelokathexis, isolated (3)	Immunological
miR-146a	CXCR4	7852	WHIM syndrome, 193670 (3)	Immunological
miR-146a	EGFR	1956	Adenocarcinoma of lung, response to tyrosine kinase inhibitor in, 211980 (3)	Cancer
miR-146a	EGFR	1956	Nonsmall cell lung cancer, response to tyrosine kinase inhibitor in, 211980 (3)	Cancer
miR-146a	IL1B	3553	Gastric cancer risk after H. pylori infection, 137215 (3)	Cancer
miR-146a	STAT1	6772	Mycobacterial infection, atypical, familial disseminated, 209950 (3)	Immunological
miR-146a	STAT1	6772	STAT1 deficiency, complete (3)	Unclassified
miR-146a	TNF	7124	Asthma, susceptibility to, 600807 (3)	Respiratory
miR-146a	TNF	7124	Dementia, vascular, susceptibility to (3)	Neurological
miR-146a	TNF	7124	Malaria, cerebral, susceptibility to (3)	Immunological
miR-146a	TNF	7124	Migraine without aura, susceptibility to, 157300 (3)	Neurological
miR-146a	TNF	7124	Septic shock, susceptibility to (3)	Immunological
miR-146b	CCL5	6352	HIV-1 disease, delayed progression of (3)	Immunological
miR-146b	CCL5	6352	HIV-1 disease, rapid progression of (3)	Immunological
miR-146b	EGFR	1956	Adenocarcinoma of lung, response to tyrosine kinase inhibitor in, 211980 (3)	Cancer
miR-146b	EGFR	1956	Nonsmall cell lung cancer, response to tyrosine kinase inhibitor in, 211980 (3)	Cancer
miR-148	DNMT3B	1789	Immunodeficiency-centromeric instability-facial anomalies syndrome, 242860 (3)	multiple
miR-15	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-15	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-15	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-15	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-15	CTNNB1	1499	Colorectal cancer (3)	Cancer
miR-15	CTNNB1	1499	Hepatoblastoma (3)	Cancer
miR-15	CTNNB1	1499	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-15	CTNNB1	1499	Ovarian carcinoma, endometrioid type (3)	Cancer
miR-15	CTNNB1	1499	Pilomatricoma, 132600 (3)	Cancer
miR-150	P2RX7	5027	Leukemia, chronic lymphatic, susceptibility to, 151400 (3)	Cancer
miR-151	DKC1	1736	Dyskeratosis congenita-1, 305000 (3)	Dermatological

miR-151	DKC1	1736	Hoyeraal-Hreidarsson syndrome, 300240 (3)	multiple
miR-153	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-155	AGT	183	Hypertension, essential, susceptibility to, 145500 (3)	Cardiovascular
miR-155	AGT	183	Preeclampsia, susceptibility to (3)	Cardiovascular
miR-155	AGT	183	Renal tubular dysgenesis, 267430 (3)	Renal
miR-155	AGTR1	185	Hypertension, essential, 145500 (3)	Cardiovascular
miR-155	AGTR1	185	Renal tubular dysgenesis, 267430 (3)	Renal
miR-155	AICDA	57379	Immunodeficiency with hyper-IgM, type 2, 605258 (3)	Immunological
miR-155	APC	324	Adenoma, periampullary (3)	Cancer
miR-155	APC	324	Adenomatous polyposis coli (3)	Cancer
miR-155	APC	324	Adenomatous polyposis coli, attenuated (3)	Cancer
miR-155	APC	324	Colorectal cancer (3)	Cancer
miR-155	APC	324	Desmoid disease, hereditary, 135290 (3)	Cancer
miR-155	APC	324	Gardner syndrome (3)	Cancer
miR-155	APC	324	Gastric cancer, 137215 (3)	Cancer
miR-155	APC	324	Turcot syndrome, 276300 (3)	Cancer
miR-155	BACH1	571	Breast cancer, early-onset, 114480 (3)	Cancer
miR-155	BACH1	571	Fanconi anemia, complementation group J, 609054 (3)	multiple
miR-155	CD209	30835	Dengue fever, protection against (3)	Immunological
miR-155	IFNG	3458	AIDS, rapid progression to, 609423 (3)	Immunological
miR-155	IFNG	3458	Aplastic anemia, 609135 (3)	Hematological
miR-155	IFNG	3458	TSC2 angiomyolipomas, renal, modifier of, 191100 (3)	multiple
miR-155	IFNG	3458	Tuberculosis, susceptibility to, 607948 (3)	Respiratory
miR-155	MMP3	4314	Coronary heart disease, susceptibility to (3)	Cardiovascular
miR-155	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-155	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-155	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-155	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-155	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-155	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-155	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-155	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-155	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-155	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-155	TGFB1	7040	Camurati-Engelmann disease, 131300 (3)	Skeletal
miR-155	TNF	7124	Asthma, susceptibility to, 600807 (3)	Respiratory
miR-155	TNF	7124	Dementia, vascular, susceptibility to (3)	Neurological
miR-155	TNF	7124	Malaria, cerebral, susceptibility to (3)	Immunological
miR-155	TNF	7124	Migraine without aura, susceptibility to, 157300 (3)	Neurological
miR-155	TNF	7124	Septic shock, susceptibility to (3)	Immunological
miR-155	ZIC3	7547	Heterotaxy, X-linked visceral, 306955 (3)	multiple
miR-15a	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-15a	BDNF	627	Central hypoventilation syndrome, congenital, 209880 (3)	Respiratory
miR-15a	BDNF	627	Memory impairment, susceptibility to	Neurological

miR-15a	BDNF	627	(3) Obsessive-compulsive disorder, protection against, 164230 (3)	Psychiatric
miR-15a	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-15a	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-15a	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-15a	HRAS	3265	Bladder cancer, somatic, 109800 (3)	Cancer
miR-15a	HRAS	3265	Costello syndrome, 218040 (3)	multiple
miR-15a	HRAS	3265	Thyroid carcinoma, follicular, somatic, 188470 (3)	Cancer
miR-15a	PRKCA	5578	Pituitary tumor, invasive (3)	Cancer
miR-15b	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-15b	casp8	841	Autoimmune lymphoproliferative syndrome, type IIB, 607271 (3)	Immunological
miR-15b	casp8	841	Hepatocellular carcinoma, somatic, 114550 (3)	Cancer
miR-16	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-16	casp8	841	Autoimmune lymphoproliferative syndrome, type IIB, 607271 (3)	Immunological
miR-16	casp8	841	Hepatocellular carcinoma, somatic, 114550 (3)	Cancer
miR-16	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-16	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-16	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-16	CTNNB1	1499	Colorectal cancer (3)	Cancer
miR-16	CTNNB1	1499	Hepatoblastoma (3)	Cancer
miR-16	CTNNB1	1499	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-16	CTNNB1	1499	Ovarian carcinoma, endometrioid type (3)	Cancer
miR-16	CTNNB1	1499	Pilomatricoma, 132600 (3)	Cancer
miR-16-1	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-16-1	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-16-1	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-16-1	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-16-1	HRAS	3265	Bladder cancer, somatic, 109800 (3)	Cancer
miR-16-1	HRAS	3265	Costello syndrome, 218040 (3)	multiple
miR-16-1	HRAS	3265	Thyroid carcinoma, follicular, somatic, 188470 (3)	Cancer
miR-17	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-17	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-17	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-17	CDH1	999	Breast cancer, lobular (3)	Cancer
miR-17	CDH1	999	Endometrial carcinoma (3)	Cancer
miR-17	CDH1	999	Gastric cancer, familial diffuse, 137215 (3)	Cancer
miR-17	CDH1	999	Listeria monocytogenes, susceptibility to (3)	Immunological
miR-17	CDH1	999	Ovarian carcinoma (3)	Cancer
miR-17	PKD2	5311	Polycystic kidney disease, adult, type II (3)	Renal
miR-17- 19b-1	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-17-5p	APC	324	Adenoma, periampullary (3)	Cancer
miR-17-5p	APC	324	Adenomatous polyposis coli (3)	Cancer

miR-17-5p	APC	324	Adenomatous polyposis coli, attenuated (3)	Cancer
miR-17-5p	APC	324	Colorectal cancer (3)	Cancer
miR-17-5p	APC	324	Desmoid disease, hereditary, 135290 (3)	Cancer
miR-17-5p	APC	324	Gardner syndrome (3)	Cancer
miR-17-5p	APC	324	Gastric cancer, 137215 (3)	Cancer
miR-17-5p	APC	324	Turcot syndrome, 276300 (3)	Cancer
miR-17-5p	APP	351	Alzheimer disease-1, APP-related (3)	Neurological
miR-17-5p	APP	351	Amyloidosis, cerebroarterial, Dutch type (3)	Neurological
miR-17-5p	APP	351	Schizophrenia, chronic (3)	Psychiatric
miR-17-5p	BMPR2	659	Pulmonary hypertension, familial primary, 178600 (3)	Cardiovascular
miR-17-5p	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-17-5p	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-17-5p	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-17-5p	RUNX1	861	Leukemia, acute myeloid, 601626 (3)	Cancer
miR-17-5p	RUNX1	861	Platelet disorder, familial, with associated myeloid malignancy, 601399 (3)	Hematological
miR-17-5p	RUNX1	861	Rheumatoid arthritis, susceptibility to, 180300 (3)	Connective tissue
miR-17-5p	TGFB1	7040	Camurati-Engelmann disease, 131300 (3)	Skeletal
miR-17-92	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-17-92	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-17-92	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-17-92	CDKN1C	1028	Beckwith-Wiedemann syndrome, 130650 (3)	multiple
miR-17-92	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-17-92	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-17-92	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-17-92	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-17-92	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-17-92	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-17-92	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-17-92	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-17-92	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-17-92	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-17-92	TGFB1	7040	Camurati-Engelmann disease, 131300 (3)	Skeletal
miR-17-92	TGFBR2	7048	Colon cancer (3)	Cancer
miR-17-92	TGFBR2	7048	Colorectal cancer, hereditary nonpolyposis, type 6 (3)	Cancer
miR-17-92	TGFBR2	7048	Esophageal cancer, 133239 (3)	Cancer
miR-17-92	TGFBR2	7048	Loeys-Dietz syndrome, 609192 (3)	Connective tissue
miR-17-92	SHH	6469	Coloboma, ocular, 120200 (3)	ophthamological
miR-17-92	SHH	6469	Holoprosencephaly-3, 142945 (3)	Developmental
miR-17-92	SHH	6469	Solitary median maxillary central incisor, 147250 (3)	Skeletal
miR-181	CTNNB1	1499	Colorectal cancer (3)	Cancer
miR-181	CTNNB1	1499	Hepatoblastoma (3)	Cancer

miR-181	CTNNB1	1499	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-181	CTNNB1	1499	Ovarian carcinoma, endometrioid type (3)	Cancer
miR-181	CTNNB1	1499	Pilomatricoma, 132600 (3)	Cancer
miR-181	HOXA11	3207	Radioulnar synostosis with amegakaryocytic thrombocytopenia, 605432 (3)	multiple
miR-181	TIMP3	7078	Sorsby fundus dystrophy, 136900 (3)	Ophthalmological
miR-181a	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-181a	HOXA11	3207	Radioulnar synostosis with amegakaryocytic thrombocytopenia, 605432 (3)	multiple
miR-181a	TCRA	21473	Leukemia/lymphoma, T-cell (3)	Cancer
miR-181b	AICDA	57379	Immunodeficiency with hyper-IgM, type 2, 605258 (3)	Immunological
miR-181b	TIMP3	7078	Sorsby fundus dystrophy, 136900 (3)	Ophthalmological
miR-182	MITF	4286	Tietz syndrome, 103500 (3)	multiple
miR-182	MITF	4286	Waardenburg syndrome, type IIA, 193510 (3)	multiple
miR-182	MITF	4286	Waardenburg syndrome/ocular albinism, digenic, 103470 (3)	multiple
miR-184	KRT10	3858	Epidermolytic hyperkeratosis, 113800 (3)	Dermatological
miR-184	KRT10	3858	Ichthyosis, cyclic, with epidermolytic hyperkeratosis, 607602 (3)	Dermatological
miR-184	KRT10	3858	Nevus, epidermal, epidermolytic hyperkeratotic type, 600648 (3)	Dermatological
miR-184	MECP2	4204	Angelman syndrome, 105830 (3)	Developmental
miR-184	MECP2	4204	Autism, X-linked, 300425 (3)	Psychiatric
miR-184	MECP2	4204	Mental retardation, X-linked, 300458 (3)	Neurological
miR-184	MECP2	4204	Mental retardation, X-linked, with progressive spasticity, 300279 (3)	Neurological
miR-184	MECP2	4204	PPM-X syndrome, 300055 (3)	Neurological
miR-184	MECP2	4204	Rett syndrome, 312750 (3)	Neurological
miR-184	MECP2	4204	Rett syndrome, preserved speech variant, 312750 (3)	Neurological
miR-186	P2RX7	5027	Leukemia, chronic lymphatic, susceptibility to, 151400 (3)	Cancer
miR-18a	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-18a	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-18a	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-18a	RUNX1	861	Leukemia, acute myeloid, 601626 (3)	Cancer
miR-18a	RUNX1	861	Platelet disorder, familial, with associated myeloid malignancy, 601399 (3)	Hematological
miR-18a	RUNX1	861	Rheumatoid arthritis, susceptibility to, 180300 (3)	Connective tissue
miR-18a*	GBA	2629	Gaucher disease with cardiovascular calcification, 231005 (3)	Metabolic
miR-18a*	GBA	2629	Gaucher disease, 230800 (3)	Metabolic
miR-18a*	HRAS	3265	Bladder cancer, somatic, 109800 (3)	Cancer
miR-18a*	HRAS	3265	Costello syndrome, 218040 (3)	multiple
miR-18a*	HRAS	3265	Thyroid carcinoma, follicular, somatic, 188470 (3)	Cancer
miR-18b	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-18b	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-18b	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-19	ATXN1	6310	Spinocerebellar ataxia-1, 164400 (3)	Neurological
miR-19	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome,	Unclassified

miR-19	PTEN	5728	153480 (3) Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-19	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-19	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-19	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-19	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-19	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-19	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-19	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-19	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-190	NEUROD1	4760	Diabetes mellitus, noninsulin-dependent, 125853 (3)	Endocrine
miR-192	SIP1	8487	Mowat-Wilson syndrome, 235730 (3)	Developmental
miR-192	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-192	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-192	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-192	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-192	TP53	7157	Histiocytoma (3)	Cancer
miR-192	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-192	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-192	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer
miR-192	TP53	7157	Osteosarcoma (3)	Cancer
miR-192	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-192	TP53	7157	Thyroid carcinoma (3)	Cancer
miR-193b	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-193b	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-193b	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-193b	PLG	5340	Conjunctivitis, ligneous, 217090 (3)	Ophthalmological
miR-193b	PLG	5340	Plasminogen Tochigi disease (3)	Hematological
miR-194	MECP2	4204	Angelman syndrome, 105830 (3)	Developmental
miR-194	MECP2	4204	Autism, X-linked, 300425 (3)	Psychiatric
miR-194	MECP2	4204	Mental retardation, X-linked, 300458 (3)	Neurological
miR-194	MECP2	4204	Mental retardation, X-linked, with progressive spasticity, 300279 (3)	Neurological
miR-194	MECP2	4204	PPM-X syndrome, 300055 (3)	Neurological
miR-194	MECP2	4204	Rett syndrome, 312750 (3)	Neurological
miR-194	MECP2	4204	Rett syndrome, preserved speech variant, 312750 (3)	Neurological
miR-195	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-195	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-195	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-195	RB1	5925	Bladder cancer, 109800 (3)	Cancer
miR-195	RB1	5925	Retinoblastoma (3)	Cancer
miR-196	MSX2	4488	Craniosynostosis, type 2, 604757 (3)	Skeletal
miR-196	MSX2	4488	Parietal foramina 1, 168500 (3)	Skeletal
miR-196	MSX2	4488	Parietal foramina with cleidocranial dysplasia, 168550 (3)	Skeletal
miR-196	PAX7	5081	Rhabdomyosarcoma, alveolar, 268220 (3)	Cancer
miR-196a	KRT5	3852	Epidermolysis bullosa simplex with mottled pigmentation, 131960 (3)	Dermatological
miR-196a	KRT5	3852	Epidermolysis bullosa simplex with mottled pigmentation, 131960 (3)	Dermatological
miR-196a	KRT5	3852	Epidermolysis bullosa simplex,	Dermatological

miR-196a	KRT5		Koebner, Dowling-Meara, and Weber-Cockayne types, 131900, 131760, 131800 (3)	Dermatological
miR-199a*	MET	4233	Epidermolysis bullosa simplex, Koebner, Dowling-Meara, and Weber-Cockayne types, 131900, 131760, 131800 (3)	Cancer
miR-199a*	MET	4233	Hepatocellular carcinoma, childhood type, 114550 (3)	Cancer
miR-199a*	RUNX1	861	Renal cell carcinoma, papillary, familial and sporadic, 605074 (3)	Cancer
miR-199a*	RUNX1	861	Leukemia, acute myeloid, 601626 (3)	Hematological
miR-199a*	RUNX1	861	Platelet disorder, familial, with associated myeloid malignancy, 601399 (3)	Connective tissue
miR-199a*	SMAD1	4086	Rheumatoid arthritis, susceptibility to, 180300 (3)	Neurological
miR-199a*	SMAD1	4086	Charcot-Marie-Tooth disease, type 2D, 601472 (3)	Muscular
miR-199a*	SMAD4	4089	Spinal muscular atrophy, distal, type V, 600794 (3)	Cancer
miR-199a*	SMAD4	4089	Juvenile polyposis/hereditary hemorrhagic telangiectasia syndrome, 175050 (3)	Cancer
miR-199a*	SMAD4	4089	Pancreatic cancer (3)	Cancer
miR-199a*	SMAD4	4089	Polyposis, juvenile intestinal, 174900 (3)	Cancer
miR-19a	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-19a	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-19a	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-19a	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-19a	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-19a	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-19a	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-19a	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-19a	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-19a	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-19b	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-19b	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-19b	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-2	HID	2706	Bart-Pumphrey syndrome, 149200 (3)	multiple
miR-2	HID	2706	Deafness, autosomal dominant 3, 601544 (3)	Ear,Nose,Throat
miR-2	HID	2706	Deafness, autosomal recessive 1, 220290 (3)	Ear,Nose,Throat
miR-2	HID	2706	Hystrix-like ichthyosis with deafness, 602540 (3)	multiple
miR-2	HID	2706	Keratitis-ichthyosis-deafness syndrome, 148210 (3)	multiple
miR-2	HID	2706	Keratoderma, palmoplantar, with deafness, 148350 (3)	Dermatological
miR-2	HID	2706	Vohwinkel syndrome, 124500 (3)	multiple
miR-20	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-20	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-20	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer

miR-200	CDH1	999	Breast cancer, lobular (3)	Cancer
miR-200	CDH1	999	Endometrial carcinoma (3)	Cancer
miR-200	CDH1	999	Gastric cancer, familial diffuse, 137215 (3)	Cancer
miR-200	CDH1	999	Listeria monocytogenes, susceptibility to (3)	Immunological
miR-200	CDH1	999	Ovarian carcinoma (3)	Cancer
miR-200	SNAI2	6591	Waardenburg syndrome, typ IID, 608890 (3)	multiple
miR-200	ZFPM2	24314	Tetralogy of Fallot, 187500 (3)	Cardiovascular
miR-200a	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-200a	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-200a	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-200a	CDH1	999	Breast cancer, lobular (3)	Cancer
miR-200a	CDH1	999	Endometrial carcinoma (3)	Cancer
miR-200a	CDH1	999	Gastric cancer, familial diffuse, 137215 (3)	Cancer
miR-200a	CDH1	999	Listeria monocytogenes, susceptibility to (3)	Immunological
miR-200a	CDH1	999	Ovarian carcinoma (3)	Cancer
miR-200a	CTNNB1	1499	Colorectal cancer (3)	Cancer
miR-200a	CTNNB1	1499	Hepatoblastoma (3)	Cancer
miR-200a	CTNNB1	1499	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-200a	CTNNB1	1499	Ovarian carcinoma, endometrioid type (3)	Cancer
miR-200a	CTNNB1	1499	Pilomatricoma, 132600 (3)	Cancer
miR-200a	SIP1	8487	Mowat-Wilson syndrome, 235730 (3)	Developmental
miR-200b	SNAI2	6591	Waardenburg syndrome, typ IID, 608890 (3)	multiple
miR-200c	CDH1	999	Breast cancer, lobular (3)	Cancer
miR-200c	CDH1	999	Endometrial carcinoma (3)	Cancer
miR-200c	CDH1	999	Gastric cancer, familial diffuse, 137215 (3)	Cancer
miR-200c	CDH1	999	Listeria monocytogenes, susceptibility to (3)	Immunological
miR-200c	CDH1	999	Ovarian carcinoma (3)	Cancer
miR-200c	TRPS1	7227	Trichorhinophalangeal syndrome, type I, 190350 (3)	Developmental
miR-200c	TRPS1	7227	Trichorhinophalangeal syndrome, type III, 190351 (3)	Developmental
miR-203	ABL1	25	Leukemia, Philadelphia chromosome-positive, resistant to imatinib (3)	Cancer
miR-204	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-204	RUNX2	860	Cleidocranial dysplasia, 119600 (3)	Skeletal
miR-204	RUNX2	860	Dental anomalies, isolated (3)	Skeletal
miR-206	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-206	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-206	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-206	GJA1	2697	Atrioventricular septal defect, 600309 (3)	Cardiovascular
miR-206	GJA1	2697	Hypoplastic left heart syndrome, 241550 (3)	Cardiovascular
miR-206	GJA1	2697	Oculodentodigital dysplasia, 164200 (3)	Skeletal
miR-206	GJA1	2697	Syndactyly, type III, 186100 (3)	Skeletal
miR-206	IGF1	3479	Growth retardation with deafness and mental retardation due to IGF1 deficiency, 608747 (3)	Developmental
miR-206	mstn	2660	Muscle hypertrophy (3)	Muscular

miR-206	NOTCH3	4854	Cerebral arteriopathy with subcortical infarcts and leukoencephalopathy, 125310 (3)	Cardiovascular
miR-206	SRA1	10011	Acampomelic campoplelic dysplasia, 114290 (3)	Skeletal
miR-206	SRA1	10011	Campomelic dysplasia with autosomal sex reversal, 114290 (3)	Skeletal
miR-206	SRA1	10011	Campomelic dysplasia, 114290 (3)	Skeletal
miR-208b	GDF8	2660	Muscle hypertrophy (3)	Muscular
miR-20a	APP	351	Alzheimer disease-1, APP-related (3)	Neurological
miR-20a	APP	351	Amyloidosis, cerebroarterial, Dutch type (3)	Neurological
miR-20a	APP	351	Schizophrenia, chronic (3)	Psychiatric
miR-20a	BMPR2	659	Pulmonary hypertension, familial primary, 178600 (3)	Cardiovascular
miR-20a	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-20a	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-20a	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-20a	CDH1	999	Breast cancer, lobular (3)	Cancer
miR-20a	CDH1	999	Endometrial carcinoma (3)	Cancer
miR-20a	CDH1	999	Gastric cancer, familial diffuse, 137215 (3)	Cancer
miR-20a	CDH1	999	Listeria monocytogenes, susceptibility to (3)	Immunological
miR-20a	CDH1	999	Ovarian carcinoma (3)	Cancer
miR-20a	RUNX1	861	Leukemia, acute myeloid, 601626 (3)	Cancer
miR-20a	RUNX1	861	Platelet disorder, familial, with associated myeloid malignancy, 601399 (3)	Hematological
miR-20a	RUNX1	861	Rheumatoid arthritis, susceptibility to, 180300 (3)	Connective tissue
miR-20b	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-20b	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-20b	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-21	APC	324	Adenoma, periampullary (3)	Cancer
miR-21	APC	324	Adenomatous polyposis coli (3)	Cancer
miR-21	APC	324	Adenomatous polyposis coli, attenuated (3)	Cancer
miR-21	APC	324	Colorectal cancer (3)	Cancer
miR-21	APC	324	Desmoid disease, hereditary, 135290 (3)	Cancer
miR-21	APC	324	Gardner syndrome (3)	Cancer
miR-21	APC	324	Gastric cancer, 137215 (3)	Cancer
miR-21	APC	324	Turcot syndrome, 276300 (3)	Cancer
miR-21	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-21	FOXP3	50943	Diabetes mellitus, type I, susceptibility to, 222100 (3)	Endocrine
miR-21	FOXP3	50943	Immunodysregulation, polyendocrinopathy, and enteropathy, X-linked, 304790 (3)	multiple
miR-21	HRAS	3265	Bladder cancer, somatic, 109800 (3)	Cancer
miR-21	HRAS	3265	Costello syndrome, 218040 (3)	multiple
miR-21	HRAS	3265	Thyroid carcinoma, follicular, somatic, 188470 (3)	Cancer
miR-21	IL10	3586	Graft-versus-host disease, protection against (3)	Immunological
miR-21	IL10	3586	HIV-1, susceptibility to (3)	Immunological
miR-21	IL10	3586	Rheumatoid arthritis, progression of, 180300 (3)	Connective tissue

miR-21	IL13	3596	Allergic rhinitis, susceptibility to, 607154 (3)	Immunological
miR-21	IL13	3596	Asthma, susceptibility to, 600807 (3)	Respiratory
miR-21	IL6	3569	Kaposi sarcoma, susceptibility to, 148000 (3)	Immunological
miR-21	JAG1	182	Alagille syndrome, 118450 (3)	multiple
miR-21	JAG1	182	Deafness, congenital heart defects, and posterior embryotoxon (3)	Ear,Nose,Throat
miR-21	JAG1	182	Tetralogy of Fallot, 187500 (3)	Cardiovascular
miR-21	MMP2	4313	Osteolysis, idiopathic, Saudi type, 605156 (3)	Bone
miR-21	MYC	4609	Burkitt lymphoma, 113970 (3)	Cancer
miR-21	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-21	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-21	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-21	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-21	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-21	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-21	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-21	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-21	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-21	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-21	Sox2	6657	Anophthalmia 3, 206900 (3)	Ophthalmological
miR-21	TGFB1	7040	Camurati-Engelmann disease, 131300 (3)	Skeletal
miR-21	TGFBR2	7048	Colon cancer (3)	Cancer
miR-21	TGFBR2	7048	Colorectal cancer, hereditary nonpolyposis, type 6 (3)	Cancer
miR-21	TGFBR2	7048	Esophageal cancer, 133239 (3)	Cancer
miR-21	TGFBR2	7048	Loeys-Dietz syndrome, 609192 (3)	Connective tissue
miR-21	TIMP3	7078	Sorsby fundus dystrophy, 136900 (3)	Ophthalmological
miR-21	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-21	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-21	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-21	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-21	TP53	7157	Histiocytoma (3)	Cancer
miR-21	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-21	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-21	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer
miR-21	TP53	7157	Osteosarcoma (3)	Cancer
miR-21	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-21	TP53	7157	Thyroid carcinoma (3)	Cancer
miR-21	TPM1	7168	Cardiomyopathy, familial hypertrophic, 3, 115196 (3)	Cardiovascular
miR-210	ACVR1B	91	Pancreatic cancer, somatic (3)	Cancer
miR-210	HBG1	3047	HPFH, nondeletion type A (3)	Hematological
miR-211	RUNX2	860	Cleidocranial dysplasia, 119600 (3)	Skeletal
miR-211	RUNX2	860	Dental anomalies, isolated (3)	Skeletal
miR-212	MECP2	4204	Angelman syndrome, 105830 (3)	Developmental
miR-212	MECP2	4204	Autism, X-linked, 300425 (3)	Psychiatric
miR-212	MECP2	4204	Mental retardation, X-linked, 300458 (3)	Neurological
miR-212	MECP2	4204	Mental retardation, X-linked, with progressive spasticity, 300279 (3)	Neurological
miR-212	MECP2	4204	PPM-X syndrome, 300055 (3)	Neurological
miR-212	MECP2	4204	Rett syndrome, 312750 (3)	Neurological

miR-212	MECP2	4204	Rett syndrome, preserved speech variant, 312750 (3)	Neurological
miR-214	NOS3	4846	Alzheimer disease, late-onset, susceptibility to, 104300 (3)	Neurological
miR-214	NOS3	4846	Coronary spasms, susceptibility to (3)	Cardiovascular
miR-214	NOS3	4846	Hypertension, pregnancy-induced, 189800 (3)	Unclassified
miR-214	NOS3	4846	Hypertension, susceptibility to, 145500 (3)	Cardiovascular
miR-214	NOS3	4846	Placental abruption (3)	Unclassified
miR-214	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-214	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-214	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-214	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-214	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-214	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-214	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-214	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-214	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-214	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-215	DKC1	1736	Dyskeratosis congenita-1, 305000 (3)	Dermatological
miR-215	DKC1	1736	Hoyeraal-Hreidarsson syndrome, 300240 (3)	multiple
miR-215	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-215	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-215	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-215	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-215	TP53	7157	Histiocytoma (3)	Cancer
miR-215	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-215	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-215	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer
miR-215	TP53	7157	Osteosarcoma (3)	Cancer
miR-215	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-215	TP53	7157	Thyroid carcinoma (3)	Cancer
miR-216a	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-216a	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-216a	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-216a	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-216a	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-216a	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-216a	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-216a	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-216a	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-216a	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-217	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-217	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-217	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-217	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-217	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-217	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-217	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer

miR-217	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-217	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-217	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-218	LAMB3	3914	Epidermolysis bullosa, generalized atrophic benign, 226650 (3)	Dermatological
miR-218	LAMB3	3914	Epidermolysis bullosa, Herlitz junctional type, 226700 (3)	Dermatological
miR-22	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-22	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-22	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-22	PPARA	5465	Hyperapobetalipoproteinemia, susceptibility to (3)	Metabolic
miR-221	BAX	581	Colorectal cancer (3)	Cancer
miR-221	BAX	581	T-cell acute lymphoblastic leukemia (3)	Cancer
miR-221	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-221	CDKN1C	1028	Beckwith-Wiedemann syndrome, 130650 (3)	multiple
miR-221	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-221	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-221	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-221	GBA	2629	Gaucher disease with cardiovascular calcification, 231005 (3)	Metabolic
miR-221	GBA	2629	Gaucher disease, 230800 (3)	Metabolic
miR-221	GJA1	2697	Atrioventricular septal defect, 600309 (3)	Cardiovascular
miR-221	GJA1	2697	Hypoplastic left heart syndrome, 241550 (3)	Cardiovascular
miR-221	GJA1	2697	Oculodentodigital dysplasia, 164200 (3)	Skeletal
miR-221	GJA1	2697	Syndactyly, type III, 186100 (3)	Skeletal
miR-221	KIT	3815	Gastrointestinal stromal tumor, somatic, 606764 (3)	Cancer
miR-221	KIT	3815	Germ cell tumors, 273300 (3)	Cancer
miR-221	KIT	3815	Leukemia, acute myeloid, 601626 (3)	Cancer
miR-221	KIT	3815	Mast cell leukemia (3)	Cancer
miR-221	KIT	3815	Mastocytosis with associated hematologic disorder (3)	Immunological
miR-221	KIT	3815	Piebaldism (3)	Dermatological
miR-221	NOS3	4846	Alzheimer disease, late-onset, susceptibility to, 104300 (3)	Neurological
miR-221	NOS3	4846	Coronary spasms, susceptibility to (3)	Cardiovascular
miR-221	NOS3	4846	Hypertension, pregnancy-induced, 189800 (3)	Unclassified
miR-221	NOS3	4846	Hypertension, susceptibility to, 145500 (3)	Cardiovascular
miR-221	NOS3	4846	Placental abruption (3)	Unclassified
miR-221	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-221	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-221	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-221	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-221	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-221	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-221	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-221	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-221	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer

miR-221	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-221	TIMP3	7078	Sorsby fundus dystrophy, 136900 (3)	Ophthalmological
miR-222	BAX	581	Colorectal cancer (3)	Cancer
miR-222	BAX	581	T-cell acute lymphoblastic leukemia (3)	Cancer
miR-222	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-222	CDKN1C	1028	Beckwith-Wiedemann syndrome, 130650 (3)	multiple
miR-222	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-222	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-222	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-222	GJA1	2697	Atrioventricular septal defect, 600309 (3)	Cardiovascular
miR-222	GJA1	2697	Hypoplastic left heart syndrome, 241550 (3)	Cardiovascular
miR-222	GJA1	2697	Oculodentodigital dysplasia, 164200 (3)	Skeletal
miR-222	GJA1	2697	Syndactyly, type III, 186100 (3)	Skeletal
miR-222	KIT	3815	Gastrointestinal stromal tumor, somatic, 606764 (3)	Cancer
miR-222	KIT	3815	Germ cell tumors, 273300 (3)	Cancer
miR-222	KIT	3815	Leukemia, acute myeloid, 601626 (3)	Cancer
miR-222	KIT	3815	Mast cell leukemia (3)	Cancer
miR-222	KIT	3815	Mastocytosis with associated hematologic disorder (3)	Immunological
miR-222	KIT	3815	Piebaldism (3)	Dermatological
miR-222	MMP1	4312	COPD, rate of decline of lung function in, 606963 (3)	Respiratory
miR-222	NOS3	4846	Alzheimer disease, late-onset, susceptibility to, 104300 (3)	Neurological
miR-222	NOS3	4846	Coronary spasms, susceptibility to (3)	Cardiovascular
miR-222	NOS3	4846	Hypertension, pregnancy-induced, 189800 (3)	Unclassified
miR-222	NOS3	4846	Hypertension, susceptibility to, 145500 (3)	Cardiovascular
miR-222	NOS3	4846	Placental abruption (3)	Unclassified
miR-222	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-222	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-222	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-222	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-222	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-222	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-222	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-222	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-222	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-222	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-222	TIMP3	7078	Sorsby fundus dystrophy, 136900 (3)	Ophthalmological
miR-223	CSF1R	1436	Myeloid malignancy, predisposition to (3)	Cancer
miR-223	HRAS	3265	Bladder cancer, somatic, 109800 (3)	Cancer
miR-223	HRAS	3265	Costello syndrome, 218040 (3)	multiple
miR-223	HRAS	3265	Thyroid carcinoma, follicular, somatic, 188470 (3)	Cancer
miR-223	RUNX1	861	Leukemia, acute myeloid, 601626 (3)	Cancer
miR-223	RUNX1	861	Platelet disorder, familial, with associated myeloid malignancy, 601399 (3)	Hematological

miR-223	RUNX1	861	Rheumatoid arthritis, susceptibility to, 180300 (3)	Connective tissue
miR-224	CD40	958	Immunodeficiency with hyper-IgM, type 3, 606843 (3)	Immunological
miR-224	CXCR4	7852	Myelokathexis, isolated (3)	Immunological
miR-224	CXCR4	7852	WHIM syndrome, 193670 (3)	Immunological
miR-23	PPARGC1A	10891	Lipodystrophy, familial partial, with decreased subcutaneous fat of face and neck (3)	Metabolic
miR-23a	GBA	2629	Gaucher disease with cardiovascular calcification, 231005 (3)	Metabolic
miR-23a	GBA	2629	Gaucher disease, 230800 (3)	Metabolic
miR-23a	GDF8	2660	Muscle hypertrophy (3)	Muscular
miR-23b	MET	4233	Hepatocellular carcinoma, childhood type, 114550 (3)	Cancer
miR-23b	MET	4233	Renal cell carcinoma, papillary, familial and sporadic, 605074 (3)	Cancer
miR-23b	OPRM1	4988	Response to morphine-6-glucuronide (3)	Neurological
miR-23b	PLAU	5328	Alzheimer disease, late-onset, susceptibility to, 104300 (3)	Neurological
miR-24	ACVR1B	91	Pancreatic cancer, somatic (3)	Cancer
miR-24	CDK4	1019	Melanoma (3)	Cancer
miR-24	CDKN2A	1029	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-24	CDKN2A	1029	Melanoma and neural system tumor syndrome, 155755 (3)	Cancer
miR-24	CDKN2A	1029	Melanoma, cutaneous malignant, 2, 155601 (3)	Cancer
miR-24	CDKN2A	1029	Orolaryngeal cancer, multiple, (3)	Cancer
miR-24	CDKN2A	1029	Pancreatic cancer/melanoma syndrome, 606719 (3)	Cancer
miR-24	MYC	4609	Burkitt lymphoma, 113970 (3)	Cancer
miR-25	CDKN1C	1028	Beckwith-Wiedemann syndrome, 130650 (3)	multiple
miR-25	MITF	4286	Tietz syndrome, 103500 (3)	multiple
miR-25	MITF	4286	Waardenburg syndrome, type IIA, 193510 (3)	multiple
miR-25	MITF	4286	Waardenburg syndrome/ocular albinism, digenic, 103470 (3)	multiple
miR-26a	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-26a	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-26a	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-26a	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-26a	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-26a	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-26a	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-26a	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-26a	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-26a	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-26a	SGCG	6445	Muscular dystrophy, limb-girdle, type 2C, 253700 (3)	Muscular
miR-26a	SMAD1	4086	Charcot-Marie-Tooth disease, type 2D, 601472 (3)	Neurological
miR-26a	SMAD1	4086	Spinal muscular atrophy, distal, type V, 600794 (3)	Muscular
miR-27	PAX3	5077	Craniofacial-deafness-hand syndrome, 122880 (3)	multiple
miR-27	PAX3	5077	Rhabdomyosarcoma, alveolar, 268220	Cancer

miR-27	PAX3	5077	(3) Waardenburg syndrome, type I, 193500 (3)	multiple
miR-27	PAX3	5077	Waardenburg syndrome, type III, 148820 (3)	multiple
miR-27	RUNX1	861	Leukemia, acute myeloid, 601626 (3)	Cancer
miR-27	RUNX1	861	Platelet disorder, familial, with associated myeloid malignancy, 601399 (3)	Hematological
miR-27	RUNX1	861	Rheumatoid arthritis, susceptibility to, 180300 (3)	Connective tissue
miR-27a	ABCB1	5243	Colchicine resistance (3)	Unclassified
miR-27a	BAX	581	Colorectal cancer (3)	Cancer
miR-27a	BAX	581	T-cell acute lymphoblastic leukemia (3)	Cancer
miR-27a	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-27a	PHB	5245	Breast cancer, sporadic (3)	Cancer
miR-27a	RUNX1	861	Leukemia, acute myeloid, 601626 (3)	Cancer
miR-27a	RUNX1	861	Platelet disorder, familial, with associated myeloid malignancy, 601399 (3)	Hematological
miR-27a	RUNX1	861	Rheumatoid arthritis, susceptibility to, 180300 (3)	Connective tissue
miR-27b	CYP1B1	1545	Glaucoma 3A, primary congenital, 231300 (3)	Ophthalmological
miR-27b	CYP1B1	1545	Glaucoma, early-onset, digenic (3)	Ophthalmological
miR-27b	CYP1B1	1545	Glaucoma, primary open angle, adult- onset, 137760 (3)	Ophthalmological
miR-27b	CYP1B1	1545	Glaucoma, primary open angle, juvenile-onset, 137750 (3)	Ophthalmological
miR-27b	CYP1B1	1545	Peters anomaly, 604229 (3)	Developmental
miR-27b	PAX3	5077	Craniofacial-deafness-hand syndrome, 122880 (3)	multiple
miR-27b	PAX3	5077	Rhabdomyosarcoma, alveolar, 268220 (3)	Cancer
miR-27b	PAX3	5077	Waardenburg syndrome, type I, 193500 (3)	multiple
miR-27b	PAX3	5077	Waardenburg syndrome, type III, 148820 (3)	multiple
miR-27b	PPARG	5468	Diabetes mellitus, insulin-resistant, with acanthosis nigricans and hypertension, 604367 (3)	Endocrine
miR-27b	PPARG	5468	Glioblastoma, susceptibility to, 137800 (3)	Cancer
miR-27b	PPARG	5468	Insulin resistance, severe, digenic, 604367 (3)	Metabolic
miR-27b	PPARG	5468	Lipodystrophy, familial partial, 151660 (3)	Metabolic
miR-27b	PPARG	5468	Obesity, resistance to (3)	Nutritional
miR-27b	PPARG	5468	Obesity, severe, 601665 (3)	Nutritional
miR-2861	RUNX2	860	Cleidocranial dysplasia, 119600 (3)	Skeletal
miR-2861	RUNX2	860	Dental anomalies, isolated (3)	Skeletal
miR-29	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-29	Impdh1	3614	Retinitis pigmentosa-10, 180105 (3)	Ophthalmological
miR-29	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-29	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-29	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-29	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-29	TP53	7157	Histiocytoma (3)	Cancer
miR-29	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-29	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-29	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer

miR-29	TP53	7157	Osteosarcoma (3)	Cancer
miR-29	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-29	TP53	7157	Thyroid carcinoma (3)	Cancer
miR-29a	PMP22	5376	Charcot-Marie-Tooth disease, type 1A, 118220 (3)	Neurological
miR-29a	PMP22	5376	Charcot-Marie-Tooth disease, type 1E, 118300 (3)	Neurological
miR-29a	PMP22	5376	Dejerine-Sottas disease, 145900 (3)	multiple
miR-29a	PMP22	5376	Neuropathy, recurrent, with pressure palsies, 162500 (3)	Neurological
miR-29a	PMP22	5376	Roussy-Levy syndrome, 180800 (3)	multiple
miR-29a	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-29a	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-29a	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-29a	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-29a	TP53	7157	Histiocytoma (3)	Cancer
miR-29a	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-29a	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-29a	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer
miR-29a	TP53	7157	Osteosarcoma (3)	Cancer
miR-29a	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-29a	TP53	7157	Thyroid carcinoma (3)	Cancer
miR-29b	COL1A1	1277	Caffey disease, 114000 (3)	Connective tissue
miR-29b	COL1A1	1277	Dissection of cervical arteries (3)	Connective tissue
miR-29b	COL1A1	1277	Ehlers-Danlos syndrome, type I, 130000 (3)	Connective tissue
miR-29b	COL1A1	1277	Ehlers-Danlos syndrome, type VII, 130060 (3)	Connective tissue
miR-29b	COL1A1	1277	Osteogenesis imperfecta, type I, 166200 (3)	Bone
miR-29b	COL1A1	1277	Osteogenesis imperfecta, type II, 166210 (3)	Bone
miR-29b	COL1A1	1277	Osteogenesis imperfecta, type III, 259420 (3)	Bone
miR-29b	COL1A1	1277	Osteogenesis imperfecta, type IV, 166220 (3)	Bone
miR-29b	COL1A1	1277	Osteoporosis, 166710 (3)	Bone
miR-29b	COL1A2	1278	Ehlers-Danlos syndrome, type VIIA2, 130060 (3)	Connective tissue
miR-29b	COL1A2	1278	Marfan syndrome, atypical (3)	Connective tissue
miR-29b	COL1A2	1278	Osteogenesis imperfecta, 3 clinical forms, 166200, 166210, 259420 (3)	Bone
miR-29b	COL1A2	1278	Osteoporosis, idiopathic, 166710 (3)	Bone
miR-29b	DNMT3B	1789	Immunodeficiency-centromeric instability-facial anomalies syndrome, 242860 (3)	multiple
miR-29b	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-29b	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-29b	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-29b	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-29b	TP53	7157	Histiocytoma (3)	Cancer
miR-29b	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-29b	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-29b	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer
miR-29b	TP53	7157	Osteosarcoma (3)	Cancer
miR-29b	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-29b	TP53	7157	Thyroid carcinoma (3)	Cancer

miR-29c	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-29c	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-29c	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-29c	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-29c	TP53	7157	Histiocytoma (3)	Cancer
miR-29c	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-29c	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-29c	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer
miR-29c	TP53	7157	Osteosarcoma (3)	Cancer
miR-29c	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-29c	TP53	7157	Thyroid carcinoma (3)	Cancer
miR-29s	DNMT3B	1789	Immunodeficiency-centromeric instability-facial anomalies syndrome, 242860 (3)	multiple
miR-302a	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-302a	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-302a	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-302c	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-302c	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-302c	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-302d	TRPS1	7227	Trichorhinophalangeal syndrome, type I, 190350 (3)	Developmental
miR-302d	TRPS1	7227	Trichorhinophalangeal syndrome, type III, 190351 (3)	Developmental
miR-308	HID	2706	Bart-Pumphrey syndrome, 149200 (3)	multiple
miR-308	HID	2706	Deafness, autosomal dominant 3, 601544 (3)	Ear,Nose,Throat
miR-308	HID	2706	Deafness, autosomal recessive 1, 220290 (3)	Ear,Nose,Throat
miR-308	HID	2706	Hystrix-like ichthyosis with deafness, 602540 (3)	multiple
miR-308	HID	2706	Keratitis-ichthyosis-deafness syndrome, 148210 (3)	multiple
miR-308	HID	2706	Keratoderma, palmoplantar, with deafness, 148350 (3)	Dermatological
miR-308	HID	2706	Vohwinkel syndrome, 124500 (3)	multiple
miR-30a-5p	BDNF	627	Central hypoventilation syndrome, congenital, 209880 (3)	Respiratory
miR-30a-5p	BDNF	627	Memory impairment, susceptibility to (3)	Neurological
miR-30a-5p	BDNF	627	Obsessive-compulsive disorder, protection against, 164230 (3)	Psychiatric
miR-30c	RUNX1	861	Leukemia, acute myeloid, 601626 (3)	Cancer
miR-30c	RUNX1	861	Platelet disorder, familial, with associated myeloid malignancy, 601399 (3)	Hematological
miR-30c	RUNX1	861	Rheumatoid arthritis, susceptibility to, 180300 (3)	Connective tissue
miR-31	FOXP3	50943	Diabetes mellitus, type I, susceptibility to, 222100 (3)	Endocrine
miR-31	FOXP3	50943	Immunodysregulation, polyendocrinopathy, and enteropathy, X-linked, 304790 (3)	multiple
miR-315	AXIN1	8312	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-320	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-320	IGF1	3479	Growth retardation with deafness and mental retardation due to IGF1 deficiency, 608747 (3)	Developmental

miR-320	IGF1R	3480	Intrauterine and postnatal growth retardation (3)	Developmental
miR-320	KDR	3791	Hemangioma, capillary infantile, somatic, 602089 (3)	Cancer
miR-326	SMO	6608	Basal cell carcinoma, sporadic (3)	Cancer
miR-328	CD44	960	Blood group, Indian system (3)	Hematological
miR-330	AGTR2	186	Mental retardation, X-linked nonsyndromic (3)	Neurological
miR-331-3p	AR	367	Androgen insensitivity, 300068 (3)	Endocrine
miR-331-3p	AR	367	Breast cancer, male, with Reifenstein syndrome (3)	Cancer
miR-331-3p	AR	367	Perineal hypospadias (3)	Endocrine
miR-331-3p	AR	367	Prostate cancer (3)	Cancer
miR-331-3p	AR	367	Prostate cancer, susceptibility to, 176807 (3)	Cancer
miR-331-3p	AR	367	Spinal and bulbar muscular atrophy of Kennedy, 313200 (3)	Muscular
miR-331-3p	ERBB2	2064	Adenocarcinoma of lung, somatic, 211980 (3)	Cancer
miR-331-3p	ERBB2	2064	Gastric cancer, somatic, 137215 (3)	Cancer
miR-331-3p	ERBB2	2064	Glioblastoma, somatic, 137800 (3)	Cancer
miR-331-3p	ERBB2	2064	Ovarian cancer, somatic, (3)	Cancer
miR-34	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-34	HMGA2	8091	Lipoma (3)	Cancer
miR-34	HMGA2	8091	Lipomatosis, mutiple, 151900 (3)	Cancer
miR-34	HMGA2	8091	Salivary adenoma (3)	Cancer
miR-34	HMGA2	8091	Uterine leiomyoma (3)	Cancer
miR-34	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-34	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-34	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-34	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-34	TP53	7157	Histiocytoma (3)	Cancer
miR-34	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-34	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-34	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer
miR-34	TP53	7157	Osteosarcoma (3)	Cancer
miR-34	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-34	TP53	7157	Thyroid carcinoma (3)	Cancer
miR-346	BTK	695	Agammaglobulinemia, type 1, X-linked (3)	Hematological
miR-346	BTK	695	XLA and isolated growth hormone deficiency, 307200 (3)	Immunological
miR-34a	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-34a	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-34a	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-34a	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-34a	JAG1	182	Alagille syndrome, 118450 (3)	multiple
miR-34a	JAG1	182	Deafness, congenital heart defects, and posterior embryotoxon (3)	Ear,Nose,Throat
miR-34a	JAG1	182	Tetralogy of Fallot, 187500 (3)	Cardiovascular
miR-34a	MYC	4609	Burkitt lymphoma, 113970 (3)	Cancer
miR-34a	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-34a	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-34a	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-34a	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-34a	TP53	7157	Histiocytoma (3)	Cancer
miR-34a	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-34a	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-34a	TP53	7157	Nasopharyngeal carcinoma, 161550	Cancer

miR-34a	TP53	7157	(3)	
miR-34a	TP53	7157	Osteosarcoma (3)	Cancer
miR-34a	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-34b	MYC	4609	Thyroid carcinoma (3)	Cancer
miR-372	ESR1	2099	Burkitt lymphoma, 113970 (3)	Cancer
miR-372	ESR1	2099	Estrogen resistance (3)	Endocrine
			HDL response to hormone replacement, augmented (3)	Metabolic
miR-372	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-372	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-372	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-372	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-372	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-372	TP53	7157	Histiocytoma (3)	Cancer
miR-372	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-372	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-372	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer
miR-372	TP53	7157	Osteosarcoma (3)	Cancer
miR-372	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-372	TP53	7157	Thyroid carcinoma (3)	Cancer
miR-372	TRPS1	7227	Trichorhinophalangeal syndrome, type I, 190350 (3)	Developmental
miR-372	TRPS1	7227	Trichorhinophalangeal syndrome, type III, 190351 (3)	Developmental
miR-373	CD44	960	Blood group, Indian system (3)	Hematological
miR-373	CDH1	999	Breast cancer, lobular (3)	Cancer
miR-373	CDH1	999	Endometrial carcinoma (3)	Cancer
miR-373	CDH1	999	Gastric cancer, familial diffuse, 137215 (3)	Cancer
miR-373	CDH1	999	Listeria monocytogenes, susceptibility to (3)	Immunological
miR-373	CDH1	999	Ovarian carcinoma (3)	Cancer
miR-373	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-373	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-373	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-373	TP53	7157	Adrenal cortical carcinoma, 202300 (3)	Cancer
miR-373	TP53	7157	Breast cancer, 114480 (3)	Cancer
miR-373	TP53	7157	Colorectal cancer, 114500 (3)	Cancer
miR-373	TP53	7157	Hepatocellular carcinoma, 114550 (3)	Cancer
miR-373	TP53	7157	Histiocytoma (3)	Cancer
miR-373	TP53	7157	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-373	TP53	7157	Multiple malignancy syndrome (3)	Cancer
miR-373	TP53	7157	Nasopharyngeal carcinoma, 161550 (3)	Cancer
miR-373	TP53	7157	Osteosarcoma (3)	Cancer
miR-373	TP53	7157	Pancreatic cancer, 260350 (3)	Cancer
miR-373	TP53	7157	Thyroid carcinoma (3)	Cancer
miR-375	TIMM8A	1678	Deafness, X-linked 1, progressive (3)	Ear,Nose,Throat
miR-375	TIMM8A	1678	Jensen syndrome, 311150 (3)	Neurological
miR-375	TIMM8A	1678	Mohr-Tranebjaerg syndrome, 304700 (3)	Neurological
miR-376	PRPS1	5631	Phosphoribosyl pyrophosphate synthetase-related gout (3)	Metabolic
miR-378	SUFU	51684	Medulloblastoma, desmoplastic, 155255 (3)	Cancer
miR-398	TGFBI	7045	Corneal dystrophy, Avellino type, 607541 (3)	Ophthalmological
miR-398	TGFBI	7045	Corneal dystrophy, Groenouw type I, 121900 (3)	Ophthalmological
miR-398	TGFBI	7045	Corneal dystrophy, lattice type I,	Ophthalmological

miR-398	TGFB1	7045	122200 (3) Corneal dystrophy, lattice type IIIA, 608471 (3)	Ophthalmological
miR-398	TGFB1	7045	Corneal dystrophy, Reis-Bucklers type, 608470 (3)	Ophthalmological
miR-398	TGFB1	7045	Corneal dystrophy, Thiel-Behnke type, 602082 (3)	Ophthalmological
miR-430	DAZL	1618	Spermatogenic failure, susceptibility to (3)	Renal
miR-433	NR0B2	8431	Obesity, mild, early-onset, 601665 (3)	Nutritional
miR-449	RB1	5925	Bladder cancer, 109800 (3)	Cancer
miR-449	RB1	5925	Retinoblastoma (3)	Cancer
miR-451	ABCB1	5243	Colchicine resistance (3)	Unclassified
miR-451	MIF	4282	Persistent Mullerian duct syndrome, type I, 261550 (3)	Developmental
miR-451	MIF	4282	Rheumatoid arthritis, systemic juvenile, susceptibility to, 604302 (3)	Connective tissue
miR-453	ESR1	2099	Estrogen resistance (3)	Endocrine
miR-453	ESR1	2099	HDL response to hormone replacement, augmented (3)	Metabolic
miR-453	ESR1	2099	Migraine, susceptibility to, 157300 (3)	Neurological
miR-486	CD40	958	Immunodeficiency with hyper-IgM, type 3, 606843 (3)	Immunological
miR-491_5p	AFP	174	Hereditary persistence of alpha-fetoprotein (3)	Hematological
miR-494	PTEN	5728	Bannayan-Riley-Ruvalcaba syndrome, 153480 (3)	Unclassified
miR-494	PTEN	5728	Bannayan-Zonana syndrome, 153480 (3)	Unclassified
miR-494	PTEN	5728	Cowden disease, 158350 (3)	Cancer
miR-494	PTEN	5728	Endometrial carcinoma (3)	Cancer
miR-494	PTEN	5728	Lhermitte-Duclos syndrome (3)	Cancer
miR-494	PTEN	5728	Meningioma, 607174 (3)	Cancer
miR-494	PTEN	5728	Oligodendroglioma, 137800 (3)	Cancer
miR-494	PTEN	5728	Prostate cancer, 176807 (3)	Cancer
miR-494	PTEN	5728	Thyroid carcinoma, follicular, 188470 (3)	Cancer
miR-494	PTEN	5728	VATER association with hydrocephalus, 276950 (3)	multiple
miR-499	GDF8	2660	Muscle hypertrophy (3)	Muscular
miR-503	CCND1	595	Colorectal cancer, susceptibility to (3)	Cancer
miR-503	CCND1	595	Leukemia/lymphoma, chronic B-cell, 151400 (3)	Cancer
miR-503	CCND1	595	von Hippel-Lindau disease, modification of, 193300 (3)	Cancer
miR-520c	APP	351	Alzheimer disease-1, APP-related (3)	Neurological
miR-520c	APP	351	Amyloidosis, cerebroarterial, Dutch type (3)	Neurological
miR-520c	APP	351	Schizophrenia, chronic (3)	Psychiatric
miR-520c	CD44	960	Blood group, Indian system (3)	Hematological
miR-548d-3p	ERBB2	2064	Adenocarcinoma of lung, somatic, 211980 (3)	Cancer
miR-548d-3p	ERBB2	2064	Gastric cancer, somatic, 137215 (3)	Cancer
miR-548d-3p	ERBB2	2064	Glioblastoma, somatic, 137800 (3)	Cancer
miR-548d-3p	ERBB2	2064	Ovarian cancer, somatic, (3)	Cancer
miR-559	ERBB2	2064	Adenocarcinoma of lung, somatic, 211980 (3)	Cancer
miR-559	ERBB2	2064	Gastric cancer, somatic, 137215 (3)	Cancer
miR-559	ERBB2	2064	Glioblastoma, somatic, 137800 (3)	Cancer

miR-559	ERBB2	2064	Ovarian cancer, somatic, (3)	Cancer
miR-562	EYA1	2138	Anterior segment anomalies and cataract (3)	Ophthalmological
miR-562	EYA1	2138	Branchiootic syndrome (3)	Neurological
miR-562	EYA1	2138	Branchiootorenal syndrome with cataract, 113650 (3)	Neurological
miR-562	EYA1	2138	Branchiootorenal syndrome, 113650 (3)	Neurological
miR-590	TGFB1	7040	Camurati-Engelmann disease, 131300 (3)	Skeletal
miR-590	TGFBR2	7048	Colon cancer (3)	Cancer
miR-590	TGFBR2	7048	Colorectal cancer, hereditary nonpolyposis, type 6 (3)	Cancer
miR-590	TGFBR2	7048	Esophageal cancer, 133239 (3)	Cancer
miR-590	TGFBR2	7048	Loeys-Dietz syndrome, 609192 (3)	Connective tissue
miR-6	HID	2706	Bart-Pumphrey syndrome, 149200 (3)	multiple
miR-6	HID	2706	Deafness, autosomal dominant 3, 601544 (3)	Ear,Nose,Throat
miR-6	HID	2706	Deafness, autosomal recessive 1, 220290 (3)	Ear,Nose,Throat
miR-6	HID	2706	Hystrix-like ichthyosis with deafness, 602540 (3)	multiple
miR-6	HID	2706	Keratitits-ichthyosis-deafness syndrome, 148210 (3)	multiple
miR-6	HID	2706	Keratoderma, palmoplantar, with deafness, 148350 (3)	Dermatological
miR-6	HID	2706	Vohwinkel syndrome, 124500 (3)	multiple
miR-605	DKC1	1736	Dyskeratosis congenita-1, 305000 (3)	Dermatological
miR-605	DKC1	1736	Hoyeraal-Hreidarsson syndrome, 300240 (3)	multiple
miR-657	IGF2R	3482	Hepatocellular carcinoma (3)	Cancer
miR-664	DKC1	1736	Dyskeratosis congenita-1, 305000 (3)	Dermatological
miR-664	DKC1	1736	Hoyeraal-Hreidarsson syndrome, 300240 (3)	multiple
miR-675	RB1	5925	Bladder cancer, 109800 (3)	Cancer
miR-675	RB1	5925	Retinoblastoma (3)	Cancer
miR-7	EGFR	1956	Adenocarcinoma of lung, response to tyrosine kinase inhibitor in, 211980 (3)	Cancer
miR-7	EGFR	1956	Nonsmall cell lung cancer, response to tyrosine kinase inhibitor in, 211980 (3)	Cancer
miR-7	SNCA	6622	Dementia, Lewy body, 127750 (3)	Neurological
miR-7	SNCA	6622	Parkinson disease 4, autosomal dominant Lewy body, 605543 (3)	Neurological
miR-7	SNCA	6622	Parkinson disease, familial, 168601 (3)	Neurological
miR-8	HNF4A	3172	Diabetes mellitus, noninsulin-dependent, 125853 (3)	Endocrine
miR-8	HNF4A	3172	MODY, type I, 125850 (3)	Endocrine
miR-8	ZFPM2	24314	Tetralogy of Fallot, 187500 (3)	Cardiovascular
miR-9	CDH1	999	Breast cancer, lobular (3)	Cancer
miR-9	CDH1	999	Endometrial carcinoma (3)	Cancer
miR-9	CDH1	999	Gastric cancer, familial diffuse, 137215 (3)	Cancer
miR-9	CDH1	999	Listeria monocytogenes, susceptibility to (3)	Immunological
miR-9	CDH1	999	Ovarian carcinoma (3)	Cancer
miR-9	COL9A1	1297	Epiphyseal dysplasia, multiple, COL9A1-related (3)	Bone
miR-9	PMP22	5376	Charcot-Marie-Tooth disease, type 1A, 118220 (3)	Neurological
miR-9	PMP22	5376	Charcot-Marie-Tooth disease, type 1E, 118300 (3)	Neurological

miR-9	PMP22	5376	Dejerine-Sottas disease, 145900 (3)	multiple
miR-9	PMP22	5376	Neuropathy, recurrent, with pressure palsies, 162500 (3)	Neurological
miR-9	PMP22	5376	Roussy-Levy syndrome, 180800 (3)	multiple
miR-9	RUNX1	861	Leukemia, acute myeloid, 601626 (3)	Cancer
miR-9	RUNX1	861	Platelet disorder, familial, with associated myeloid malignancy, 601399 (3)	Hematological
miR-9	RUNX1	861	Rheumatoid arthritis, susceptibility to, 180300 (3)	Connective tissue
miR-92-1	VHL	7428	Hemangioblastoma, cerebellar, somatic (3)	Cancer
miR-92-1	VHL	7428	Pheochromocytoma, 171300 (3)	Cancer
miR-92-1	VHL	7428	Polycythemia, benign familial, 263400 (3)	Hematological
miR-92-1	VHL	7428	Renal cell carcinoma, somatic (3)	Cancer
miR-92-1	VHL	7428	von Hippel-Lindau syndrome, 193300 (3)	Cancer
miR-92b	CDKN1C	1028	Beckwith-Wiedemann syndrome, 130650 (3)	multiple
miR-93	CDKN1C	1028	Beckwith-Wiedemann syndrome, 130650 (3)	multiple
miR-98	MYC	4609	Burkitt lymphoma, 113970 (3)	Cancer
miR-K12-3	IL10	3586	Graft-versus-host disease, protection against (3)	Immunological
miR-K12-3	IL10	3586	HIV-1, susceptibility to (3)	Immunological
miR-K12-3	IL10	3586	Rheumatoid arthritis, progression of, 180300 (3)	Connective tissue
miR-K12-3	IL6	3569	Kaposi sarcoma, susceptibility to, 148000 (3)	Immunological
miR-K12-7	IL10	3586	Graft-versus-host disease, protection against (3)	Immunological
miR-K12-7	IL10	3586	HIV-1, susceptibility to (3)	Immunological
miR-K12-7	IL10	3586	Rheumatoid arthritis, progression of, 180300 (3)	Connective tissue
miR-K12-7	IL6	3569	Kaposi sarcoma, susceptibility to, 148000 (3)	Immunological
miR-Let-7	CDH1	999	Breast cancer, lobular (3)	Cancer
miR-Let-7	CDH1	999	Endometrial carcinoma (3)	Cancer
miR-Let-7	CDH1	999	Gastric cancer, familial diffuse, 137215 (3)	Cancer
miR-Let-7	CDH1	999	Listeria monocytogenes, susceptibility to (3)	Immunological
miR-Let-7	CDH1	999	Ovarian carcinoma (3)	Cancer
miR-Let-7	HMGA2	8091	Lipoma (3)	Cancer
miR-Let-7	HMGA2	8091	Lipomatosis, multiple, 151900 (3)	Cancer
miR-Let-7	HMGA2	8091	Salivary adenoma (3)	Cancer
miR-Let-7	HMGA2	8091	Uterine leiomyoma (3)	Cancer
miR-Let-7	HRAS	3265	Bladder cancer, somatic, 109800 (3)	Cancer
miR-Let-7	HRAS	3265	Costello syndrome, 218040 (3)	multiple
miR-Let-7	HRAS	3265	Thyroid carcinoma, follicular, somatic, 188470 (3)	Cancer
miR-Let-7	IL6	3569	Kaposi sarcoma, susceptibility to, 148000 (3)	Immunological
miR-Let-7	MYC	4609	Burkitt lymphoma, 113970 (3)	Cancer
miR-Let-7	TLR4	7099	Endotoxin hyporesponsiveness (3)	Immunological
miR-Let-7a	BCL2	596	Leukemia/lymphoma, B-cell, 2 (3)	Cancer
miR-Let-7a	HRAS	3265	Bladder cancer, somatic, 109800 (3)	Cancer
miR-Let-7a	HRAS	3265	Costello syndrome, 218040 (3)	multiple
miR-Let-7a	HRAS	3265	Thyroid carcinoma, follicular, somatic, 188470 (3)	Cancer
miR-Let-7a	MYC	4609	Burkitt lymphoma, 113970 (3)	Cancer

miR-Let-7a-3	IGF2	3481	Intrauterine and postnatal growth retardation (3)	Developmental
miR-Let-7b	BCL7A	605	B-cell non-Hodgkin lymphoma, high-grade (3)	Cancer
miR-Let-7b	CDKN2A	1029	Li Fraumeni syndrome, 151623 (3)	Cancer
miR-Let-7b	CDKN2A	1029	Melanoma and neural system tumor syndrome, 155755 (3)	Cancer
miR-Let-7b	CDKN2A	1029	Melanoma, cutaneous malignant, 2, 155601 (3)	Cancer
miR-Let-7b	CDKN2A	1029	Orolaryngeal cancer, multiple, (3)	Cancer
miR-Let-7b	CDKN2A	1029	Pancreatic cancer/melanoma syndrome, 606719 (3)	Cancer
miR-Let-7b	HMGA2	8091	Lipoma (3)	Cancer
miR-Let-7b	HMGA2	8091	Lipomatosis, mutiple, 151900 (3)	Cancer
miR-Let-7b	HMGA2	8091	Salivary adenoma (3)	Cancer
miR-Let-7b	HMGA2	8091	Uterine leiomyoma (3)	Cancer
miR-Let-7c	MYC	4609	Burkitt lymphoma, 113970 (3)	Cancer
miR-Let-7e	TLR4	7099	Endotoxin hyporesponsiveness (3)	Immunological
miR-Let-7i	TLR4	7099	Endotoxin hyporesponsiveness (3)	Immunological
miR-Let-7s	HMGA2	8091	Lipoma (3)	Cancer
miR-Let-7s	HMGA2	8091	Lipomatosis, mutiple, 151900 (3)	Cancer
miR-Let-7s	HMGA2	8091	Salivary adenoma (3)	Cancer
miR-Let-7s	HMGA2	8091	Uterine leiomyoma (3)	Cancer
miR-Let7	HRAS	3265	Bladder cancer, somatic, 109800 (3)	Cancer
miR-Let7	HRAS	3265	Costello syndrome, 218040 (3)	multiple
miR-Let7	HRAS	3265	Thyroid carcinoma, follicular, somatic, 188470 (3)	Cancer