



Table S1. List of miRNAs differentially expressed after *in vitro* lithium treatment exclusively in excellent responders at an FDR $q < 0.2$.

miRNA	FC	<i>p</i>	FDR <i>q</i>
hsa-miR-29b-3p	1.41	0.0010	0.10
hsa-miR-374a-5p	1.54	0.0025	0.13
hsa-miR-27a-3p	1.18	0.0040	0.14
hsa-miR-23a-3p	1.25	0.0058	0.15
hsa-miR-106b-5p	1.28	0.0086	0.18

Abbreviations: FC, fold change; FDR, false discovery rate.

Table S2. Pairs of miRNAs and mRNAs differentially expressed between lithium excellent responders and non-responders, significantly negatively correlated and predicted by in-silico algorithms. The significant threshold was set at FDR $q < 0.05$.

miRNA	FC	mRNA	FC	Pearson's <i>r</i>	<i>p</i>	FDR <i>q</i>	<i>In-silico</i> score
hsa-miR-421	1.34	<i>PLCXD1</i>	0.74	-0.87	3.58×10^{-7}	0.0148	1
hsa-miR-155-3p	2.27	<i>RP2</i>	0.73	-0.84	1.53×10^{-6}	0.0218	1
hsa-miR-320a	0.55	<i>BHLHE40</i>	1.37	-0.84	2.00×10^{-6}	0.0218	6
hsa-miR-1273h-3p	0.49	<i>PEX14</i>	1.08	-0.84	2.14×10^{-6}	0.0218	1
hsa-miR-320a	0.55	<i>LSP1</i>	1.48	-0.83	2.36×10^{-6}	0.0218	1
hsa-miR-345-5p	0.56	<i>STRA6</i>	1.21	-0.83	3.17×10^{-6}	0.0235	1
hsa-miR-138-5p	0.32	<i>GABARAP</i>	1.14	-0.82	4.02×10^{-6}	0.0245	2
hsa-miR-138-5p	0.32	<i>ZBTB45</i>	1.16	-0.82	4.79×10^{-6}	0.0245	2
hsa-miR-320a	0.55	<i>FSTL3</i>	1.64	-0.82	5.51×10^{-6}	0.0245	1
hsa-miR-320a	0.55	<i>C9</i>	1.13	-0.81	6.10×10^{-6}	0.0245	2
hsa-miR-155-3p	2.27	<i>DNASE1L3</i>	0.29	-0.81	6.19×10^{-6}	0.0245	1
hsa-miR-9-5p	0.57	<i>PARP4</i>	1.13	-0.81	6.62×10^{-6}	0.0245	1
hsa-miR-15a-5p	1.62	<i>SMARCA2</i>	0.74	-0.80	1.01×10^{-5}	0.0304	1
hsa-miR-155-3p	2.27	<i>SP4</i>	0.68	-0.80	1.09×10^{-5}	0.0304	4
hsa-miR-378a-3p	0.68	<i>ATF7</i>	1.14	-0.80	1.15×10^{-5}	0.0304	2
hsa-miR-155-3p	2.27	<i>ZC3HC1</i>	0.88	-0.80	1.19×10^{-5}	0.0304	1
hsa-miR-421	1.34	<i>SFRP1</i>	0.51	-0.80	1.38×10^{-5}	0.0304	2
hsa-miR-374a-3p	1.74	<i>ENGASE</i>	0.84	-0.80	1.39×10^{-5}	0.0304	1
hsa-miR-574-3p	0.32	<i>TCEB3</i>	1.25	-0.80	1.39×10^{-5}	0.0304	2
hsa-miR-374a-3p	1.74	<i>PTPMT1</i>	0.91	-0.79	1.42×10^{-5}	0.0304	1
hsa-miR-1273h-3p	0.49	<i>ISCU</i>	1.19	-0.79	1.48×10^{-5}	0.0304	3
hsa-miR-345-5p	0.56	<i>RER1</i>	1.11	-0.79	1.57×10^{-5}	0.0304	2
hsa-miR-1273h-3p	0.49	<i>EDF1</i>	1.13	-0.79	1.58×10^{-5}	0.0304	2
hsa-miR-378a-3p	0.68	<i>DCAF11</i>	1.17	-0.79	1.64×10^{-5}	0.0304	1
hsa-miR-320a	0.55	<i>PAPSS2</i>	2.59	-0.79	1.75×10^{-5}	0.0314	1
hsa-miR-138-5p	0.32	<i>BCL2L1</i>	1.39	-0.79	1.78×10^{-5}	0.0314	4
hsa-miR-374a-3p	1.74	<i>PLXNA1</i>	0.76	-0.79	1.90×10^{-5}	0.0321	1

hsa-miR-320a	0.55	<i>RHOA</i>	1.11	-0.79	1.99×10^{-5}	0.0321	1
hsa-miR-27a-5p	1.66	<i>DNAJB4</i>	0.73	-0.78	2.07×10^{-5}	0.0321	1
hsa-miR-345-5p	0.56	<i>CYB5D2</i>	1.24	-0.78	2.31×10^{-5}	0.0332	3
hsa-miR-378a-3p	0.68	<i>SIRT2</i>	1.14	-0.78	2.38×10^{-5}	0.0332	1
hsa-miR-378a-3p	0.68	<i>PPP1CA</i>	1.15	-0.78	2.69×10^{-5}	0.0338	2
hsa-miR-378a-3p	0.68	<i>ASCC1</i>	1.24	-0.78	2.86×10^{-5}	0.0349	1
hsa-miR-320a	0.55	<i>FAM3D</i>	1.09	-0.78	2.89×10^{-5}	0.0349	1
hsa-miR-574-3p	0.32	<i>RNF31</i>	1.17	-0.78	2.94×10^{-5}	0.0349	1
hsa-miR-574-3p	0.32	<i>CREM</i>	1.34	-0.78	2.97×10^{-5}	0.0349	1
hsa-miR-454-5p	2.14	<i>SIRT4</i>	0.88	-0.77	3.38×10^{-5}	0.0374	1
hsa-miR-155-3p	2.27	<i>BICD2</i>	0.89	-0.77	3.40×10^{-5}	0.0374	4
hsa-miR-125a-5p	0.16	<i>STS</i>	1.86	-0.77	3.52×10^{-5}	0.0374	4
hsa-miR-421	1.34	<i>ANGPTL2</i>	0.77	-0.77	3.59×10^{-5}	0.0374	4
hsa-miR-15a-5p	1.62	<i>DIABLO</i>	0.90	-0.77	3.69×10^{-5}	0.0374	1
hsa-miR-1273h-3p	0.49	<i>BOD1</i>	1.11	-0.77	3.73×10^{-5}	0.0374	1
hsa-miR-345-5p	0.56	<i>TSPYL1</i>	1.21	-0.77	3.75×10^{-5}	0.0374	1
hsa-miR-142-3p	1.47	<i>BDH1</i>	0.88	-0.77	3.85×10^{-5}	0.0374	2
hsa-miR-378a-3p	0.68	<i>DUSP4</i>	1.50	-0.77	3.91×10^{-5}	0.0374	5
hsa-miR-320a	0.55	<i>CA5B</i>	1.42	-0.77	3.98×10^{-5}	0.0374	3
hsa-miR-1273h-3p	0.49	<i>FPGS</i>	1.10	-0.77	4.04×10^{-5}	0.0374	2
hsa-miR-130b-3p	0.69	<i>GFOD2</i>	1.12	-0.77	4.24×10^{-5}	0.0374	1
hsa-miR-15a-5p	1.62	<i>WDR48</i>	0.82	-0.76	4.30×10^{-5}	0.0374	3
hsa-miR-1273h-3p	0.49	<i>MAPK8IP3</i>	1.10	-0.76	4.31×10^{-5}	0.0374	2
hsa-miR-941	0.54	<i>MFNG</i>	1.28	-0.76	4.35×10^{-5}	0.0374	2
hsa-miR-194-5p	0.6	<i>ST8SIA2</i>	1.14	-0.76	4.36×10^{-5}	0.0374	1
hsa-miR-9-5p	0.57	<i>IL2RA</i>	2.46	-0.76	4.38×10^{-5}	0.0374	2
hsa-miR-320a	0.55	<i>ADD1</i>	1.15	-0.76	4.49×10^{-5}	0.0374	4
hsa-miR-378a-3p	0.68	<i>ZNF70</i>	1.22	-0.76	4.52×10^{-5}	0.0374	3
hsa-miR-155-3p	2.27	<i>KYAT1</i>	0.75	-0.76	4.53×10^{-5}	0.0374	1
hsa-miR-374a-3p	1.74	<i>PIR</i>	0.73	-0.76	4.56×10^{-5}	0.0374	2
hsa-miR-378a-3p	0.68	<i>SH2B3</i>	1.31	-0.76	4.79×10^{-5}	0.0374	2
hsa-miR-505-3p	0.5	<i>VAPB</i>	1.14	-0.76	4.80×10^{-5}	0.0374	4
hsa-miR-320a	0.55	<i>EDEM1</i>	1.25	-0.76	4.83×10^{-5}	0.0374	5
hsa-miR-378a-3p	0.68	<i>ZBTB45</i>	1.16	-0.76	4.89×10^{-5}	0.0374	1
hsa-miR-148a-3p	2.23	<i>EIF2AK2</i>	0.84	-0.76	5.12×10^{-5}	0.0377	2
hsa-miR-574-3p	0.32	<i>PSMC1</i>	1.17	-0.76	5.22×10^{-5}	0.0377	1
hsa-miR-320a	0.55	<i>BCL2L1</i>	1.39	-0.76	5.25×10^{-5}	0.0377	1
hsa-miR-345-5p	0.56	<i>GRHL3</i>	1.18	-0.76	5.27×10^{-5}	0.0377	1
hsa-miR-374a-3p	1.74	<i>TNS3</i>	0.73	-0.76	5.34×10^{-5}	0.0377	1
hsa-miR-378a-3p	0.68	<i>ARPC4</i>	1.18	-0.76	5.46×10^{-5}	0.0382	2
hsa-miR-15a-5p	1.62	<i>CHMP7</i>	0.81	-0.76	5.56×10^{-5}	0.0385	1
hsa-miR-15a-5p	1.62	<i>VPRBP</i>	0.85	-0.76	5.64×10^{-5}	0.0385	1
hsa-miR-378a-3p	0.68	<i>TMEM8A</i>	1.23	-0.76	5.66×10^{-5}	0.0385	1

hsa-miR-181a-3p	2.61	<i>CD59</i>	0.84	-0.75	6.05×10^{-5}	0.0395	1
hsa-miR-378a-3p	0.68	<i>SCAMP2</i>	1.34	-0.75	6.12×10^{-5}	0.0395	1
hsa-miR-1273h-3p	0.49	<i>UPP1</i>	1.45	-0.75	6.16×10^{-5}	0.0395	1
hsa-miR-345-5p	0.56	<i>PLEKHG5</i>	1.08	-0.75	6.23×10^{-5}	0.0395	1
hsa-miR-1273h-3p	0.49	<i>CCM2</i>	1.17	-0.75	6.24×10^{-5}	0.0395	1
hsa-miR-378a-3p	0.68	<i>RPS6KA1</i>	1.19	-0.75	6.27×10^{-5}	0.0395	4
hsa-miR-1273h-3p	0.49	<i>TRAF4</i>	1.26	-0.75	6.27×10^{-5}	0.0395	2
hsa-miR-155-3p	2.27	<i>KPTN</i>	0.73	-0.75	6.31×10^{-5}	0.0395	1
hsa-miR-1273h-3p	0.49	<i>PDZD2</i>	1.36	-0.75	6.47×10^{-5}	0.0395	1
hsa-miR-155-3p	2.27	<i>NDRG3</i>	0.73	-0.75	6.67×10^{-5}	0.0395	6
hsa-miR-378a-3p	0.68	<i>DAP</i>	1.17	-0.75	6.74×10^{-5}	0.0395	2
hsa-miR-155-3p	2.27	<i>PHF16</i>	0.42	-0.75	6.77×10^{-5}	0.0395	4
hsa-miR-320a	0.55	<i>STAT5A</i>	1.25	-0.75	6.80×10^{-5}	0.0395	2
hsa-miR-505-3p	0.5	<i>CIRBP</i>	1.37	-0.75	6.87×10^{-5}	0.0395	1
hsa-miR-9-5p	0.57	<i>CD40LG</i>	1.14	-0.75	6.98×10^{-5}	0.0395	2
hsa-miR-574-3p	0.32	<i>ISG20L2</i>	1.34	-0.75	7.05×10^{-5}	0.0395	1
hsa-miR-378a-3p	0.68	<i>PIGT</i>	1.13	-0.75	7.05×10^{-5}	0.0395	3
hsa-miR-505-3p	0.5	<i>EDF1</i>	1.13	-0.75	7.06×10^{-5}	0.0395	1
hsa-miR-320a	0.55	<i>PEX11B</i>	1.15	-0.75	7.09×10^{-5}	0.0395	2
hsa-miR-320a	0.55	<i>RGS16</i>	1.52	-0.75	7.25×10^{-5}	0.0395	1
hsa-miR-320a	0.55	<i>PBLD</i>	1.17	-0.75	7.26×10^{-5}	0.0395	2
hsa-miR-320a	0.55	<i>GPR132</i>	1.50	-0.75	7.29×10^{-5}	0.0395	2
hsa-miR-155-3p	2.27	<i>HBP1</i>	0.80	-0.75	7.29×10^{-5}	0.0395	2
hsa-miR-9-5p	0.57	<i>HSD11B1</i>	1.18	-0.75	7.42×10^{-5}	0.0395	1
hsa-miR-320a	0.55	<i>ABR</i>	1.23	-0.75	7.47×10^{-5}	0.0395	3
hsa-miR-574-3p	0.32	<i>UFD1L</i>	1.18	-0.75	7.56×10^{-5}	0.0395	2
hsa-miR-155-3p	2.27	<i>AUTS2</i>	0.43	-0.75	7.69×10^{-5}	0.0399	1
hsa-miR-194-5p	0.6	<i>TSPYL1</i>	1.21	-0.75	7.75×10^{-5}	0.0399	2
hsa-miR-155-3p	2.27	<i>METTL3</i>	0.85	-0.75	7.82×10^{-5}	0.0399	1
hsa-miR-155-3p	2.27	<i>RNF168</i>	0.73	-0.75	7.93×10^{-5}	0.0399	1
hsa-miR-148a-3p	2.23	<i>TRIM5</i>	0.76	-0.75	8.05×10^{-5}	0.0399	3
hsa-miR-15a-5p	1.62	<i>SUV420H1</i>	0.87	-0.74	8.58×10^{-5}	0.0408	3
hsa-miR-27a-5p	1.66	<i>TRIM5</i>	0.76	-0.74	9.00×10^{-5}	0.0409	2
hsa-miR-1273h-3p	0.49	<i>GHDC</i>	1.11	-0.74	9.35×10^{-5}	0.0411	4
hsa-miR-454-5p	2.14	<i>KIF6</i>	0.75	-0.74	9.36×10^{-5}	0.0411	2
hsa-miR-378a-3p	0.68	<i>SLC9A8</i>	1.38	-0.74	9.74×10^{-5}	0.0418	3
hsa-miR-9-5p	0.57	<i>SEL1L</i>	1.22	-0.74	9.83×10^{-5}	0.0419	3
hsa-miR-345-5p	0.56	<i>ZNF335</i>	1.12	-0.74	9.90×10^{-5}	0.0419	1
hsa-miR-194-5p	0.6	<i>RGS16</i>	1.52	-0.74	9.94×10^{-5}	0.0419	2
hsa-miR-155-3p	2.27	<i>TBRG4</i>	0.86	-0.74	1.01×10^{-4}	0.0423	1
hsa-miR-155-3p	2.27	<i>CHEK2</i>	0.71	-0.74	1.02×10^{-4}	0.0423	1
hsa-miR-138-5p	0.32	<i>HSF2BP</i>	1.16	-0.74	1.03×10^{-4}	0.0423	1
hsa-miR-320a	0.55	<i>CAPNS1</i>	1.21	-0.74	1.04×10^{-4}	0.0425	3

hsa-miR-1273h-3p	0.49	<i>YY1AP1</i>	1.12	-0.74	1.08×10^{-4}	0.0427	2
hsa-miR-320a	0.55	<i>ASCC1</i>	1.24	-0.74	1.09×10^{-4}	0.0427	4
hsa-miR-378a-3p	0.68	<i>INPP5B</i>	1.25	-0.74	1.11×10^{-4}	0.0427	2
hsa-miR-320a	0.55	<i>INPP5B</i>	1.25	-0.74	1.11×10^{-4}	0.0427	2
hsa-miR-142-5p	1.58	<i>MRPS26</i>	0.92	-0.74	1.11×10^{-4}	0.0427	2
hsa-miR-574-3p	0.32	<i>BCL2L1</i>	1.39	-0.73	1.13×10^{-4}	0.0427	1
hsa-miR-138-5p	0.32	<i>POM121</i>	1.17	-0.73	1.14×10^{-4}	0.0427	3
hsa-miR-320a	0.55	<i>PIGL</i>	1.59	-0.73	1.14×10^{-4}	0.0427	1
hsa-miR-320a	0.55	<i>HSF2BP</i>	1.16	-0.73	1.14×10^{-4}	0.0427	1
hsa-miR-155-3p	2.27	<i>HLTF</i>	0.73	-0.73	1.15×10^{-4}	0.0427	2
hsa-miR-320a	0.55	<i>GGA3</i>	1.15	-0.73	1.16×10^{-4}	0.0427	6
hsa-miR-1273h-3p	0.49	<i>PFDN5</i>	1.15	-0.73	1.16×10^{-4}	0.0427	1
hsa-miR-374a-3p	1.74	<i>SLC35A1</i>	0.78	-0.73	1.16×10^{-4}	0.0427	1
hsa-miR-1273h-3p	0.49	<i>TRAPPC4</i>	1.32	-0.73	1.19×10^{-4}	0.0427	1
hsa-miR-15a-5p	1.62	<i>TGIF2</i>	0.88	-0.73	1.19×10^{-4}	0.0427	6
hsa-miR-941	0.54	<i>SLC35A2</i>	1.12	-0.73	1.22×10^{-4}	0.0427	2
hsa-miR-378a-3p	0.68	<i>PNOC</i>	1.40	-0.73	1.23×10^{-4}	0.0427	1
hsa-miR-574-3p	0.32	<i>RELL2</i>	1.13	-0.73	1.23×10^{-4}	0.0427	2
hsa-miR-320a	0.55	<i>GPATCH8</i>	1.13	-0.73	1.23×10^{-4}	0.0427	5
hsa-miR-9-5p	0.57	<i>EDEM1</i>	1.25	-0.73	1.24×10^{-4}	0.0427	5
hsa-miR-194-5p	0.6	<i>GRHL3</i>	1.18	-0.73	1.25×10^{-4}	0.0427	4
hsa-miR-320a	0.55	<i>KRT34</i>	1.16	-0.73	1.25×10^{-4}	0.0427	1
hsa-miR-155-3p	2.27	<i>TSHZ1</i>	0.72	-0.73	1.26×10^{-4}	0.0427	5
hsa-miR-505-3p	0.5	<i>H1FO</i>	1.40	-0.73	1.26×10^{-4}	0.0427	1
hsa-miR-125a-5p	0.16	<i>ACSL4</i>	1.22	-0.73	1.28×10^{-4}	0.0427	1
hsa-miR-320a	0.55	<i>CYB5D2</i>	1.24	-0.73	1.29×10^{-4}	0.0427	6
hsa-miR-941	0.54	<i>SETD6</i>	1.15	-0.73	1.32×10^{-4}	0.0427	2
hsa-miR-574-3p	0.32	<i>LRP10</i>	1.29	-0.73	1.33×10^{-4}	0.0427	1
hsa-miR-378a-3p	0.68	<i>LILRB4</i>	1.74	-0.73	1.33×10^{-4}	0.0427	2
hsa-miR-26a-5p	1.34	<i>FKBP10</i>	0.80	-0.73	1.33×10^{-4}	0.0427	1
hsa-miR-142-3p	1.47	<i>RGMB</i>	0.79	-0.73	1.34×10^{-4}	0.0427	3
hsa-miR-378a-3p	0.68	<i>SELPLG</i>	1.43	-0.73	1.35×10^{-4}	0.0427	2
hsa-miR-378a-3p	0.68	<i>PARP15</i>	1.30	-0.73	1.35×10^{-4}	0.0427	2
hsa-miR-378a-3p	0.68	<i>PIK3CG</i>	2.52	-0.73	1.36×10^{-4}	0.0427	5
hsa-miR-9-5p	0.57	<i>TMEM131</i>	1.40	-0.73	1.36×10^{-4}	0.0427	2
hsa-miR-378a-3p	0.68	<i>PAPSS2</i>	2.59	-0.73	1.38×10^{-4}	0.0427	2
hsa-miR-130b-3p	0.69	<i>RHOA</i>	1.11	-0.73	1.38×10^{-4}	0.0427	3
hsa-miR-320a	0.55	<i>ASB2</i>	4.49	-0.73	1.39×10^{-4}	0.0427	3
hsa-miR-155-3p	2.27	<i>EIF4EBP1</i>	0.80	-0.73	1.39×10^{-4}	0.0427	1
hsa-miR-9-5p	0.57	<i>DCAF11</i>	1.17	-0.73	1.40×10^{-4}	0.0427	2
hsa-miR-320a	0.55	<i>SDF4</i>	1.11	-0.73	1.41×10^{-4}	0.0427	1
hsa-miR-15a-5p	1.62	<i>SMAD4</i>	0.91	-0.73	1.42×10^{-4}	0.0427	6
hsa-miR-1273h-3p	0.49	<i>QPCTL</i>	1.33	-0.73	1.44×10^{-4}	0.0428	1

hsa-miR-155-3p	2.27	<i>PTOV1</i>	0.89	-0.73	1.45 x 10 ⁻⁴	0.0428	1
hsa-miR-574-3p	0.32	<i>CASP7</i>	1.18	-0.73	1.46 x 10 ⁻⁴	0.0428	2
hsa-miR-378a-3p	0.68	<i>INHBA</i>	1.29	-0.73	1.46 x 10 ⁻⁴	0.0428	3
hsa-miR-155-3p	2.27	<i>CHI3L1</i>	0.32	-0.73	1.46 x 10 ⁻⁴	0.0428	1
hsa-miR-138-5p	0.32	<i>DERL2</i>	1.18	-0.72	1.50 x 10 ⁻⁴	0.0428	1
hsa-miR-574-3p	0.32	<i>GNB1L</i>	1.11	-0.72	1.50 x 10 ⁻⁴	0.0428	2
hsa-miR-1273h-3p	0.49	<i>SND1</i>	1.12	-0.72	1.51 x 10 ⁻⁴	0.0428	4
hsa-miR-9-5p	0.57	<i>PRKRIP1</i>	1.11	-0.72	1.51 x 10 ⁻⁴	0.0428	2
hsa-miR-1273h-3p	0.49	<i>SUPT5H</i>	1.16	-0.72	1.52 x 10 ⁻⁴	0.0428	1
hsa-miR-320a	0.55	<i>SEMA4D</i>	1.23	-0.72	1.53 x 10 ⁻⁴	0.0428	3
hsa-miR-1273h-3p	0.49	<i>CNN2</i>	1.28	-0.72	1.54 x 10 ⁻⁴	0.0428	1
hsa-miR-148a-3p	2.23	<i>HSPA4L</i>	0.58	-0.72	1.55 x 10 ⁻⁴	0.0428	4
hsa-miR-155-3p	2.27	<i>KAT2A</i>	0.77	-0.72	1.55 x 10 ⁻⁴	0.0428	1
hsa-miR-574-3p	0.32	<i>SLC25A44</i>	1.22	-0.72	1.55 x 10 ⁻⁴	0.0428	1
hsa-miR-155-3p	2.27	<i>LBH</i>	0.52	-0.72	1.57 x 10 ⁻⁴	0.0431	1
hsa-miR-320a	0.55	<i>PARP15</i>	1.30	-0.72	1.59 x 10 ⁻⁴	0.0432	1
hsa-miR-574-3p	0.32	<i>RER1</i>	1.11	-0.72	1.61 x 10 ⁻⁴	0.0434	1
hsa-miR-1273h-3p	0.49	<i>VEGFB</i>	1.41	-0.72	1.61 x 10 ⁻⁴	0.0434	4
hsa-miR-15a-5p	1.62	<i>HMGN5</i>	0.78	-0.72	1.62 x 10 ⁻⁴	0.0434	1
hsa-miR-125a-5p	0.16	<i>C9</i>	1.13	-0.72	1.63 x 10 ⁻⁴	0.0434	1
hsa-miR-155-3p	2.27	<i>RHOV</i>	0.73	-0.72	1.64 x 10 ⁻⁴	0.0434	1
hsa-miR-378a-3p	0.68	<i>GTF2IRD2B</i>	1.18	-0.72	1.66 x 10 ⁻⁴	0.0434	1
hsa-miR-320a	0.55	<i>INHBA</i>	1.29	-0.72	1.68 x 10 ⁻⁴	0.0435	1
hsa-miR-320a	0.55	<i>PLSCR3</i>	1.31	-0.72	1.71 x 10 ⁻⁴	0.0440	4
hsa-miR-155-3p	2.27	<i>TIMM50</i>	0.85	-0.72	1.73 x 10 ⁻⁴	0.0440	1
hsa-miR-378a-3p	0.68	<i>LSP1</i>	1.48	-0.72	1.74 x 10 ⁻⁴	0.0440	1
hsa-miR-320a	0.55	<i>PARD6G</i>	2.01	-0.72	1.74 x 10 ⁻⁴	0.0440	4
hsa-miR-574-3p	0.32	<i>ALG1</i>	1.19	-0.72	1.75 x 10 ⁻⁴	0.0440	1
hsa-miR-138-5p	0.32	<i>ST8SIA2</i>	1.14	-0.72	1.76 x 10 ⁻⁴	0.0440	3
hsa-miR-574-3p	0.32	<i>OSTC</i>	1.13	-0.72	1.77 x 10 ⁻⁴	0.0440	1
hsa-miR-378a-3p	0.68	<i>CYP1A1</i>	1.41	-0.72	1.77 x 10 ⁻⁴	0.0440	1
hsa-miR-454-5p	2.14	<i>DAAM2</i>	0.62	-0.72	1.78 x 10 ⁻⁴	0.0440	2
hsa-miR-148a-3p	2.23	<i>PNPT1</i>	0.78	-0.72	1.78 x 10 ⁻⁴	0.0440	2
hsa-miR-378a-3p	0.68	<i>TNFAIP1</i>	1.10	-0.72	1.79 x 10 ⁻⁴	0.0442	2
hsa-miR-155-3p	2.27	<i>ZFP62</i>	0.84	-0.72	1.84 x 10 ⁻⁴	0.0446	5
hsa-miR-941	0.54	<i>PDE1B</i>	1.28	-0.72	1.85 x 10 ⁻⁴	0.0446	2
hsa-miR-26b-5p	1.78	<i>GNPDA1</i>	0.75	-0.72	1.85 x 10 ⁻⁴	0.0446	2
hsa-miR-1273h-3p	0.49	<i>BCKDK</i>	1.21	-0.72	1.86 x 10 ⁻⁴	0.0446	2
hsa-miR-378a-3p	0.68	<i>GABARAP</i>	1.14	-0.72	1.87 x 10 ⁻⁴	0.0446	1
hsa-miR-9-5p	0.57	<i>MAPKAPK2</i>	1.22	-0.72	1.88 x 10 ⁻⁴	0.0446	6
hsa-miR-138-5p	0.32	<i>CNN2</i>	1.28	-0.72	1.88 x 10 ⁻⁴	0.0446	1
hsa-miR-345-5p	0.56	<i>NENF</i>	1.22	-0.72	1.89 x 10 ⁻⁴	0.0446	2
hsa-miR-155-3p	2.27	<i>SLC41A1</i>	0.56	-0.72	1.90 x 10 ⁻⁴	0.0446	1

hsa-miR-155-3p	2.27	<i>OGDHL</i>	0.68	-0.72	1.92 x 10 ⁻⁴	0.0446	1
hsa-miR-142-3p	1.47	<i>MKKS</i>	0.77	-0.72	1.92 x 10 ⁻⁴	0.0446	1
hsa-miR-378a-3p	0.68	<i>PAR6G</i>	2.01	-0.72	1.93 x 10 ⁻⁴	0.0446	2
hsa-miR-125a-5p	0.16	<i>TCF19</i>	1.20	-0.72	1.95 x 10 ⁻⁴	0.0447	1
hsa-miR-1273h-3p	0.49	<i>CYB5D2</i>	1.24	-0.72	1.95 x 10 ⁻⁴	0.0447	3
hsa-miR-345-5p	0.56	<i>TOLLIP</i>	1.16	-0.72	1.95 x 10 ⁻⁴	0.0447	4
hsa-miR-374a-3p	1.74	<i>GPBP1</i>	0.81	-0.72	1.97 x 10 ⁻⁴	0.0447	2
hsa-miR-155-3p	2.27	<i>SIRT5</i>	0.81	-0.71	1.99 x 10 ⁻⁴	0.0448	1
hsa-miR-374a-3p	1.74	<i>ZFAT</i>	0.79	-0.71	2.00 x 10 ⁻⁴	0.0448	3
hsa-miR-26b-5p	1.78	<i>LDLR</i>	0.85	-0.71	2.00 x 10 ⁻⁴	0.0448	2
hsa-miR-320a	0.55	<i>MSRA</i>	1.48	-0.71	2.03 x 10 ⁻⁴	0.0451	1
hsa-miR-378a-3p	0.68	<i>TMEM109</i>	1.32	-0.71	2.07 x 10 ⁻⁴	0.0452	2
hsa-miR-378a-3p	0.68	<i>EDEM1</i>	1.25	-0.71	2.08 x 10 ⁻⁴	0.0452	5
hsa-miR-1273h-3p	0.49	<i>PIGT</i>	1.13	-0.71	2.08 x 10 ⁻⁴	0.0452	1
hsa-miR-1273h-3p	0.49	<i>WASF2</i>	1.14	-0.71	2.09 x 10 ⁻⁴	0.0452	3
hsa-miR-142-3p	1.47	<i>TBRG4</i>	0.86	-0.71	2.10 x 10 ⁻⁴	0.0452	1
hsa-miR-15a-5p	1.62	<i>MTX3</i>	0.72	-0.71	2.10 x 10 ⁻⁴	0.0452	1
hsa-miR-374a-3p	1.74	<i>TARBP2</i>	0.87	-0.71	2.10 x 10 ⁻⁴	0.0452	1
hsa-miR-27a-5p	1.66	<i>KMO</i>	1.36	-0.71	2.11 x 10 ⁻⁴	0.0453	2
hsa-let-7d-3p	0.71	<i>CYB5R1</i>	1.11	-0.71	2.13 x 10 ⁻⁴	0.0454	1
hsa-miR-320a	0.55	<i>RBM3</i>	2.00	-0.71	2.16 x 10 ⁻⁴	0.0459	2
hsa-miR-378a-3p	0.68	<i>FA2H</i>	1.18	-0.71	2.17 x 10 ⁻⁴	0.0460	1
hsa-miR-155-3p	2.27	<i>AEBP2</i>	0.90	-0.71	2.19 x 10 ⁻⁴	0.0462	3
hsa-miR-138-5p	0.32	<i>GPS2</i>	1.13	-0.71	2.20 x 10 ⁻⁴	0.0462	2
hsa-miR-378a-3p	0.68	<i>GGA3</i>	1.15	-0.71	2.20 x 10 ⁻⁴	0.0462	1
hsa-miR-1273h-3p	0.49	<i>UROD</i>	1.27	-0.71	2.24 x 10 ⁻⁴	0.0464	1
hsa-miR-941	0.54	<i>MCF2L2</i>	1.13	-0.71	2.27 x 10 ⁻⁴	0.0466	2
hsa-miR-378a-3p	0.68	<i>CTNBP1</i>	1.14	-0.71	2.28 x 10 ⁻⁴	0.0466	3
hsa-miR-155-3p	2.27	<i>TYSND1</i>	0.86	-0.71	2.28 x 10 ⁻⁴	0.0466	3
hsa-miR-941	0.54	<i>RIC8A</i>	1.15	-0.71	2.29 x 10 ⁻⁴	0.0466	2
hsa-miR-378a-3p	0.68	<i>PSD3</i>	1.18	-0.71	2.31 x 10 ⁻⁴	0.0468	5
hsa-miR-378a-3p	0.68	<i>PLCB3</i>	1.23	-0.71	2.34 x 10 ⁻⁴	0.0468	2
hsa-miR-155-3p	2.27	<i>RPL31</i>	0.90	-0.71	2.34 x 10 ⁻⁴	0.0468	1
hsa-miR-345-5p	0.56	<i>ST8SIA2</i>	1.14	-0.71	2.34 x 10 ⁻⁴	0.0468	4
hsa-miR-130b-3p	0.69	<i>CARM1</i>	1.09	-0.71	2.36 x 10 ⁻⁴	0.0470	2
hsa-miR-22-3p	1.79	<i>HJURP</i>	0.85	-0.71	2.37 x 10 ⁻⁴	0.0471	1
hsa-miR-320a	0.55	<i>MATN2</i>	1.19	-0.71	2.37 x 10 ⁻⁴	0.0471	2
hsa-miR-425-5p	0.73	<i>INHBA</i>	1.29	-0.71	2.40 x 10 ⁻⁴	0.0473	1
hsa-miR-9-5p	0.57	<i>GPR114</i>	1.90	-0.71	2.42 x 10 ⁻⁴	0.0474	4
hsa-miR-574-3p	0.32	<i>UTP3</i>	1.22	-0.71	2.43 x 10 ⁻⁴	0.0474	1
hsa-miR-320a	0.55	<i>ARRDC3</i>	1.52	-0.71	2.43 x 10 ⁻⁴	0.0474	4
hsa-miR-155-3p	2.27	<i>TRAK1</i>	0.76	-0.71	2.44 x 10 ⁻⁴	0.0474	5
hsa-miR-378a-3p	0.68	<i>SLC2A5</i>	2.62	-0.71	2.45 x 10 ⁻⁴	0.0475	1

hsa-miR-1273h-3p	0.49	<i>RER1</i>	1.11	-0.71	2.46×10^{-4}	0.0475	1
hsa-miR-574-3p	0.32	<i>CLN6</i>	1.21	-0.71	2.49×10^{-4}	0.0477	2
hsa-miR-574-3p	0.32	<i>CDV3</i>	1.12	-0.71	2.50×10^{-4}	0.0477	2
hsa-miR-181d-5p	0.55	<i>STAT5A</i>	1.25	-0.71	2.51×10^{-4}	0.0477	3
hsa-miR-320a	0.55	<i>CCL22</i>	2.56	-0.71	2.52×10^{-4}	0.0477	3
hsa-miR-345-5p	0.56	<i>FSTL3</i>	1.64	-0.71	2.53×10^{-4}	0.0477	1
hsa-miR-378a-3p	0.68	<i>SEMA4D</i>	1.23	-0.71	2.57×10^{-4}	0.0480	3
hsa-miR-320a	0.55	<i>UROD</i>	1.27	-0.71	2.58×10^{-4}	0.0481	2
hsa-miR-320a	0.55	<i>CES2</i>	1.17	-0.70	2.59×10^{-4}	0.0481	2
hsa-miR-345-5p	0.56	<i>PODXL</i>	1.14	-0.70	2.63×10^{-4}	0.0483	4
hsa-miR-574-3p	0.32	<i>RBBP9</i>	1.30	-0.70	2.63×10^{-4}	0.0483	2
hsa-miR-138-5p	0.32	<i>POM121C</i>	1.15	-0.70	2.64×10^{-4}	0.0483	2
hsa-miR-27a-5p	1.66	<i>SELL</i>	0.44	-0.70	2.64×10^{-4}	0.0483	2
hsa-miR-9-5p	0.57	<i>INHBA</i>	1.29	-0.70	2.65×10^{-4}	0.0483	2
hsa-miR-15a-5p	1.62	<i>NARS2</i>	0.82	-0.70	2.65×10^{-4}	0.0483	1
hsa-miR-320a	0.55	<i>SF3A1</i>	1.17	-0.70	2.66×10^{-4}	0.0483	6
hsa-miR-574-3p	0.32	<i>SEC61A1</i>	1.20	-0.70	2.67×10^{-4}	0.0483	1
hsa-miR-378a-3p	0.68	<i>ABCA10</i>	1.39	-0.70	2.70×10^{-4}	0.0483	1
hsa-miR-320a	0.55	<i>VEGFB</i>	1.41	-0.70	2.70×10^{-4}	0.0483	2
hsa-miR-320a	0.55	<i>LPXN</i>	1.47	-0.70	2.71×10^{-4}	0.0483	1
hsa-miR-378a-3p	0.68	<i>NEK8</i>	1.19	-0.70	2.73×10^{-4}	0.0484	1
hsa-miR-320a	0.55	<i>PIGT</i>	1.13	-0.70	2.73×10^{-4}	0.0484	2
hsa-miR-9-5p	0.57	<i>DNAH1</i>	1.18	-0.70	2.73×10^{-4}	0.0484	2
hsa-miR-138-5p	0.32	<i>CCNK</i>	1.17	-0.70	2.75×10^{-4}	0.0484	2
hsa-miR-15a-5p	1.62	<i>RBBP5</i>	0.87	-0.70	2.76×10^{-4}	0.0484	3
hsa-miR-155-3p	2.27	<i>IKZF2</i>	0.68	-0.70	2.77×10^{-4}	0.0485	2
hsa-miR-320a	0.55	<i>BRD9</i>	1.14	-0.70	2.79×10^{-4}	0.0485	2
hsa-miR-574-3p	0.32	<i>MBD2</i>	1.11	-0.70	2.81×10^{-4}	0.0485	1
hsa-miR-378a-3p	0.68	<i>YIPF3</i>	1.35	-0.70	2.82×10^{-4}	0.0485	1
hsa-miR-320a	0.55	<i>ABCA5</i>	1.37	-0.70	2.82×10^{-4}	0.0485	3
hsa-miR-138-5p	0.32	<i>WBP2</i>	1.20	-0.70	2.84×10^{-4}	0.0487	4
hsa-miR-374a-3p	1.74	<i>RBM39</i>	0.90	-0.70	2.87×10^{-4}	0.0487	2
hsa-miR-320a	0.55	<i>STS</i>	1.86	-0.70	2.90×10^{-4}	0.0487	6
hsa-miR-378a-3p	0.68	<i>GTF2IRD2</i>	1.17	-0.70	2.91×10^{-4}	0.0487	1
hsa-miR-125a-5p	0.16	<i>MAP4</i>	1.08	-0.70	2.92×10^{-4}	0.0487	4
hsa-miR-378a-3p	0.68	<i>MARK2</i>	1.14	-0.70	2.92×10^{-4}	0.0487	1
hsa-miR-374a-3p	1.74	<i>ZC3HC1</i>	0.88	-0.70	2.92×10^{-4}	0.0487	1
hsa-miR-505-3p	0.5	<i>KIAA0195</i>	1.10	-0.70	2.92×10^{-4}	0.0487	1
hsa-miR-345-5p	0.56	<i>RAP2C</i>	1.09	-0.70	2.93×10^{-4}	0.0487	2
hsa-miR-148a-3p	2.23	<i>ZNF184</i>	0.77	-0.70	2.93×10^{-4}	0.0487	1
hsa-miR-138-5p	0.32	<i>GGA3</i>	1.15	-0.70	2.93×10^{-4}	0.0487	7
hsa-miR-15a-5p	1.62	<i>TRAK1</i>	0.76	-0.70	2.94×10^{-4}	0.0487	4
hsa-miR-15a-5p	1.62	<i>PTPN2</i>	0.84	-0.70	2.98×10^{-4}	0.0487	1

hsa-miR-320a	0.55	<i>BLCAP</i>	1.18	-0.70	2.98×10^{-4}	0.0487	5
hsa-miR-1273h-3p	0.49	<i>SF3A2</i>	1.14	-0.70	2.98×10^{-4}	0.0487	1
hsa-miR-9-5p	0.57	<i>POLR3C</i>	1.17	-0.70	3.01×10^{-4}	0.0487	1
hsa-miR-9-5p	0.57	<i>ZZEF1</i>	1.10	-0.70	3.01×10^{-4}	0.0487	2
hsa-miR-744-5p	1.59	<i>CD59</i>	0.84	-0.70	3.01×10^{-4}	0.0487	2
hsa-miR-345-5p	0.56	<i>SLC12A4</i>	1.29	-0.70	3.01×10^{-4}	0.0487	1
hsa-miR-320a	0.55	<i>FAM129A</i>	1.70	-0.70	3.02×10^{-4}	0.0487	7
hsa-miR-574-3p	0.32	<i>POM121</i>	1.17	-0.70	3.05×10^{-4}	0.0487	2
hsa-miR-320a	0.55	<i>H6PD</i>	1.28	-0.70	3.06×10^{-4}	0.0487	3
hsa-miR-320a	0.55	<i>BCL2L15</i>	1.19	-0.70	3.06×10^{-4}	0.0487	3
hsa-miR-574-3p	0.32	<i>LANCL2</i>	1.20	-0.70	3.06×10^{-4}	0.0487	1
hsa-miR-1273h-3p	0.49	<i>GPBP1L1</i>	1.08	-0.70	3.06×10^{-4}	0.0487	4
hsa-miR-15a-5p	1.62	<i>CENPA</i>	0.82	-0.70	3.07×10^{-4}	0.0487	2
hsa-miR-194-5p	0.6	<i>CREM</i>	1.34	-0.70	3.10×10^{-4}	0.0487	1
hsa-miR-142-3p	1.47	<i>SLC9A3R1</i>	0.83	-0.70	3.10×10^{-4}	0.0487	2
hsa-miR-130b-3p	0.69	<i>B4GALT5</i>	1.21	-0.70	3.10×10^{-4}	0.0487	7
hsa-miR-320a	0.55	<i>WBP2</i>	1.20	-0.70	3.10×10^{-4}	0.0487	2
hsa-miR-148a-3p	2.23	<i>TBCK</i>	0.83	-0.70	3.12×10^{-4}	0.0487	1
hsa-miR-941	0.54	<i>HEXA</i>	1.22	-0.70	3.12×10^{-4}	0.0487	1
hsa-miR-148b-3p	2.32	<i>SNX16</i>	0.65	-0.70	3.13×10^{-4}	0.0487	2
hsa-miR-26b-5p	1.78	<i>EVI5</i>	0.65	-0.70	3.14×10^{-4}	0.0487	2
hsa-miR-15a-5p	1.62	<i>ZMYND11</i>	0.87	-0.70	3.14×10^{-4}	0.0487	3
hsa-miR-378a-3p	0.68	<i>SF3A1</i>	1.17	-0.70	3.15×10^{-4}	0.0487	3
hsa-miR-142-3p	1.47	<i>MRPS11</i>	0.83	-0.70	3.17×10^{-4}	0.0487	2
hsa-miR-125a-5p	0.16	<i>FLG</i>	1.14	-0.70	3.17×10^{-4}	0.0487	4
hsa-miR-505-3p	0.5	<i>TSC2</i>	1.21	-0.70	3.18×10^{-4}	0.0487	1
hsa-miR-1273h-3p	0.49	<i>TOLLIP</i>	1.16	-0.70	3.18×10^{-4}	0.0487	2
hsa-miR-505-3p	0.5	<i>BOD1</i>	1.11	-0.70	3.20×10^{-4}	0.0487	2
hsa-miR-155-3p	2.27	<i>DTX4</i>	0.56	-0.70	3.20×10^{-4}	0.0487	4
hsa-miR-320a	0.55	<i>MED15</i>	1.30	-0.70	3.20×10^{-4}	0.0487	2
hsa-miR-374a-3p	1.74	<i>IL17RB</i>	0.29	-0.70	3.21×10^{-4}	0.0487	1
hsa-miR-320a	0.55	<i>SMAP2</i>	1.14	-0.70	3.23×10^{-4}	0.0489	4
hsa-miR-378a-3p	0.68	<i>MKMK1</i>	1.19	-0.70	3.26×10^{-4}	0.0489	2
hsa-miR-320a	0.55	<i>SND1</i>	1.12	-0.70	3.27×10^{-4}	0.0489	6
hsa-miR-374a-3p	1.74	<i>DTX4</i>	0.56	-0.70	3.27×10^{-4}	0.0489	1
hsa-miR-378a-3p	0.68	<i>ADRM1</i>	1.25	-0.70	3.28×10^{-4}	0.0489	1
hsa-miR-574-3p	0.32	<i>PRDM1</i>	1.45	-0.70	3.28×10^{-4}	0.0489	1
hsa-miR-26b-5p	1.78	<i>MED14</i>	0.91	-0.70	3.29×10^{-4}	0.0489	1
hsa-miR-155-3p	2.27	<i>RNF114</i>	0.81	-0.70	3.31×10^{-4}	0.0491	6
hsa-miR-374a-3p	1.74	<i>SSTR2</i>	0.60	-0.70	3.33×10^{-4}	0.0492	2
hsa-miR-15a-5p	1.62	<i>ZBTB11</i>	0.86	-0.70	3.34×10^{-4}	0.0492	3
hsa-miR-574-3p	0.32	<i>P2RY1</i>	1.20	-0.69	3.40×10^{-4}	0.0496	2
hsa-miR-155-3p	2.27	<i>PIAS1</i>	0.90	-0.69	3.40×10^{-4}	0.0496	3

hsa-miR-155-3p	2.27	<i>MIF</i>	0.85	-0.69	3.43×10^{-4}	0.0497	1
hsa-miR-1273h-3p	0.49	<i>ZZEF1</i>	1.10	-0.69	3.43×10^{-4}	0.0497	4
hsa-miR-9-5p	0.57	<i>NSD1</i>	1.12	-0.69	3.46×10^{-4}	0.0499	3

Correlations between miRNAs and mRNAs differentially expressed between lithium excellent responders and non-responders were analyzed using miRComb. Multiple testing correction was performed according to BH. The *in-silico* score was calculated by summing the number of algorithms predicting each miRNA-mRNA pair (seven prediction algorithms were tested: MiRWalk, MicroT v4, MiRanda, miRDB, RNA22, RNAhybrid and TargetScan). Abbreviations: FC, fold change; FDR, false discovery rate.

Table S3. Pairs of miRNAs and mRNAs differentially expressed after *in vitro* lithium treatment exclusively in excellent responders, negatively correlated and predicted by in-silico algorithms.

miRNA	FC	mRNA	FC	Pearson's r	p	FDR q	<i>In-silico</i> score
hsa-miR-374a-5p	1.41	<i>B4GALT6</i>	0.82	-0.59	0.0041	0.35	5
hsa-miR-29b-3p	1.18	<i>ZNF577</i>	0.88	-0.49	0.0162	0.65	5
hsa-miR-29b-3p	1.54	<i>RFX7</i>	0.92	-0.49	0.0164	0.65	6
hsa-miR-106b-5p	1.41	<i>ZNF493</i>	0.84	-0.47	0.0216	0.67	2
hsa-miR-23a-3p	1.28	<i>FFAR2</i>	0.84	-0.42	0.0363	0.86	1
hsa-miR-27a-3p	1.25	<i>ZNF493</i>	0.84	-0.41	0.0413	0.86	6
hsa-miR-27a-3p	1.18	<i>IKBIP</i>	0.87	-0.40	0.0459	0.86	1

Correlations between miRNAs and mRNAs differentially expressed after *in vitro* lithium treatment exclusively in excellent responders were analyzed using miRComb. No correlation was significant after multiple testing correction according to BH. The *in-silico* score was calculated by summing the number of algorithms predicting each miRNA-mRNA pair (seven prediction algorithms were tested: MiRWalk, MicroT v4, MiRanda, miRDB, RNA22, RNAhybrid and TargetScan). Abbreviations: FC, fold change; FDR, false discovery rate.

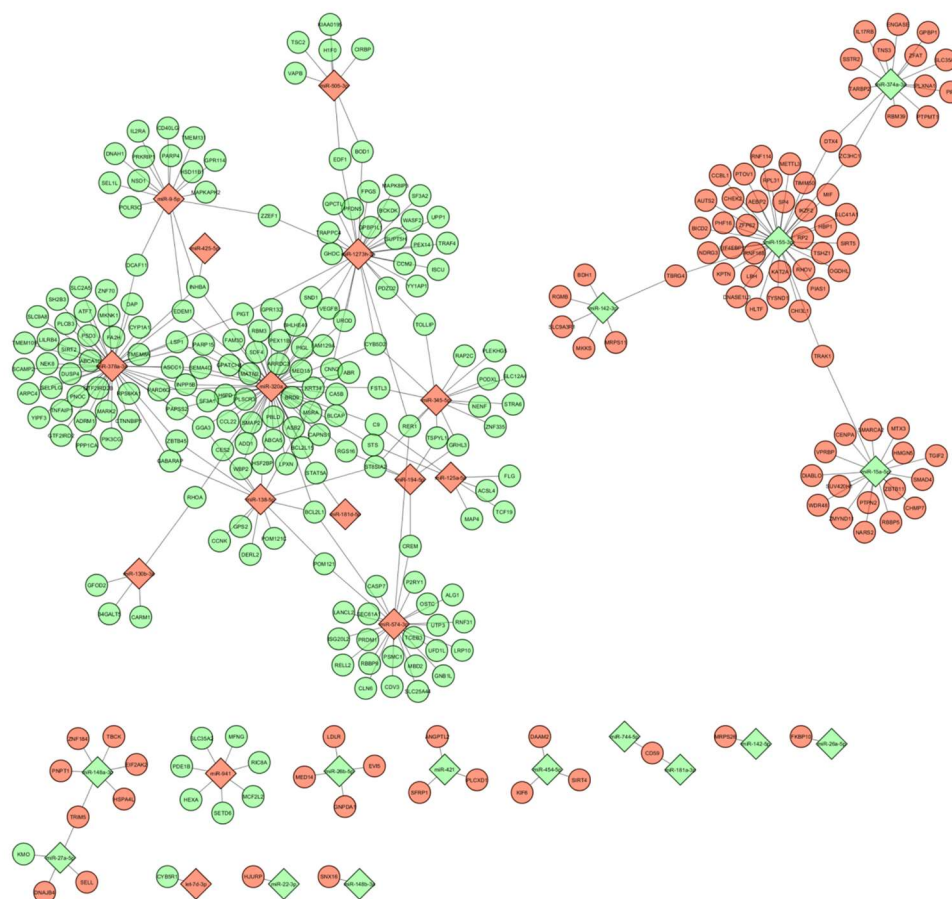


Figure S1. Interaction network between miRNAs and mRNAs differentially expressed between lithium excellent responders and non-responders. The interaction network of miRNAs and mRNAs differentially expressed between lithium excellent responders and non-responders was obtained using a force-directed layout algorithm in Cytoscape. miRNAs are indicated with a diamond, target mRNAs with circles. Down-regulated miRNAs or mRNAs are shown in red, while up-regulated miRNAs or mRNAs are shown in green. The network shows two main cluster of down-regulated and up-regulated miRNAs centered around miR-320a and miR-155-3p, respectively.

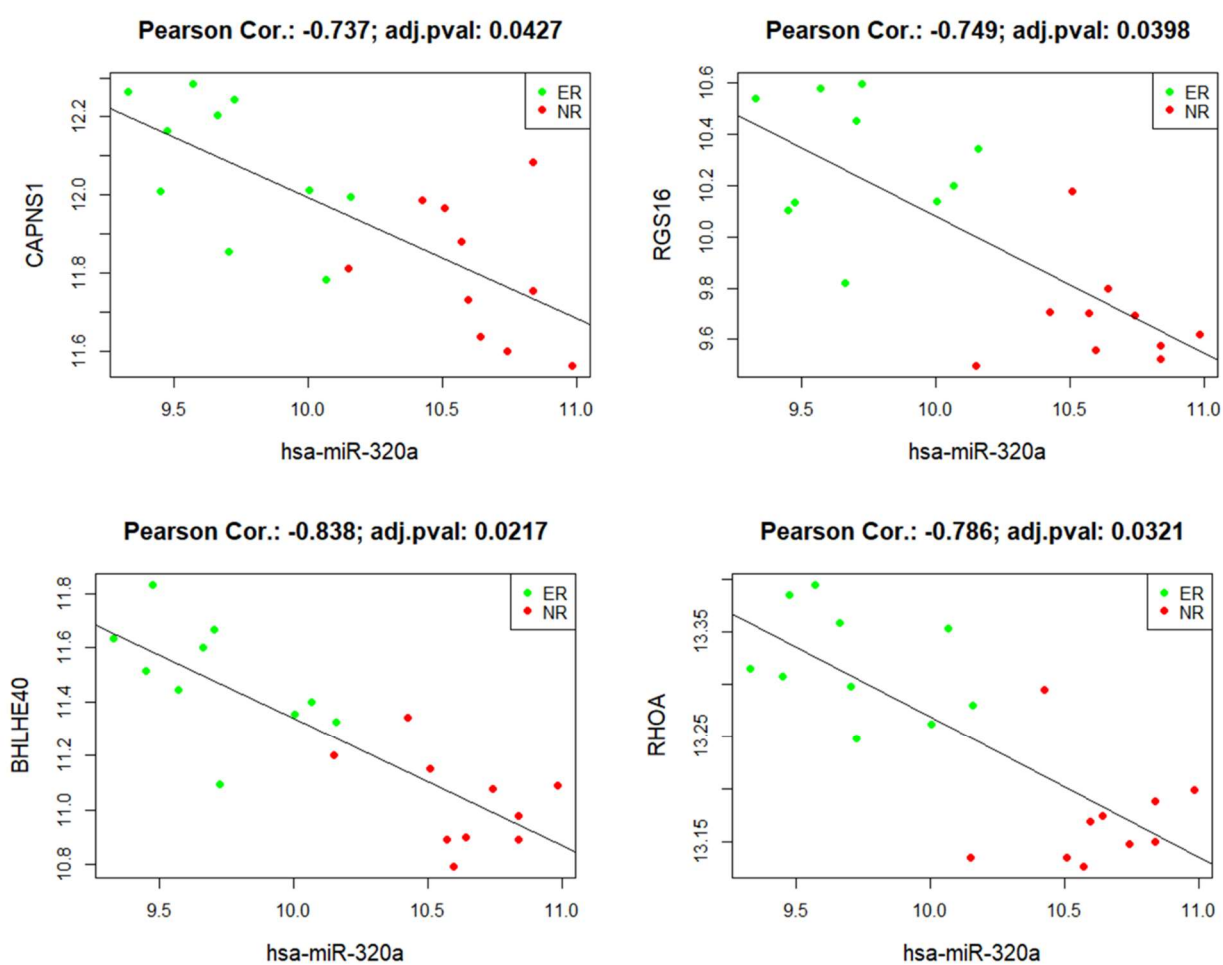


Figure S2. Correlations between the expression levels of hsa-miR-320a and its targets *CAPNS1*, *RGS16*, *BHLHE40* and *RHOA* in lithium excellent responders and non-responders. Abbreviations: adj, adjusted; cor, correlation; ER, excellent responders; NR, non-responders.

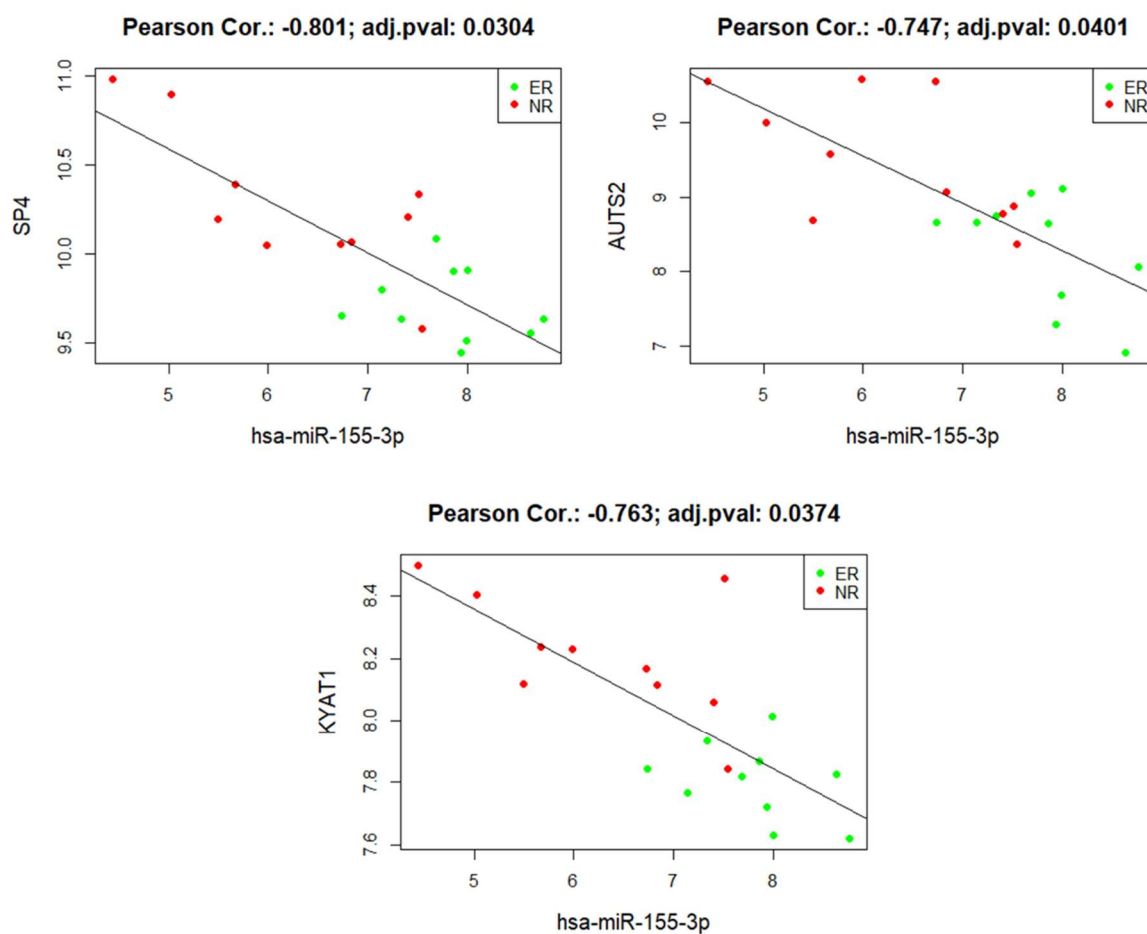


Figure S3. Correlations between the expression levels of hsa-miR-155-3p and its targets *SP4*, *AUTS2* and *KYAT1* in lithium excellent responders and non-responders. Abbreviations: adj, adjusted; cor, correlation; ER, excellent responders; NR, non-responders.