

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Marcucci G, Radmacher MD, Maharry K, et al. MicroRNA expression in cytogenetically normal acute myeloid leukemia. *N Engl J Med* 2008;358:1919-28.

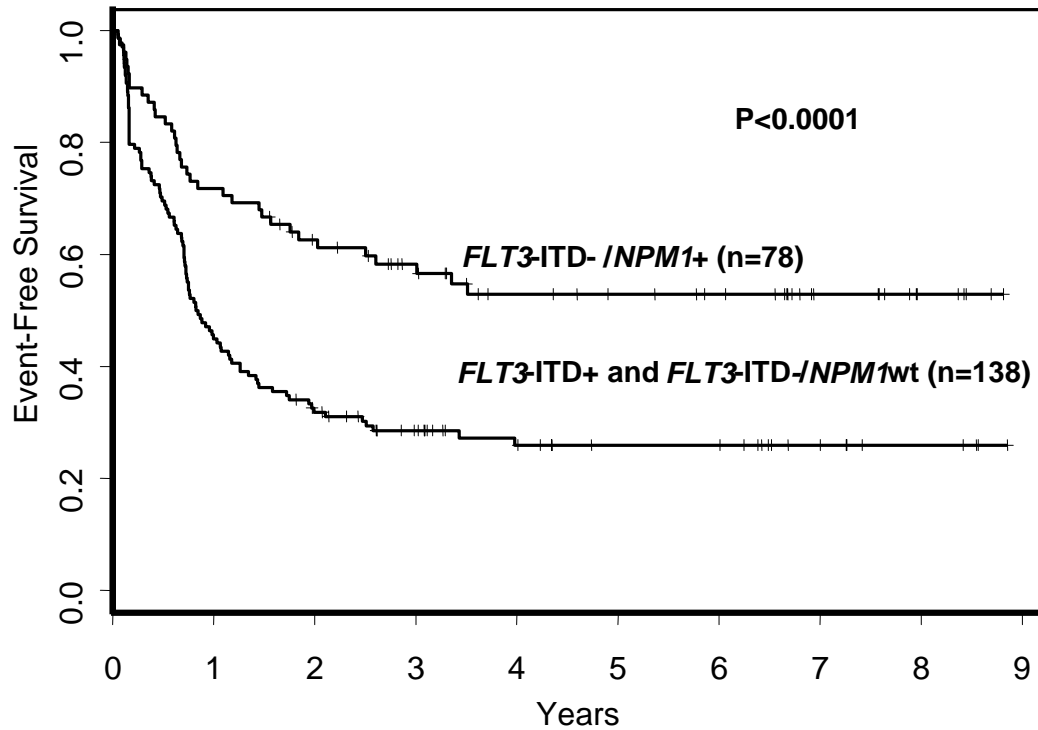


Figure 1S. Event-free survival of patients with cytogenetically normal primary AML and high-risk molecular features, i.e., *FLT3-ITD+* and *FLT3-ITD-/NPM1* wild-type (wt) and those with low-risk molecular features, i.e., *FLT3-ITD-/NPM1* mutated (*NPM1+*) treated on CALGB frontline protocols 9621 and 19808.

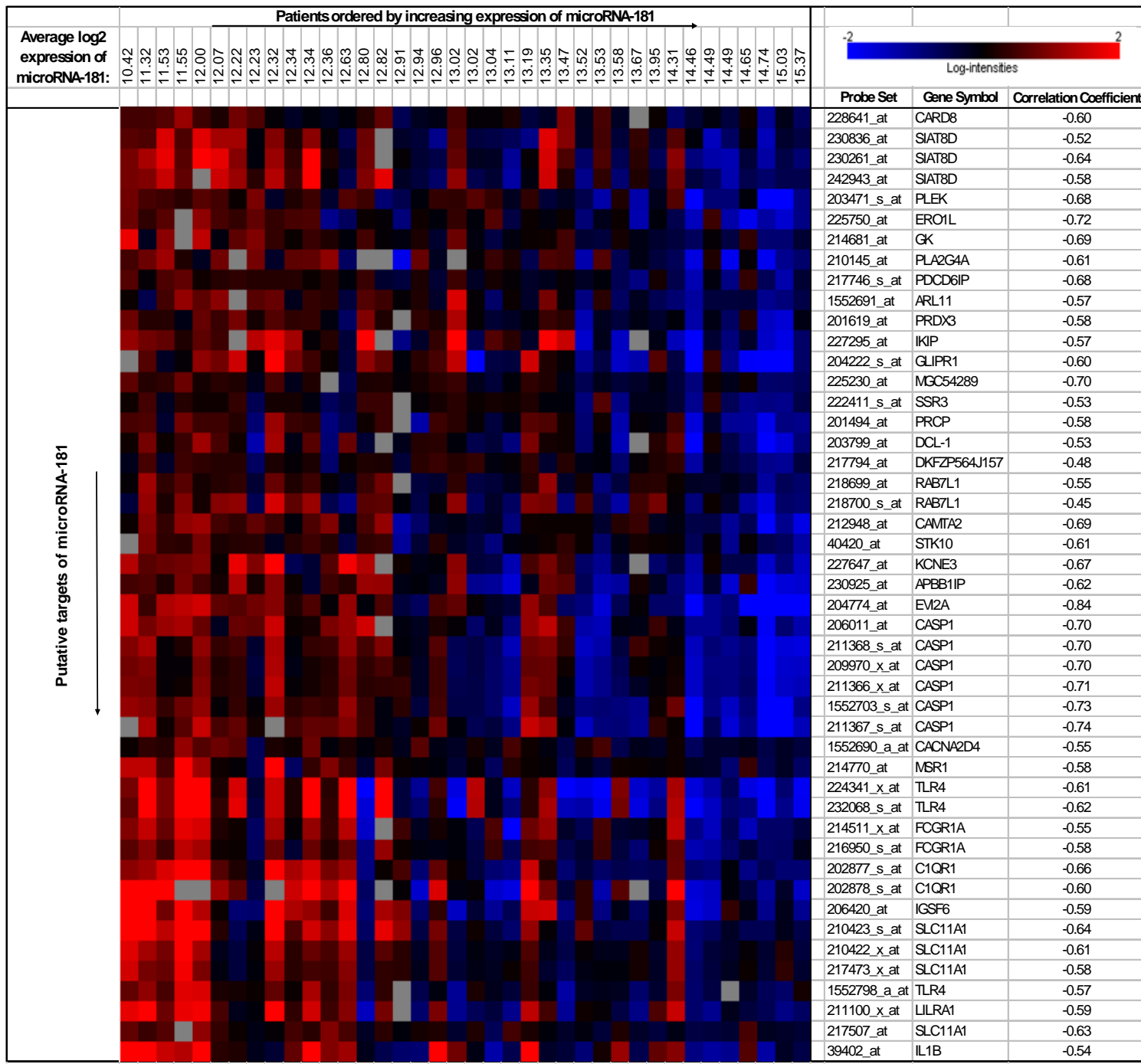


Figure 2S. Expression heat map of probe sets representing putative targets of the microRNA 181 family and appearing in the gene expression signature associated with the microRNA summary value. Columns represent patients enrolled on CALGB 19808 ordered by microRNA 181 expression (top row, average log-expression values of the five probes for microRNA 181 appearing in the microRNA outcome signature); rows represent probe sets. The Pearson correlation coefficients of average microRNA 181 expression and gene expression are reported.

SUPPLEMENTAL MATERIAL

Treatment

Patients enrolled in CALGB 19808 were randomized to receive induction chemotherapy with cytarabine, daunorubicin, and etoposide with or without PSC-833 (valsopodar), a multi-drug resistance protein inhibitor.¹ Upon achievement of complete remission (CR), patients were assigned to intensification with high-dose cytarabine and etoposide for stem cell mobilization followed by myeloablative treatment with busulfan and etoposide supported by autologous peripheral blood stem cell transplantation. Patients enrolled in CALGB 9621 were treated similarly to those in CALGB 19808, as previously reported.²

Criteria for response, relapse and definition of clinical endpoints

CR was defined by bone marrow (BM) cellularity of at least 20%, <5% leukemic blasts, no Auer rods and maturation in all cell lineages and blood recovery of neutrophil ($\geq 1,500/\mu\text{L}$) and platelet ($>100,000/\mu\text{L}$) counts. Relapse was defined as reoccurrence of $>5\%$ of leukemic blasts in BM, reappearance of circulating blasts or the development of extramedullary leukemia. Event-free survival was defined as the interval from the on-study date until removal from study due to failure to achieve CR, relapse, or death from any cause, censoring for patients without an event at last follow-up.

RNA extraction, chip hybridization and probe signal normalization for microRNA expression profiling

Biotinylated first strand cDNA from total RNA extracted from pretreatment BM and blood mononuclear cell samples was synthesized using biotin labeled random octamer primers and was hybridized onto microRNA microarray chips, as previously reported.³ Images of the microRNA microarrays were acquired as previously reported.³ The signal intensity was calculated for each spot without adjusting for local background. Spots with a low signal-to-noise ratio were flagged and considered as missing values. Intensities were log-transformed and log-intensities from replicate spots were averaged. A median-centering normalization was performed based on all human microRNA probes represented on the array. After normalization, a filtering step excluded microRNA probes that had missing values on 50% or more of arrays, reducing the number of examined human microRNA probes in the training set to 305. Normalization and filtering were performed separately for the training and validation sets. For each microRNA probe, an adjustment was made for batch effects (i.e., differences in expression related to the batch in which arrays were hybridized).

Computation of the microRNA summary value

Univariable Cox regression analysis was performed to evaluate the impact of batch-adjusted expression values of each human microRNA probe on event-free survival in the training set (CALGB 19808). The set of probes significantly associated ($\alpha=0.005$) with event-free survival constituted a prognostic signature to be applied to the high-risk molecular patients in the validation set (CALGB 9621). In this set, a microRNA

compound covariate predictor (referred to hereafter as a microRNA summary value) was computed for each patient sample and the microRNA summary value was assessed for association with event-free survival.⁴

The microRNA summary value was a linear combination of the batch-adjusted expression values of the microRNAs that defined the prognostic signature.⁴ The microRNA summary value for patient i was $c_i = \sum w_j x_{ij}$, where x_{ij} was the log-transformed expression value for microRNA probe j in patient i and w_j was the weight assigned to probe j . The sum was over all j probes included in the prognostic signature except for the probe for *miR-124* (this probe was filtered from the validation set because of a low signal-to-noise ratio in a majority of the validation set samples and, thus, not included in the computation of the microRNA summary value). The Cox regression coefficient from the training set analysis for each microRNA probe included in the signature was used as its weight in the microRNA summary value.

Spots flagged as poor quality during the scanning of the arrays were assigned as missing. In order to compute microRNA summary values in the validation set, it was necessary to impute the missing values for small numbers of patients for three of the microRNA probes. Imputation of missing values in the validation set was accomplished by replacing missing values for a given microRNA probe by the median expression value for that microRNA probe.

Identification of a gene-expression profile associated with the microRNA summary value

Using Affymetrix U133 plus 2.0 GeneChips (Affymetrix, Santa Clara, CA), RNA samples from a group of cytogenetically normal AML patients treated on CALGB 9621 were analyzed (including data normalization and computation of expression intensities), as previously reported.⁵ A filtering step was performed to remove probe sets that did not display significant variation in expression across arrays. In this procedure, a chi-square test was used to test whether the observed variance in expression of a probe set was significantly larger than the median observed variance in expression for all probe sets using $\alpha=0.01$ as the significance level. A total of 19,871 probe sets met the filtering criterion and were included in subsequent analyses.

Thirty-eight patients with high-risk molecular features (i.e., *FLT3*-internal tandem duplication, wild-type *NPM1*, or both) and enrolled in CALGB 9621 were studied in both the microRNA expression profiling and gene-expression profiling studies detailed above. These patient samples were used for the identification of the gene-expression signature associated with the microRNA summary value. For this purpose, univariate correlation tests were performed between the microRNA summary value and expression values of each Affymetrix probe set. Pearson's correlation coefficient and a univariate significance level of $\alpha=0.001$ were used for the tests.

Analyses were performed using BRB-ArrayTools version 3.6.0 (R. Simon and A.P. Lam, National Cancer Institute, Bethesda, MD) and using the R version 2.3.1 (R Foundation for Statistical Computing, Vienna, Austria).

REFERENCES

1. Kolitz JE, George SL, Marcucci G, et al. A randomized comparison of induction therapy for untreated acute myeloid leukemia (AML) in patients <60 years using P-glycoprotein (Pgp) modulation with Valspodar (PSC833): preliminary results of Cancer and Leukemia Group B study 19808. *Blood* 2005;106:122a-123a. abstract.
2. Kolitz JE, George SL, Dodge RK, et al. Dose escalation studies of cytarabine, daunorubicin, and etoposide with and without multidrug resistance modulation with PSC-833 in untreated adults with acute myeloid leukemia younger than 60 years: final induction results of Cancer and Leukemia Group B study 9621. *J Clin Oncol* 2004;22:4290-301.
3. Calin GA, Ferracin M, Cimmino A, et al. A microRNA signature associated with prognosis and progression in chronic lymphocytic leukemia. *N Engl J Med* 2005;353:1793-801. [Erratum, *N Engl J Med* 2006;355:533.]
4. Radmacher MD, McShane LM, Simon R. A paradigm for class prediction using gene expression profiles. *J Comput Biol* 2002;9:505-11.
5. Radmacher MD, Marcucci G, Ruppert AS, et al. Independent confirmation of a prognostic gene-expression signature in adult acute myeloid leukemia with a normal karyotype: a Cancer and Leukemia Group B study. *Blood* 2006;108:1677-83.

Table 1S. Clinical Outcome of Cytogenetically Normal AML Patients with High-risk Molecular Features [*FLT3*-Internal Tandem Duplication (*FLT3*-ITD), Wild-type *NPM1* or both] Who Were Studied for microRNA Expression Compared with Similar Cases Enrolled on the Same Treatment Protocols (CALGB 9621 and 19808) Who Were Not Studied Due to Lack of Suitable Samples.

Endpoint	Cases Studied for microRNA Expression	Cases Not Studied for microRNA Expression	P Value
Event-free survival			0.95
N	119	19	
Median, years	0.9	0.7	
% Event-free at 5 years (95% CI)	25 (17-33)	32 (13-52)	
Disease-free survival			0.85
N	94	16	
Median, years	1.3	0.7	
% Disease free at 5 years (95% CI)	31 (22-42)	38 (15-60)	
Overall survival			0.97
N	119	19	
Median, years	1.7	1.3	
% Alive at 5 years (95% CI)	31 (21-41)	35 (15-57)	

Abbreviations: N, number; 95% CI, 95% Confidence Interval.

Table 2S. Association of Pretreatment Molecular and Clinical Characteristics with the MicroRNA Summary Value in the Validation Set (CALGB 9621).

Characteristic	Validation Set (n = 55)	P Value*
Age, years (median)	46	0.95
Sex, number of males (%)	26 (47)	0.98
Race, n (%)		0.50
White	48 (89)	
Nonwhite	6 (11)	
Hemoglobin, g/dL (median)	9.1	0.17
Platelet count, x 10 ⁹ /L (median)	54	0.17
White blood count, x 10 ⁹ /L (median)	37.3	0.56
Percentage of blood blasts (median)	68	0.004†
Percentage of BM blasts (median)	63	0.13
Extramedullary involvement, n (%)	15 (27)	0.82
<i>FLT3</i> -ITD mutant/wild-type ratio‡, n (%)		0.47
Low	45 (82)	
High	10 (18)	
<i>NPM1</i> , n (%)		0.38
Wild-Type	32 (58)	
Mutated	23 (42)	

<i>BAALC</i> expression§, n (%)		0.33
Low	16 (37)	
High	27 (63)	
<i>ERG</i> expression , n (%)		0.04
Low	30 (73)	
High	11 (27)	

Abbreviations: BM, bone marrow; *FLT3*-ITD, internal tandem duplication of the *FLT3* gene.

* P values are from the one-way analysis of variance overall F-test, evaluating the presence of any linear relationship between the continuous microRNA summary value and the variable tested.

† Higher percentages of blood blasts were associated with lower microRNA summary values.

‡ *FLT3*-ITD mutant/wild-type ratio values were dichotomized at the median (0.78) to define the high and low groups.

§ *BAALC* expression values were dichotomized at the median to define high and low expressers.

|| *ERG* expression values were dichotomized at the median (CALGB 19808) or at the 75th percentile (CALGB 9621) to define patients with high (associated with increased risk of adverse event) and low (associated with decreased risk of adverse event) *ERG* expression.

Table 3S. Signature of 452 Unique Genes (Represented by 696 Affymetrix Probe Sets) Significantly Correlated with the MicroRNA Summary Value, Grouped by Direction of Correlation and Ordered Alphabetically by Gene Symbol.

Probe Set	Gene Symbol	Pearson Correlation Coefficient	P-value
Probe Sets Inversely Correlated with the microRNA summary value			
<u>226363_at</u>	<u>ABCC5</u>	-0.62	7.85E-05
<u>232184_at</u>	<u>ALS2</u>	-0.56	6.14E-04
<u>222624_s_at</u>	<u>ANC_2H01</u>	-0.54	4.25E-04
<u>218413_s_at</u>	<u>ANC_2H01</u>	-0.53	6.72E-04
<u>221522_at</u>	<u>ANKRD27</u>	-0.58	1.17E-04
<u>226861_at</u>	<u>ASB8</u>	-0.51	9.47E-04
<u>213473_at</u>	<u>BRAP</u>	-0.56	2.55E-04
<u>41512_at</u>	<u>BRAP</u>	-0.54	4.77E-04
<u>228570_at</u>	<u>BTBD11</u>	-0.62	2.74E-05
<u>230129_at</u>	<u>C10orf89</u>	-0.65	1.55E-05
<u>225075_at</u>	<u>C20orf126</u>	-0.57	1.83E-04
<u>221517_s_at</u>	<u>CRSP6</u>	-0.57	3.06E-04
<u>232483_at</u>	<u>CRSP6</u>	-0.54	5.33E-04
<u>207532_at</u>	<u>CRYGD</u>	-0.53	5.43E-04
<u>225549_at</u>	<u>DDX6</u>	-0.53	5.88E-04
<u>243927_x_at</u>	<u>DKFZP434I116</u>	-0.57	4.38E-04
<u>210762_s_at</u>	<u>DLC1</u>	-0.59	6.00E-04
<u>203822_s_at</u>	<u>ELF2</u>	-0.52	7.44E-04
<u>213779_at</u>	<u>EMID1</u>	-0.55	4.07E-04
<u>1554833_at</u>	<u>FLJ11175</u>	-0.54	5.28E-04
<u>235343_at</u>	<u>FLJ12505</u>	-0.58	1.48E-04
<u>217961_at</u>	<u>FLJ20551</u>	-0.61	5.22E-05
<u>56919_at</u>	<u>GORASP1</u>	-0.52	8.75E-04
<u>215554_at</u>	<u>GPLD1</u>	-0.55	4.03E-04
<u>212206_s_at</u>	<u>H2AFV</u>	-0.60	1.25E-04
<u>212205_at</u>	<u>H2AFV</u>	-0.59	1.35E-04
<u>209558_s_at</u>	<u>HIP1R</u>	-0.54	5.03E-04
<u>231836_at</u>	<u>HKR1</u>	-0.52	8.45E-04
<u>224734_at</u>	<u>HMGB1</u>	-0.60	8.71E-05
<u>229129_at</u>	<u>HNRPD</u>	-0.58	2.36E-04
<u>210046_s_at</u>	<u>IDH2</u>	-0.57	2.18E-04
<u>218192_at</u>	<u>IHPK2</u>	-0.56	2.76E-04
<u>204568_at</u>	<u>KIAA0831</u>	-0.56	2.91E-04
<u>227230_s_at</u>	<u>KIAA1211</u>	-0.59	1.09E-04
<u>236189_at</u>	<u>KIAA1223</u>	-0.62	5.67E-05
<u>242513_x_at</u>	<u>KIAA2018</u>	-0.52	7.32E-04
<u>229305_at</u>	<u>KLIP1</u>	-0.60	1.02E-04
<u>229582_at</u>	<u>LOC125476</u>	-0.57	2.13E-04

<u>1554300_a_at</u>	<u>LOC136306</u>	-0.53	6.95E-04
<u>227255_at</u>	<u>LOC149420</u>	-0.60	1.09E-04
<u>1557534_at</u>	<u>LOC339862</u>	-0.55	3.84E-04
<u>208107_s_at</u>	<u>LOC81691</u>	-0.56	7.43E-04
<u>1552277_a_at</u>	<u>MGC17337</u>	-0.56	3.13E-04
<u>235509_at</u>	<u>MGC40214</u>	-0.53	7.46E-04
<u>224802_at</u>	<u>NDFIP2</u>	-0.54	7.28E-04
<u>210448_s_at</u>	<u>P2RX5</u>	-0.57	2.65E-04
<u>226610_at</u>	<u>p30</u>	-0.62	8.47E-05
<u>226611_s_at</u>	<u>p30</u>	-0.60	9.66E-05
<u>208051_s_at</u>	<u>PAIP1</u>	-0.57	3.53E-04
<u>209064_x_at</u>	<u>PAIP1</u>	-0.56	5.95E-04
<u>232575_at</u>	<u>PCA3</u>	-0.53	6.74E-04
<u>225830_at</u>	<u>PDZK8</u>	-0.58	1.44E-04
<u>225829_at</u>	<u>PDZK8</u>	-0.54	5.08E-04
<u>229553_at</u>	<u>PGM2L1</u>	-0.55	4.50E-04
<u>229256_at</u>	<u>PGM2L1</u>	-0.55	3.39E-04
<u>219654_at</u>	<u>PTPLA</u>	-0.62	3.42E-05
<u>225202_at</u>	<u>RHOBTB3</u>	-0.62	6.71E-05
<u>205856_at</u>	<u>SLC14A1</u>	-0.54	7.69E-04
<u>213549_at</u>	<u>SLC18A2</u>	-0.56	3.48E-04
<u>209712_at</u>	<u>SLC35D1</u>	-0.57	2.69E-04
<u>225223_at</u>	<u>SMAD5</u>	-0.53	6.98E-04
<u>212652_s_at</u>	<u>SNX4</u>	-0.55	3.01E-04
<u>213668_s_at</u>	<u>SOX4</u>	-0.57	1.70E-04
<u>225455_at</u>	<u>STAF42</u>	-0.60	8.91E-05
<u>213730_x_at</u>	<u>TCF3</u>	-0.67	8.80E-06
<u>213811_x_at</u>	<u>TCF3</u>	-0.67	8.60E-06
<u>210776_x_at</u>	<u>TCF3</u>	-0.66	1.07E-05
<u>209153_s_at</u>	<u>TCF3</u>	-0.64	1.75E-05
<u>209152_s_at</u>	<u>TCF3</u>	-0.58	1.85E-04
<u>202720_at</u>	<u>TES</u>	-0.52	7.35E-04
<u>218605_at</u>	<u>TFB2M</u>	-0.53	8.24E-04
<u>219477_s_at</u>	<u>THSD1</u>	-0.55	3.92E-04
<u>1554890_a_at</u>	<u>TIA1</u>	-0.54	5.14E-04
<u>217979_at</u>	<u>TM4SF13</u>	-0.64	1.58E-05
<u>201266_at</u>	<u>TXNRD1</u>	-0.52	7.41E-04
<u>233360_at</u>	<u>UBE2I</u>	-0.54	4.73E-04
<u>214674_at</u>	<u>USP19</u>	-0.52	9.13E-04
<u>239406_at</u>	<u>ZNF193</u>	-0.63	2.19E-05
<u>223714_at</u>	<u>ZNF256</u>	-0.52	7.68E-04
<u>228605_at</u>	Not assigned	-0.70	1.70E-06
<u>227121_at</u>	"	-0.64	1.81E-05
<u>1564468_at</u>	"	-0.63	2.13E-05
<u>242434_at</u>	"	-0.63	1.87E-05
<u>213156_at</u>	"	-0.62	6.20E-05
<u>231925_at</u>	"	-0.60	5.67E-04
<u>231929_at</u>	"	-0.60	1.91E-04
<u>231262_at</u>	"	-0.59	1.63E-04
<u>243259_at</u>	"	-0.58	1.35E-04

<u>228765_at</u>	"	-0.56	2.76E-04
<u>236931_at</u>	"	-0.56	2.62E-04
<u>230479_at</u>	"	-0.56	2.57E-04
<u>213158_at</u>	"	-0.56	3.61E-04
<u>243976_at</u>	"	-0.55	3.10E-04
<u>1569629_x_at</u>	"	-0.55	3.39E-04
<u>239383_at</u>	"	-0.54	4.95E-04
<u>235079_at</u>	"	-0.53	6.90E-04
<u>228275_at</u>	"	-0.53	6.63E-04
<u>238087_at</u>	"	-0.53	6.09E-04

Probe Sets Positively Correlated with the microRNA summary value

<u>228490_at</u>	<u>ABHD2</u>	0.55	4.00E-04
<u>212895_s_at</u>	<u>ABR</u>	0.53	6.56E-04
<u>234312_s_at</u>	<u>ACAS2</u>	0.62	6.73E-05
<u>222592_s_at</u>	<u>ACSL5</u>	0.68	3.80E-06
<u>208636_at</u>	<u>ACTN1</u>	0.52	8.85E-04
<u>200996_at</u>	<u>ACTR3</u>	0.53	6.43E-04
<u>213101_s_at</u>	<u>ACTR3</u>	0.57	2.02E-04
<u>202603_at</u>	<u>ADAM10</u>	0.55	3.85E-04
<u>205180_s_at</u>	<u>ADAM8</u>	0.55	3.96E-04
<u>225059_at</u>	<u>AGTRAP</u>	0.54	5.90E-04
<u>205996_s_at</u>	<u>AK2</u>	0.59	1.89E-04
<u>212175_s_at</u>	<u>AK2</u>	0.64	6.74E-05
<u>225701_at</u>	<u>AKNA</u>	0.53	6.82E-04
<u>201951_at</u>	<u>ALCAM</u>	0.54	5.12E-04
<u>201952_at</u>	<u>ALCAM</u>	0.56	2.97E-04
<u>205640_at</u>	<u>ALDH3B1</u>	0.70	1.20E-06
<u>228094_at</u>	<u>AMICA</u>	0.53	9.62E-04
<u>225524_at</u>	<u>ANTXR2</u>	0.52	7.27E-04
<u>201012_at</u>	<u>ANXA1</u>	0.54	6.11E-04
<u>213503_x_at</u>	<u>ANXA2</u>	0.57	2.61E-04
<u>210427_x_at</u>	<u>ANXA2</u>	0.58	1.59E-04
<u>201590_x_at</u>	<u>ANXA2</u>	0.59	1.41E-04
<u>211241_at</u>	<u>ANXA2P1</u>	0.54	4.24E-04
<u>208816_x_at</u>	<u>ANXA2P1</u>	0.55	3.41E-04
<u>222715_s_at</u>	<u>AP1GBP1</u>	0.54	4.64E-04
<u>230413_s_at</u>	<u>AP1S2</u>	0.52	8.02E-04
<u>203300_x_at</u>	<u>AP1S2</u>	0.58	1.53E-04
<u>230264_s_at</u>	<u>AP1S2</u>	0.59	8.22E-05
<u>230925_at</u>	<u>APBB1IP</u>	0.63	1.92E-05
<u>221492_s_at</u>	<u>APG3</u>	0.62	3.75E-05
<u>224025_s_at</u>	<u>APG7L</u>	0.70	9.00E-07
<u>38149_at</u>	<u>ARHGAP25</u>	0.52	8.62E-04
<u>204882_at</u>	<u>ARHGAP25</u>	0.54	4.51E-04
<u>226906_s_at</u>	<u>ARHGAP9</u>	0.58	1.77E-04
<u>1552691_at</u>	<u>ARL11</u>	0.57	2.46E-04
<u>205020_s_at</u>	<u>ARL4A</u>	0.53	7.91E-04
<u>202208_s_at</u>	<u>ARL7</u>	0.54	4.24E-04
<u>1555797_a_at</u>	<u>ARPC5</u>	0.61	5.59E-05

<u>211963_s_at</u>	<u>ARPC5</u>	0.68	3.40E-06
<u>203388_at</u>	<u>ARRB2</u>	0.52	9.39E-04
<u>224797_at</u>	<u>ARRDC3</u>	0.61	8.69E-05
<u>213702_x_at</u>	<u>ASAH1</u>	0.52	8.08E-04
<u>221666_s_at</u>	<u>ASC</u>	0.55	4.74E-04
<u>209135_at</u>	<u>ASPH</u>	0.59	2.14E-04
<u>212672_at</u>	<u>ATM</u>	0.55	3.52E-04
<u>210149_s_at</u>	<u>ATP5H</u>	0.53	6.99E-04
<u>200096_s_at</u>	<u>ATP6V0E</u>	0.51	9.72E-04
<u>214150_x_at</u>	<u>ATP6V0E</u>	0.52	8.47E-04
<u>201172_x_at</u>	<u>ATP6V0E</u>	0.57	2.54E-04
<u>201089_at</u>	<u>ATP6V1B2</u>	0.67	7.00E-06
<u>202874_s_at</u>	<u>ATP6V1C1</u>	0.57	1.64E-04
<u>214575_s_at</u>	<u>AZU1</u>	0.64	6.47E-05
<u>202391_at</u>	<u>BASP1</u>	0.55	4.46E-04
<u>202030_at</u>	<u>BCKDK</u>	0.60	7.83E-05
<u>205681_at</u>	<u>BCL2A1</u>	0.64	1.58E-05
<u>203278_s_at</u>	<u>BHC80</u>	0.65	8.90E-06
<u>227143_s_at</u>	<u>BID</u>	0.51	9.40E-04
<u>203771_s_at</u>	<u>BLVRA</u>	0.54	4.67E-04
<u>223376_s_at</u>	<u>BRI3</u>	0.56	2.30E-04
<u>205715_at</u>	<u>BST1</u>	0.59	1.11E-04
<u>202096_s_at</u>	<u>BZRP</u>	0.52	7.92E-04
<u>230259_at</u>	<u>C10orf125</u>	0.57	1.77E-04
<u>202878_s_at</u>	<u>C1QR1</u>	0.58	4.27E-04
<u>202877_s_at</u>	<u>C1QR1</u>	0.65	1.02E-05
<u>226607_at</u>	<u>C20orf194</u>	0.53	5.82E-04
<u>209906_at</u>	<u>C3AR1</u>	0.64	1.55E-05
<u>222735_at</u>	<u>C9orf87</u>	0.53	8.94E-04
<u>218772_x_at</u>	<u>C9orf87</u>	0.57	2.88E-04
<u>219714_s_at</u>	<u>CACNA2D3</u>	0.57	2.51E-04
<u>1552690_a_at</u>	<u>CACNA2D4</u>	0.63	2.31E-05
<u>212948_at</u>	<u>CAMTA2</u>	0.71	5.00E-07
<u>208683_at</u>	<u>CAPN2</u>	0.65	1.06E-05
<u>1552553_a_at</u>	<u>CARD12</u>	0.57	2.42E-04
<u>220066_at</u>	<u>CARD15</u>	0.53	7.59E-04
<u>228641_at</u>	<u>CARD8</u>	0.64	1.74E-05
<u>211366_x_at</u>	<u>CASP1</u>	0.69	1.40E-06
<u>206011_at</u>	<u>CASP1</u>	0.69	2.50E-06
<u>211368_s_at</u>	<u>CASP1</u>	0.70	8.00E-07
<u>209970_x_at</u>	<u>CASP1</u>	0.70	1.30E-06
<u>1552703_s_at</u>	<u>CASP1</u>	0.70	1.10E-06
<u>211367_s_at</u>	<u>CASP1</u>	0.71	1.10E-06
<u>212586_at</u>	<u>CAST</u>	0.55	3.58E-04
<u>207467_x_at</u>	<u>CAST</u>	0.67	5.00E-06
<u>208908_s_at</u>	<u>CAST</u>	0.67	4.90E-06
<u>216903_s_at</u>	<u>CBARA1</u>	0.53	6.81E-04
<u>225231_at</u>	<u>CBL</u>	0.52	9.27E-04
<u>209924_at</u>	<u>CCL18</u>	0.53	7.02E-04
<u>203416_at</u>	<u>CD53</u>	0.57	2.06E-04

<u>216942 s at</u>	<u>CD58</u>	0.55	3.94E-04
<u>216322 at</u>	<u>CD58</u>	0.56	2.41E-04
<u>205173 x at</u>	<u>CD58</u>	0.61	9.03E-05
<u>210895 s at</u>	<u>CD86</u>	0.57	1.75E-04
<u>34210 at</u>	<u>CDW52</u>	0.52	8.81E-04
<u>34206 at</u>	<u>CENTD2</u>	0.62	3.04E-05
<u>212516 at</u>	<u>CENTD2</u>	0.69	3.20E-06
<u>204193 at</u>	<u>CHKB</u>	0.58	1.48E-04
<u>203518 at</u>	<u>CHS1</u>	0.68	4.70E-06
<u>226017 at</u>	<u>CKLFSF7</u>	0.58	1.48E-04
<u>1555214 a at</u>	<u>CLECSF12</u>	0.53	7.01E-04
<u>221698 s at</u>	<u>CLECSF12</u>	0.53	5.92E-04
<u>221042 s at</u>	<u>CLMN</u>	0.54	6.22E-04
<u>200742 s at</u>	<u>CLN2</u>	0.53	9.54E-04
<u>200743 s at</u>	<u>CLN2</u>	0.57	1.82E-04
<u>208792 s at</u>	<u>CLU</u>	0.53	7.62E-04
<u>208791 at</u>	<u>CLU</u>	0.63	4.88E-05
<u>207270 x at</u>	<u>CMRF35</u>	0.54	4.40E-04
<u>217078 s at</u>	<u>CMRF-35H</u>	0.54	6.35E-04
<u>209933 s at</u>	<u>CMRF-35H</u>	0.64	1.33E-05
<u>201943 s at</u>	<u>CPD</u>	0.51	9.49E-04
<u>201940 at</u>	<u>CPD</u>	0.52	8.33E-04
<u>202119 s at</u>	<u>CPNE3</u>	0.65	1.57E-05
<u>228365 at</u>	<u>CPNE8</u>	0.58	1.71E-04
<u>241706 at</u>	<u>CPNE8</u>	0.61	5.57E-05
<u>222156 x at</u>	<u>CPR8</u>	0.54	4.09E-04
<u>208146 s at</u>	<u>CPVL</u>	0.59	1.33E-04
<u>201990 s at</u>	<u>CREBL2</u>	0.57	1.71E-04
<u>201988 s at</u>	<u>CREBL2</u>	0.59	8.19E-05
<u>206914 at</u>	<u>CRTAM</u>	0.64	1.40E-05
<u>1555889 a at</u>	<u>CRTAP</u>	0.53	6.64E-04
<u>203104 at</u>	<u>CSF1R</u>	0.70	2.10E-06
<u>211287 x at</u>	<u>CSF2RA</u>	0.61	5.16E-05
<u>203591 s at</u>	<u>CSF3R</u>	0.63	2.70E-05
<u>1553297 a at</u>	<u>CSF3R</u>	0.66	7.30E-06
<u>211571 s at</u>	<u>CSPG2</u>	0.53	6.32E-04
<u>201360 at</u>	<u>CST3</u>	0.57	2.16E-04
<u>204971 at</u>	<u>CSTA</u>	0.55	3.02E-04
<u>201201 at</u>	<u>CSTB</u>	0.65	9.00E-06
<u>210554 s at</u>	<u>CTBP2</u>	0.56	2.80E-04
<u>218923 at</u>	<u>CTBS</u>	0.54	4.18E-04
<u>218924 s at</u>	<u>CTBS</u>	0.54	5.00E-04
<u>200765 x at</u>	<u>CTNNA1</u>	0.58	1.17E-04
<u>200764 s at</u>	<u>CTNNA1</u>	0.61	4.08E-05
<u>210844 x at</u>	<u>CTNNA1</u>	0.62	2.97E-05
<u>200839 s at</u>	<u>CTSB</u>	0.53	7.02E-04
<u>200766 at</u>	<u>CTSD</u>	0.58	1.40E-04
<u>202295 s at</u>	<u>CTSH</u>	0.54	4.56E-04
<u>1563445 x at</u>	<u>CTSL</u>	0.56	4.01E-04
<u>202902 s at</u>	<u>CTSS</u>	0.52	9.01E-04

<u>202901_x_at</u>	<u>CTSS</u>	0.56	2.20E-04
<u>227981_at</u>	<u>CYB561D1</u>	0.61	4.04E-05
<u>203922_s_at</u>	<u>CYBB</u>	0.54	6.39E-04
<u>203799_at</u>	<u>DCL-1</u>	0.61	8.22E-05
<u>222239_s_at</u>	<u>DDX26</u>	0.55	3.83E-04
<u>202447_at</u>	<u>DECR1</u>	0.53	5.91E-04
<u>205382_s_at</u>	<u>DF</u>	0.60	5.92E-05
<u>203669_s_at</u>	<u>DGAT1</u>	0.58	1.41E-04
<u>217794_at</u>	<u>DKFZP564J157</u>	0.52	8.16E-04
<u>91703_at</u>	<u>DKFZp762C186</u>	0.53	6.86E-04
<u>221755_at</u>	<u>DKFZp762C186</u>	0.54	4.04E-04
<u>224611_s_at</u>	<u>DNAJC5</u>	0.56	3.29E-04
<u>224612_s_at</u>	<u>DNAJC5</u>	0.63	2.29E-05
<u>224825_at</u>	<u>DNTTIP1</u>	0.58	1.44E-04
<u>223763_at</u>	<u>DTNBP1</u>	0.53	6.86E-04
<u>201537_s_at</u>	<u>DUSP3</u>	0.60	7.47E-05
<u>208891_at</u>	<u>DUSP6</u>	0.60	5.82E-05
<u>208892_s_at</u>	<u>DUSP6</u>	0.61	4.36E-05
<u>208893_s_at</u>	<u>DUSP6</u>	0.63	2.65E-05
<u>219551_at</u>	<u>EAF2</u>	0.54	4.42E-04
<u>204858_s_at</u>	<u>ECGF1</u>	0.59	1.18E-04
<u>222483_at</u>	<u>EFHD2</u>	0.56	2.79E-04
<u>208726_s_at</u>	<u>EIF2S2</u>	0.52	8.44E-04
<u>222262_s_at</u>	<u>EK1</u>	0.55	3.03E-04
<u>221773_at</u>	<u>ELK3</u>	0.54	6.28E-04
<u>224374_s_at</u>	<u>EMILIN2</u>	0.61	5.29E-05
<u>201719_s_at</u>	<u>EPB41L2</u>	0.57	3.12E-04
<u>211776_s_at</u>	<u>EPB41L3</u>	0.54	5.22E-04
<u>212681_at</u>	<u>EPB41L3</u>	0.54	6.04E-04
<u>225750_at</u>	<u>ERO1L</u>	0.59	1.15E-04
<u>1553352_x_at</u>	<u>ERVWE1</u>	0.54	4.44E-04
<u>205530_at</u>	<u>ETFDH</u>	0.56	3.86E-04
<u>204774_at</u>	<u>EVI2A</u>	0.80	< 1e-07
<u>211742_s_at</u>	<u>EVI2B</u>	0.63	2.04E-05
<u>213526_s_at</u>	<u>F25965</u>	0.54	5.26E-04
<u>225032_at</u>	<u>FAD104</u>	0.56	2.29E-04
<u>218618_s_at</u>	<u>FAD104</u>	0.63	2.88E-05
<u>209696_at</u>	<u>FBP1</u>	0.52	8.63E-04
<u>207674_at</u>	<u>FCAR</u>	0.53	7.73E-04
<u>204232_at</u>	<u>FCER1G</u>	0.54	5.09E-04
<u>1554899_s_at</u>	<u>FCER1G</u>	0.58	1.65E-04
<u>216950_s_at</u>	<u>FCGR1A</u>	0.58	1.47E-04
<u>214511_x_at</u>	<u>FCGR1A</u>	0.59	1.22E-04
<u>230559_x_at</u>	<u>FGD4</u>	0.54	4.55E-04
<u>227948_at</u>	<u>FGD4</u>	0.55	5.50E-04
<u>208438_s_at</u>	<u>FGR</u>	0.67	4.60E-06
<u>204236_at</u>	<u>FLI1</u>	0.59	2.23E-04
<u>225883_at</u>	<u>FLJ00012</u>	0.57	4.32E-04
<u>239135_at</u>	<u>FLJ11151</u>	0.59	1.43E-04

<u>218610_s_at</u>	<u>FLJ11151</u>	0.60	7.64E-05
<u>201818_at</u>	<u>FLJ12443</u>	0.65	1.35E-05
<u>208919_s_at</u>	<u>FLJ13052</u>	0.53	7.14E-04
<u>208918_s_at</u>	<u>FLJ13052</u>	0.68	3.30E-06
<u>213607_x_at</u>	<u>FLJ13052</u>	0.70	1.30E-06
<u>218029_at</u>	<u>FLJ13725</u>	0.60	8.59E-05
<u>218109_s_at</u>	<u>FLJ14153</u>	0.67	3.90E-06
<u>225316_at</u>	<u>FLJ14490</u>	0.54	5.45E-04
<u>235385_at</u>	<u>FLJ20668</u>	0.53	6.06E-04
<u>219574_at</u>	<u>FLJ20668</u>	0.61	5.20E-05
<u>226425_at</u>	<u>FLJ21069</u>	0.54	5.78E-04
<u>219202_at</u>	<u>FLJ22341</u>	0.66	7.10E-06
<u>233085_s_at</u>	<u>FLJ22833</u>	0.64	7.09E-05
<u>224779_s_at</u>	<u>FLJ22875</u>	0.54	9.10E-04
<u>226077_at</u>	<u>FLJ31951</u>	0.56	5.34E-04
<u>238063_at</u>	<u>FLJ32028</u>	0.60	6.55E-05
<u>238429_at</u>	<u>FLJ33069</u>	0.68	3.40E-06
<u>228937_at</u>	<u>FLJ38725</u>	0.53	7.38E-04
<u>208749_x_at</u>	<u>FLOT1</u>	0.52	8.61E-04
<u>219806_s_at</u>	<u>FN5</u>	0.64	1.66E-05
<u>209093_s_at</u>	<u>GBA</u>	0.55	4.18E-04
<u>204224_s_at</u>	<u>GCH1</u>	0.53	6.30E-04
<u>210658_s_at</u>	<u>GGA2</u>	0.54	6.34E-04
<u>211416_x_at</u>	<u>GGT1</u>	0.51	9.62E-04
<u>214681_at</u>	<u>GK</u>	0.55	3.76E-04
<u>214430_at</u>	<u>GLA</u>	0.60	9.55E-05
<u>204222_s_at</u>	<u>GLIPR1</u>	0.58	1.76E-04
<u>235678_at</u>	<u>GM2A</u>	0.54	4.29E-04
<u>35820_at</u>	<u>GM2A</u>	0.55	3.19E-04
<u>218913_s_at</u>	<u>GMIP</u>	0.62	3.84E-05
<u>202382_s_at</u>	<u>GNPDA1</u>	0.74	1.00E-07
<u>212334_at</u>	<u>GNS</u>	0.61	5.10E-05
<u>212335_at</u>	<u>GNS</u>	0.70	1.20E-06
<u>1554018_at</u>	<u>GPNMB</u>	0.61	4.18E-05
<u>205220_at</u>	<u>GPR109B</u>	0.63	3.41E-05
<u>214847_s_at</u>	<u>GPSM3</u>	0.55	3.00E-04
<u>212090_at</u>	<u>GRINA</u>	0.55	3.30E-04
<u>228754_at</u>	<u>GRIP2</u>	0.67	4.00E-06
<u>216041_x_at</u>	<u>GRN</u>	0.56	2.33E-04
<u>200678_x_at</u>	<u>GRN</u>	0.57	1.80E-04
<u>211284_s_at</u>	<u>GRN</u>	0.58	1.94E-04
<u>201673_s_at</u>	<u>GYS1</u>	0.53	7.69E-04
<u>212873_at</u>	<u>HA-1</u>	0.64	1.85E-05
<u>1555628_a_at</u>	<u>HAVCR2</u>	0.64	1.82E-05
<u>208018_s_at</u>	<u>HCK</u>	0.62	3.10E-05
<u>202957_at</u>	<u>HCLS1</u>	0.61	5.04E-05
<u>203430_at</u>	<u>HEBP2</u>	0.52	7.61E-04
<u>201944_at</u>	<u>HEXB</u>	0.68	2.50E-06
<u>226364_at</u>	<u>HIP1</u>	0.57	2.51E-04
<u>228772_at</u>	<u>HNMT</u>	0.52	8.03E-04

<u>211732_x_at</u>	<u>HNMT</u>	0.57	1.64E-04
<u>204112_s_at</u>	<u>HNMT</u>	0.60	7.49E-05
<u>36030_at</u>	<u>HOM-TES-103</u>	0.53	6.68E-04
<u>214651_s_at</u>	<u>HOXA9</u>	0.55	3.33E-04
<u>212552_at</u>	<u>HPCAL1</u>	0.53	5.89E-04
<u>218092_s_at</u>	<u>HRB</u>	0.51	9.65E-04
<u>200942_s_at</u>	<u>HSBP1</u>	0.64	1.43E-05
<u>200799_at</u>	<u>HSPA1A</u>	0.56	8.73E-04
<u>201841_s_at</u>	<u>HSPB1</u>	0.54	9.14E-04
<u>207180_s_at</u>	<u>HTATIP2</u>	0.53	6.32E-04
<u>209448_at</u>	<u>HTATIP2</u>	0.57	2.30E-04
<u>204683_at</u>	<u>ICAM2</u>	0.59	1.06E-04
<u>213620_s_at</u>	<u>ICAM2</u>	0.59	1.71E-04
<u>201631_s_at</u>	<u>IER3</u>	0.52	8.88E-04
<u>201422_at</u>	<u>IFI30</u>	0.53	9.28E-04
<u>201642_at</u>	<u>IFNGR2</u>	0.61	4.20E-05
<u>201393_s_at</u>	<u>IGF2R</u>	0.52	7.90E-04
<u>212827_at</u>	<u>IGHM</u>	0.60	1.16E-04
<u>206420_at</u>	<u>IGSF6</u>	0.58	1.16E-04
<u>227295_at</u>	<u>IKIP</u>	0.56	4.74E-04
<u>209575_at</u>	<u>IL10RB</u>	0.69	1.70E-06
<u>39402_at</u>	<u>IL1B</u>	0.52	7.22E-04
<u>226333_at</u>	<u>IL6R</u>	0.69	1.90E-06
<u>201234_at</u>	<u>ILK</u>	0.56	2.83E-04
<u>208594_x_at</u>	<u>ILT8</u>	0.58	1.19E-04
<u>202794_at</u>	<u>INPP1</u>	0.55	4.35E-04
<u>210840_s_at</u>	<u>IQGAP1</u>	0.53	7.40E-04
<u>220034_at</u>	<u>IRAK3</u>	0.59	9.79E-05
<u>210184_at</u>	<u>ITGAX</u>	0.62	3.06E-05
<u>203337_x_at</u>	<u>ITGB1BP1</u>	0.56	4.79E-04
<u>202803_s_at</u>	<u>ITGB2</u>	0.54	5.36E-04
<u>213146_at</u>	<u>JMJD3</u>	0.52	9.27E-04
<u>41386_i_at</u>	<u>JMJD3</u>	0.57	2.16E-04
<u>227647_at</u>	<u>KCNE3</u>	0.63	4.25E-05
<u>200700_s_at</u>	<u>KDELR2</u>	0.58	1.87E-04
<u>76897_s_at</u>	<u>KIAA0674</u>	0.51	9.94E-04
<u>212314_at</u>	<u>KIAA0746</u>	0.52	8.60E-04
<u>212311_at</u>	<u>KIAA0746</u>	0.56	3.39E-04
<u>204157_s_at</u>	<u>KIAA0999</u>	0.64	1.84E-05
<u>225922_at</u>	<u>KIAA1450</u>	0.53	6.99E-04
<u>229173_at</u>	<u>KIAA1715</u>	0.52	7.44E-04
<u>218755_at</u>	<u>KIF20A</u>	0.55	3.95E-04
<u>220266_s_at</u>	<u>KLF4</u>	0.57	1.71E-04
<u>1552486_s_at</u>	<u>LACTB</u>	0.52	7.69E-04
<u>210644_s_at</u>	<u>LAIR1</u>	0.67	5.30E-06
<u>228762_at</u>	<u>LFNG</u>	0.58	1.56E-04
<u>201105_at</u>	<u>LGALS1</u>	0.57	3.64E-04
<u>211100_x_at</u>	<u>LILRA1</u>	0.56	3.10E-04
<u>207857_at</u>	<u>LILRA2</u>	0.53	6.81E-04
<u>211101_x_at</u>	<u>LILRA2</u>	0.55	3.95E-04

<u>211102_s_at</u>	<u>LILRA2</u>	0.58	1.48E-04
<u>206881_s_at</u>	<u>LILRA3</u>	0.56	2.23E-04
<u>210146_x_at</u>	<u>LILRB2</u>	0.54	5.05E-04
<u>207697_x_at</u>	<u>LILRB2</u>	0.60	8.10E-05
<u>210152_at</u>	<u>LILRB4</u>	0.61	4.44E-05
<u>1555643_s_at</u>	<u>LIR9</u>	0.52	7.45E-04
<u>220132_s_at</u>	<u>LLT1</u>	0.53	7.14E-04
<u>225808_at</u>	<u>LOC124512</u>	0.55	4.65E-04
<u>226329_s_at</u>	<u>LOC129531</u>	0.65	3.56E-05
<u>212934_at</u>	<u>LOC137886</u>	0.67	8.20E-06
<u>1557049_at</u>	<u>LOC149478</u>	0.62	3.06E-05
<u>225618_at</u>	<u>LOC201176</u>	0.59	1.15E-04
<u>1557411_s_at</u>	<u>LOC203427</u>	0.58	1.43E-04
<u>226219_at</u>	<u>LOC257106</u>	0.58	1.34E-04
<u>238756_at</u>	<u>LOC283431</u>	0.54	4.60E-04
<u>227466_at</u>	<u>LOC285550</u>	0.54	4.93E-04
<u>225599_s_at</u>	<u>LOC286144</u>	0.63	2.42E-05
<u>226395_at</u>	<u>LOC286170</u>	0.57	1.64E-04
<u>212708_at</u>	<u>LOC339287</u>	0.55	3.36E-04
<u>224932_at</u>	<u>LOC400916</u>	0.80	< 1e-07
<u>223335_at</u>	<u>LOC51249</u>	0.63	6.05E-05
<u>240061_at</u>	<u>LOC54103</u>	0.55	3.16E-04
<u>213142_x_at</u>	<u>LOC54103</u>	0.60	1.20E-04
<u>205036_at</u>	<u>LSM6</u>	0.58	1.82E-04
<u>215633_x_at</u>	<u>LST1</u>	0.60	7.73E-05
<u>214574_x_at</u>	<u>LST1</u>	0.60	5.87E-05
<u>211582_x_at</u>	<u>LST1</u>	0.61	7.13E-05
<u>210629_x_at</u>	<u>LST1</u>	0.61	5.26E-05
<u>211581_x_at</u>	<u>LST1</u>	0.61	6.31E-05
<u>214181_x_at</u>	<u>LST1</u>	0.61	5.44E-05
<u>208771_s_at</u>	<u>LTA4H</u>	0.73	5.00E-07
<u>203005_at</u>	<u>LTBR</u>	0.55	3.67E-04
<u>200901_s_at</u>	<u>M6PR</u>	0.58	1.35E-04
<u>209166_s_at</u>	<u>MAN2B1</u>	0.56	2.31E-04
<u>213045_at</u>	<u>MAST3</u>	0.53	6.98E-04
<u>202484_s_at</u>	<u>MBD2</u>	0.64	1.38E-05
<u>1553978_at</u>	<u>MEF2B</u>	0.56	2.56E-04
<u>209199_s_at</u>	<u>MEF2C</u>	0.63	4.09E-05
<u>201126_s_at</u>	<u>MGAT1</u>	0.58	1.37E-04
<u>239824_s_at</u>	<u>MGC10744</u>	0.53	7.09E-04
<u>224480_s_at</u>	<u>MGC11324</u>	0.66	7.00E-06
<u>226276_at</u>	<u>MGC23909</u>	0.56	4.10E-04
<u>228532_at</u>	<u>MGC24133</u>	0.62	5.47E-05
<u>225401_at</u>	<u>MGC31963</u>	0.57	2.49E-04
<u>1558693_s_at</u>	<u>MGC31963</u>	0.64	1.49E-05
<u>226629_at</u>	<u>MGC34680</u>	0.62	3.50E-05
<u>209191_at</u>	<u>MGC4083</u>	0.54	6.36E-04
<u>218130_at</u>	<u>MGC4368</u>	0.56	2.82E-04
<u>225230_at</u>	<u>MGC54289</u>	0.66	7.40E-06
<u>209467_s_at</u>	<u>MKNK1</u>	0.53	6.25E-04

<u>203414_at</u>	<u>MMD</u>	0.58	1.48E-04
<u>204959_at</u>	<u>MNDA</u>	0.59	1.33E-04
<u>233177_s_at</u>	<u>MR-1</u>	0.66	8.40E-06
<u>225523_at</u>	<u>MRPL53</u>	0.53	8.72E-04
<u>219666_at</u>	<u>MS4A6A</u>	0.56	5.13E-04
<u>223344_s_at</u>	<u>MS4A7</u>	0.55	5.67E-04
<u>214770_at</u>	<u>MSR1</u>	0.53	6.00E-04
<u>210242_x_at</u>	<u>MTHFS</u>	0.65	9.80E-06
<u>202180_s_at</u>	<u>MVP</u>	0.65	1.02E-05
<u>1555041_a_at</u>	<u>NAGA</u>	0.53	6.12E-04
<u>202943_s_at</u>	<u>NAGA</u>	0.55	3.13E-04
<u>202944_at</u>	<u>NAGA</u>	0.56	2.72E-04
<u>218231_at</u>	<u>NAGK</u>	0.59	9.02E-05
<u>209949_at</u>	<u>NCF2</u>	0.62	2.98E-05
<u>222422_s_at</u>	<u>NDFIP1</u>	0.58	1.79E-04
<u>217800_s_at</u>	<u>NDFIP1</u>	0.63	5.20E-05
<u>206790_s_at</u>	<u>NDUFB1</u>	0.55	3.03E-04
<u>203621_at</u>	<u>NDUFB5</u>	0.52	8.83E-04
<u>223158_s_at</u>	<u>NEK6</u>	0.54	4.81E-04
<u>222774_s_at</u>	<u>NETO2</u>	0.56	3.50E-04
<u>207535_s_at</u>	<u>NFKB2</u>	0.57	2.07E-04
<u>1553043_a_at</u>	<u>NKIR</u>	0.73	4.00E-07
<u>201157_s_at</u>	<u>NMT1</u>	0.52	7.80E-04
<u>212377_s_at</u>	<u>NOTCH2</u>	0.61	4.42E-05
<u>202443_x_at</u>	<u>NOTCH2</u>	0.62	3.46E-05
<u>200701_at</u>	<u>NPC2</u>	0.56	2.21E-04
<u>240440_at</u>	<u>NPL</u>	0.53	6.35E-04
<u>202395_at</u>	<u>NSF</u>	0.53	8.82E-04
<u>207545_s_at</u>	<u>NUMB</u>	0.54	5.17E-04
<u>209073_s_at</u>	<u>NUMB</u>	0.64	2.26E-05
<u>220035_at</u>	<u>NUP210</u>	0.53	9.99E-04
<u>202155_s_at</u>	<u>NUP214</u>	0.59	9.78E-05
<u>202153_s_at</u>	<u>NUP62</u>	0.56	2.23E-04
<u>224707_at</u>	<u>ORF1-FL49</u>	0.66	7.30E-06
<u>218556_at</u>	<u>ORMDL2</u>	0.56	2.81E-04
<u>218304_s_at</u>	<u>OSBPL11</u>	0.68	2.30E-06
<u>1554503_a_at</u>	<u>OSCAR</u>	0.56	2.32E-04
<u>204479_at</u>	<u>OSTF1</u>	0.65	1.21E-05
<u>218196_at</u>	<u>OSTM1</u>	0.60	5.97E-05
<u>220001_at</u>	<u>PADI4</u>	0.57	2.45E-04
<u>209615_s_at</u>	<u>PAK1</u>	0.55	3.43E-04
<u>223562_at</u>	<u>PARVG</u>	0.53	6.63E-04
<u>243296_at</u>	<u>PBEF1</u>	0.58	1.97E-04
<u>208857_s_at</u>	<u>PCMT1</u>	0.54	6.41E-04
<u>217746_s_at</u>	<u>PDCD6IP</u>	0.59	9.01E-05
<u>202671_s_at</u>	<u>PDXK</u>	0.59	9.50E-05
<u>218018_at</u>	<u>PDXK</u>	0.62	3.59E-05
<u>200788_s_at</u>	<u>PEA15</u>	0.52	7.35E-04
<u>200787_s_at</u>	<u>PEA15</u>	0.53	5.95E-04
<u>208981_at</u>	<u>PECAM1</u>	0.58	1.43E-04

<u>208983_s_at</u>	<u>PECAM1</u>	0.58	1.79E-04
<u>244126_at</u>	<u>PEX11G</u>	0.54	5.08E-04
<u>206380_s_at</u>	<u>PFC</u>	0.58	1.29E-04
<u>200886_s_at</u>	<u>PGAM1</u>	0.58	1.54E-04
<u>213638_at</u>	<u>PHACTR1</u>	0.56	4.20E-04
<u>222689_at</u>	<u>PHCA</u>	0.52	7.28E-04
<u>212120_at</u>	<u>PIGF</u>	0.71	7.00E-07
<u>226459_at</u>	<u>PIK3AP1</u>	0.55	4.79E-04
<u>219788_at</u>	<u>PILRA</u>	0.55	3.40E-04
<u>222218_s_at</u>	<u>PILRA</u>	0.57	1.90E-04
<u>201251_at</u>	<u>PKM2</u>	0.59	1.41E-04
<u>210145_at</u>	<u>PLA2G4A</u>	0.62	9.22E-05
<u>214866_at</u>	<u>PLAUR</u>	0.57	1.88E-04
<u>204613_at</u>	<u>PLCG2</u>	0.59	1.04E-04
<u>203471_s_at</u>	<u>PLEK</u>	0.54	4.04E-04
<u>202446_s_at</u>	<u>PLSCR1</u>	0.59	8.73E-05
<u>202430_s_at</u>	<u>PLSCR1</u>	0.60	9.77E-05
<u>202996_at</u>	<u>POLD4</u>	0.58	3.50E-04
<u>217848_s_at</u>	<u>PP</u>	0.61	4.34E-05
<u>225373_at</u>	<u>PP2135</u>	0.63	2.45E-05
<u>212841_s_at</u>	<u>PPFIBP2</u>	0.52	8.01E-04
<u>241742_at</u>	<u>PRAM-1</u>	0.54	5.62E-04
<u>201494_at</u>	<u>PRCP</u>	0.63	2.77E-05
<u>201619_at</u>	<u>PRDX3</u>	0.52	9.77E-04
<u>201859_at</u>	<u>PRG1</u>	0.53	8.34E-04
<u>233748_x_at</u>	<u>PRKAG2</u>	0.66	6.40E-06
<u>200603_at</u>	<u>PRKAR1A</u>	0.57	2.01E-04
<u>200605_s_at</u>	<u>PRKAR1A</u>	0.60	1.73E-04
<u>202545_at</u>	<u>PRKCD</u>	0.52	7.54E-04
<u>219023_at</u>	<u>PRO0971</u>	0.53	9.13E-04
<u>219183_s_at</u>	<u>PSCD4</u>	0.56	2.43E-04
<u>203460_s_at</u>	<u>PSEN1</u>	0.58	3.80E-04
<u>211178_s_at</u>	<u>PSTPIP1</u>	0.71	6.00E-07
<u>202896_s_at</u>	<u>PTPNS1</u>	0.55	3.78E-04
<u>202897_at</u>	<u>PTPNS1</u>	0.63	2.46E-05
<u>202990_at</u>	<u>PYGL</u>	0.53	7.02E-04
<u>212636_at</u>	<u>QKI</u>	0.72	7.00E-07
<u>205174_s_at</u>	<u>QPCT</u>	0.54	7.39E-04
<u>217764_s_at</u>	<u>RAB31</u>	0.53	7.01E-04
<u>1555630_a_at</u>	<u>RAB34</u>	0.57	1.86E-04
<u>224710_at</u>	<u>RAB34</u>	0.58	1.58E-04
<u>211961_s_at</u>	<u>RAB7</u>	0.54	5.30E-04
<u>218700_s_at</u>	<u>RAB7L1</u>	0.55	3.82E-04
<u>218699_at</u>	<u>RAB7L1</u>	0.58	1.68E-04
<u>213603_s_at</u>	<u>RAC2</u>	0.59	1.68E-04
<u>209050_s_at</u>	<u>RALGDS</u>	0.53	6.02E-04
<u>225188_at</u>	<u>RAPH1</u>	0.55	4.58E-04
<u>212820_at</u>	<u>RC3</u>	0.63	2.57E-05
<u>202296_s_at</u>	<u>RER1</u>	0.58	1.28E-04
<u>204336_s_at</u>	<u>RGS19</u>	0.58	1.18E-04

<u>212122</u> at	<u>RHOQ</u>	0.52	8.27E-04
<u>212117</u> at	<u>RHOQ</u>	0.59	1.08E-04
<u>214449</u> s at	<u>RHOQ</u>	0.61	6.89E-05
<u>212119</u> at	<u>RHOQ</u>	0.68	2.20E-06
<u>209684</u> at	<u>RIN2</u>	0.51	9.54E-04
<u>201779</u> s at	<u>RNF13</u>	0.69	1.90E-06
<u>201780</u> s at	<u>RNF13</u>	0.71	7.00E-07
<u>223592</u> s at	<u>RNF135</u>	0.65	1.12E-05
<u>225414</u> at	<u>RNF149</u>	0.64	2.38E-05
<u>206050</u> s at	<u>RNH</u>	0.53	6.01E-04
<u>206168</u> at	<u>RoXaN</u>	0.59	1.14E-04
<u>203379</u> at	<u>RPS6KA1</u>	0.61	7.07E-05
<u>202449</u> s at	<u>RXRA</u>	0.52	7.92E-04
<u>200660</u> at	<u>S100A11</u>	0.59	9.59E-05
<u>208540</u> x at	<u>S100A11</u>	0.60	6.06E-05
<u>218254</u> s at	<u>SARA2</u>	0.65	1.92E-05
<u>200802</u> at	<u>SARS</u>	0.58	1.40E-04
<u>225272</u> at	<u>SAT2</u>	0.55	3.46E-04
<u>206995</u> x at	<u>SCARF1</u>	0.54	5.97E-04
<u>202228</u> s at	<u>SDFR1</u>	0.53	7.50E-04
<u>210293</u> s at	<u>SEC23B</u>	0.58	1.27E-04
<u>201583</u> s at	<u>SEC23B</u>	0.61	6.54E-05
<u>222127</u> s at	<u>SEC3L1</u>	0.55	3.72E-04
<u>219259</u> at	<u>SEMA4A</u>	0.58	1.57E-04
<u>202833</u> s at	<u>SERPINA1</u>	0.52	8.82E-04
<u>212268</u> at	<u>SERPINB1</u>	0.54	5.32E-04
<u>212321</u> at	<u>SGPL1</u>	0.57	1.60E-04
<u>212322</u> at	<u>SGPL1</u>	0.72	3.00E-07
<u>226673</u> at	<u>SH2D3C</u>	0.51	9.74E-04
<u>1555702</u> a at	<u>SIAT6</u>	0.52	8.83E-04
<u>230836</u> at	<u>SIAT8D</u>	0.54	6.19E-04
<u>242943</u> at	<u>SIAT8D</u>	0.54	5.74E-04
<u>230261</u> at	<u>SIAT8D</u>	0.62	4.78E-05
<u>217507</u> at	<u>SLC11A1</u>	0.52	8.90E-04
<u>217473</u> x at	<u>SLC11A1</u>	0.55	3.41E-04
<u>210423</u> s at	<u>SLC11A1</u>	0.58	1.41E-04
<u>210422</u> x at	<u>SLC11A1</u>	0.58	1.56E-04
<u>218066</u> at	<u>SLC12A7</u>	0.54	5.35E-04
<u>219593</u> at	<u>SLC15A3</u>	0.52	7.40E-04
<u>202856</u> s at	<u>SLC16A3</u>	0.57	2.05E-04
<u>217691</u> x at	<u>SLC16A3</u>	0.58	1.39E-04
<u>202855</u> s at	<u>SLC16A3</u>	0.59	1.11E-04
<u>206600</u> s at	<u>SLC16A5</u>	0.63	3.18E-05
<u>204342</u> at	<u>SLC25A24</u>	0.61	6.65E-05
<u>226679</u> at	<u>SLC26A11</u>	0.58	1.39E-04
<u>204430</u> s at	<u>SLC2A5</u>	0.61	1.11E-04
<u>220091</u> at	<u>SLC2A6</u>	0.55	5.65E-04
<u>203971</u> at	<u>SLC31A1</u>	0.59	1.30E-04
<u>214830</u> at	<u>SLC38A6</u>	0.57	1.82E-04
<u>213113</u> s at	<u>SLC43A3</u>	0.55	3.65E-04

<u>203076_s_at</u>	<u>SMAD2</u>	0.54	5.27E-04
<u>218404_at</u>	<u>SNX10</u>	0.68	2.20E-06
<u>202114_at</u>	<u>SNX2</u>	0.56	2.24E-04
<u>202113_s_at</u>	<u>SNX2</u>	0.58	1.47E-04
<u>223241_at</u>	<u>SNX8</u>	0.53	9.76E-04
<u>227716_at</u>	<u>SOC</u>	0.59	1.10E-04
<u>217827_s_at</u>	<u>SPG21</u>	0.57	2.32E-04
<u>226353_at</u>	<u>SPPL2A</u>	0.56	2.48E-04
<u>222411_s_at</u>	<u>SSR3</u>	0.57	2.48E-04
<u>38487_at</u>	<u>STAB1</u>	0.55	4.18E-04
<u>204150_at</u>	<u>STAB1</u>	0.57	2.04E-04
<u>201331_s_at</u>	<u>STAT6</u>	0.67	9.30E-06
<u>40420_at</u>	<u>STK10</u>	0.54	6.37E-04
<u>212111_at</u>	<u>STX12</u>	0.63	3.35E-05
<u>203530_s_at</u>	<u>STX4A</u>	0.52	7.49E-04
<u>212459_x_at</u>	<u>SUCLG2</u>	0.66	1.42E-05
<u>215772_x_at</u>	<u>SUCLG2</u>	0.66	2.63E-05
<u>214835_s_at</u>	<u>SUCLG2</u>	0.67	8.90E-06
<u>202565_s_at</u>	<u>SVIL</u>	0.56	3.78E-04
<u>201079_at</u>	<u>SYNGR2</u>	0.56	2.64E-04
<u>229723_at</u>	<u>TAGAP</u>	0.54	8.97E-04
<u>209451_at</u>	<u>TANK</u>	0.57	1.92E-04
<u>212350_at</u>	<u>TBC1D1</u>	0.57	2.01E-04
<u>222173_s_at</u>	<u>TBC1D2</u>	0.61	7.14E-05
<u>212685_s_at</u>	<u>TBL2</u>	0.54	6.92E-04
<u>236345_at</u>	<u>TBXAS1</u>	0.54	5.12E-04
<u>212382_at</u>	<u>TCF4</u>	0.56	6.33E-04
<u>216037_x_at</u>	<u>TCF7L2</u>	0.53	6.24E-04
<u>212762_s_at</u>	<u>TCF7L2</u>	0.54	5.16E-04
<u>212761_at</u>	<u>TCF7L2</u>	0.54	4.52E-04
<u>216035_x_at</u>	<u>TCF7L2</u>	0.57	1.94E-04
<u>204158_s_at</u>	<u>TCIRG1</u>	0.58	2.23E-04
<u>204043_at</u>	<u>TCN2</u>	0.53	7.04E-04
<u>200803_s_at</u>	<u>TEGT</u>	0.53	7.59E-04
<u>217853_at</u>	<u>TENS1</u>	0.59	1.65E-04
<u>206715_at</u>	<u>TFEC</u>	0.52	8.72E-04
<u>234942_s_at</u>	<u>THRAP3</u>	0.55	4.26E-04
<u>224560_at</u>	<u>TIMP2</u>	0.57	1.77E-04
<u>231579_s_at</u>	<u>TIMP2</u>	0.59	1.14E-04
<u>204924_at</u>	<u>TLR2</u>	0.61	5.44E-05
<u>224341_x_at</u>	<u>TLR4</u>	0.53	5.66E-04
<u>1552798_a_at</u>	<u>TLR4</u>	0.54	6.84E-04
<u>232068_s_at</u>	<u>TLR4</u>	0.55	3.68E-04
<u>229560_at</u>	<u>TLR8</u>	0.56	2.72E-04
<u>204137_at</u>	<u>TM7SF1</u>	0.55	3.12E-04
<u>224906_at</u>	<u>TMEM16F</u>	0.60	6.28E-05
<u>238513_at</u>	<u>TMG4</u>	0.56	8.29E-04
<u>227062_at</u>	<u>TncRNA</u>	0.56	5.10E-04
<u>202510_s_at</u>	<u>TNFAIP2</u>	0.65	1.10E-05
<u>207643_s_at</u>	<u>TNFRSF1A</u>	0.61	5.77E-05

<u>211495_x_at</u>	<u>TNFSF13</u>	0.53	6.13E-04
<u>223502_s_at</u>	<u>TNFSF13B</u>	0.74	2.00E-07
<u>223501_at</u>	<u>TNFSF13B</u>	0.76	1.00E-07
<u>235735_at</u>	<u>TNFSF8</u>	0.65	1.15E-05
<u>207196_s_at</u>	<u>TNIP1</u>	0.53	5.46E-04
<u>206393_at</u>	<u>TNNI2</u>	0.59	9.61E-05
<u>225802_at</u>	<u>TOP1MT</u>	0.54	4.07E-04
<u>229250_at</u>	<u>TPCN2</u>	0.59	9.81E-05
<u>221218_s_at</u>	<u>TPK1</u>	0.61	5.52E-05
<u>219434_at</u>	<u>TREM1</u>	0.56	2.37E-04
<u>205875_s_at</u>	<u>TREX1</u>	0.56	2.96E-04
<u>202241_at</u>	<u>TRIB1</u>	0.52	9.35E-04
<u>203567_s_at</u>	<u>TRIM38</u>	0.59	8.94E-05
<u>226071_at</u>	<u>TSRC1</u>	0.55	3.83E-04
<u>208959_s_at</u>	<u>TXNDC4</u>	0.62	2.79E-05
<u>204122_at</u>	<u>TYROBP</u>	0.57	2.33E-04
<u>223014_at</u>	<u>UBE2R2</u>	0.54	5.12E-04
<u>201817_at</u>	<u>UBE3C</u>	0.52	7.65E-04
<u>203271_s_at</u>	<u>UNC119</u>	0.59	9.04E-05
<u>225003_at</u>	<u>UNQ501</u>	0.63	4.35E-05
<u>223303_at</u>	<u>URP2</u>	0.54	4.10E-04
<u>206219_s_at</u>	<u>VAV1</u>	0.63	3.24E-05
<u>204254_s_at</u>	<u>VDR</u>	0.53	6.12E-04
<u>211527_x_at</u>	<u>VEGF</u>	0.54	6.05E-04
<u>220990_s_at</u>	<u>VMP1</u>	0.65	1.86E-05
<u>200629_at</u>	<u>WARS</u>	0.53	7.04E-04
<u>200628_s_at</u>	<u>WARS</u>	0.56	2.85E-04
<u>225662_at</u>	<u>ZAK</u>	0.53	6.81E-04
<u>220933_s_at</u>	<u>ZCCHC6</u>	0.68	6.70E-06
<u>215706_x_at</u>	<u>ZYX</u>	0.53	6.19E-04
<u>1559117_at</u>	Not assigned	0.51	9.42E-04
<u>1562955_at</u>	"	0.52	9.21E-04
<u>244414_at</u>	"	0.52	9.07E-04
<u>226789_at</u>	"	0.52	7.33E-04
<u>227731_at</u>	"	0.52	7.82E-04
<u>224769_at</u>	"	0.52	8.08E-04
<u>227396_at</u>	"	0.53	6.05E-04
<u>235798_at</u>	"	0.53	6.05E-04
<u>243404_at</u>	"	0.53	7.13E-04
<u>241353_s_at</u>	"	0.53	8.22E-04
<u>230631_s_at</u>	"	0.54	4.51E-04
<u>240165_at</u>	"	0.54	5.17E-04
<u>1558299_at</u>	"	0.54	5.06E-04
<u>1560034_a_at</u>	"	0.55	4.83E-04
<u>215185_at</u>	"	0.57	2.61E-04
<u>1566165_at</u>	"	0.57	2.16E-04
<u>229040_at</u>	"	0.57	1.74E-04
<u>227853_at</u>	"	0.58	1.68E-04
<u>1569149_at</u>	"	0.58	1.22E-04
<u>1568955_at</u>	"	0.58	2.40E-04

<u>229067_at</u>	"	0.58	1.28E-04
<u>229041_s_at</u>	"	0.60	1.15E-04
<u>230874_at</u>	"	0.60	9.29E-05
<u>242714_at</u>	"	0.62	2.90E-05
<u>234784_at</u>	"	0.63	2.72E-05
<u>229157_at</u>	"	0.65	2.50E-05
<u>230466_s_at</u>	"	0.67	9.30E-06
<u>230741_at</u>	"	0.68	4.70E-06
<u>229156_s_at</u>	"	0.70	1.20E-06
<u>227167_s_at</u>	"	0.70	1.20E-06
<u>224602_at</u>	"	0.71	6.00E-07

Table 4S. Gene Ontology (GO) Terms of Biological Processes Significantly Overrepresented in the Gene-expression Signature Associated with the MicroRNA Summary Value.*

GO ID	Gene Ontology Term	Percentage of Members in the GO Term Present in the Gene Expression Signature	P Value
50715	Positive regulation of cytokine secretion	66.7	<0.001
50701	Interleukin-1 secretion	66.7	<0.001
50702	Interleukin-1 beta secretion	66.7	<0.001
9595	Detection of biotic stimulus	62.5	<0.001
42535	Positive regulation of tumor necrosis factor biosynthetic process	60.0	0.002
50718	Positive regulation of interleukin-1 beta secretion	60.0	0.004
50704	Regulation of interleukin-1 secretion	60.0	0.004
50706	Regulation of interleukin-1 beta secretion	60.0	0.004
50716	Positive regulation of interleukin-1 secretion	60.0	0.004
19377	Glycolipid catabolic process	60.0	0.003
50707	Regulation of cytokine secretion	57.1	<0.001
50663	Cytokine secretion	50.0	<0.001
42116	Macrophage activation	50.0	0.002
42534	Regulation of tumor necrosis factor biosynthetic process	50.0	0.005
42533	Tumor necrosis factor biosynthetic process	50.0	0.005
32640	Tumor necrosis factor production	50.0	0.005

* Shown are Gene Ontology terms with $\geq 50\%$ of their assigned members represented in the gene-expression signature associated with the microRNA summary value. Gray shading identifies terms associated with genes encoding proteins in the NOD-like receptor/interleukin-1 β pathways and light blue shading identifies terms associated with genes encoding proteins in the Toll-like receptor pathways.