

SUPPLEMENTARY TABLES

Supplementary Table 1. Interaction of lncRNA signature with miRNA signature by prediction.

| Gene symbols of lncRNA | Gene symbols of miRNA |
|-------------------------------|--|
| AC007228.5 | miR-516a |
| AC011516.2 | miR-515, miR-519e |
| AC079586.1 | miR-299, miR-3074, miR-372, miR-6721 |
| CTB-61M7.2 | let-7a, miR-1323, miR-541 |
| CTC-321K16.4 | miR-299, miR-515, miR-516a, miR-519e |
| CTC-339O9.1 | miR-372, miR-373, miR-376b, miR-518a, miR-519b, miR-519c, miR-520c, miR-520d, miR-526a, miR-6754 |
| CTD-2291D10.4 | miR-512, miR-654 |
| CTD-3022G6.1 | miR-1275, miR-373, miR-519b, miR-519c, miR-520c, miR-520d, miR-526b |
| LINC01057 | miR-3074 |
| MEG3 | let-7a, miR-495, miR-541, miR-654 |
| MEG8 | miR-379 |
| MIR99AHG | miR-516a, miR-526b |
| RP11-1018N14.2 | miR-1283, miR-1324, miR-3074, miR-520d |
| RP11-273G15.2 | miR-526b |
| RP11-76E12.1 | miR-299, miR-379, miR-515, miR-5193, miR-519e |
| TUNAR | miR-5193, miR-6754 |

Supplementary Table 2. Characteristics of miRNA CG locus filtered by LASSO.

| CG_ID | Gene_symbol | CG_Chromosome_location | Position_to_TSS | CGI_coordinate | Feature_type |
|------------|------------------|--------------------------------|-------------------|-------------------------------|--------------|
| cg00182416 | MIR516A2 | chr19:53760663-53760664 | TSS1500 | chr19:53768486-53768705 | |
| cg05684371 | MIR1324 | chr3:75629873- 75629874 | TSS1500 | chr3:75618626-75619916 | |
| cg07815521 | MIR641 | chr19: 40283950- 40283951 | TSS1500 | chr19:40284830-40285700 | N_Shore |
| cg09318158 | MIR1283-1 | chr19: 53688356-53688357 | TSS200 | chr19:53647822-53648987 | |
| cg11444828 | MIR6721 | chr6: 32170196- 32170197 | TSS200 | chr6:32166683-32167419 | S_Shelf |
| cg13972491 | MIR3074 | chr9: 95086454- 95086455 | TSS1500 | chr9:95085858-95086243 | S_Shore |
| cg14601621 | MIR3074 | chr9: 95086175- 95086176 | TSS200 | chr9:95085858-95086243 | Island |
| cg15186488 | MIR518A2 | chr19: 53739274- 53739275 | TSS200 | chr19:53768486-53768705 | |
| cg18007341 | MIR1275 | chr6: 34000147- 34000148 | TSS200 | chr6:34028161-34028387 | |
| cg21492137 | MIR154 MIR496 | chr14: 101059602- 101059603 | TSS200 TSS1500 | chr14:101065306- 101066047 | |
| cg23492249 | MIR299 | chr14: 101023683- 101023684 | TSS200 | chr14:101065306- 101066047 | |
| cg24128045 | MIR1323 | chr19: 53671352- 53671353 | TSS1500 | chr19:53647822-53648987 | |
| cg26371705 | MIRLET7A3 | chr22: 46111361- 46111362 | TSS1500 | chr22:46122574-46122849 | |

CGI, CpG island.

Supplementary Table 3. Characteristics of lncRNA CG locus filtered by LASSO.

| CG_ID | Gene_symbol | CG_chromosome_location | Position_to_TSS | CGI_coordinate | Feature_type |
|------------|----------------------------------|-------------------------------|--------------------|------------------------------|--------------|
| cg01498249 | AC079779.5 | chr2: 312940- 312941 | TSS1500 | chr2:314828-315170 | N_Shore |
| cg04783231 | AC005498.3 | chr19: 56539465- 56539466 | TSS1500 | chr19:56538306- 56539277 | S_Shore |
| cg09098720 | RP11-1018N14.1 RP11-1018N14.2 | chr17: 51335481- 51335482 | TSS1500 TSS1500 | chr17:51259741- 51261222 | |
| cg11316386 | C1orf229 | chr1: 247112506- 247112507 | TSS200 | chr1:247111283- 247112455 | S_Shore |
| cg14011368 | TUNAR | chr14: 95875201- 95875202 | TSS1500 | chr14:95875872- 95877233 | N_Shore |
| cg14981637 | LINC01057 | chr1: 94821571- 94821572 | TSS1500 | chr1:94820046- 94820763 | S_Shore |
| cg17948136 | CTD-2291D10.4 | chr19: 23074517- 23074518 | TSS1500 | chr19:23075155- 23075716 | N_Shore |
| cg20059151 | LINC01057 | chr1: 94820755- 94820756 | TSS1500 | chr1:94820046- 94820763 | Island |
| cg22232978 | AC096579.13 | chr2: 88861913- 88861914 | TSS1500 | chr2:88764976- 88765996 | |

CGI, CpG island.

Supplementary Table 4. KM analyses of miRNA CpG methylation for overall survival.

| CG_ID (high vs. low risk) | HR | 95% CI | P value |
|--------------------------------------|-----------|---------------|----------------|
| cg00182416 | 2.89 | 1.24-6.73 | 0.011 |
| cg05684371 | 13.88 | 5.95-32.38 | < 0.001 |
| cg07815521 | 14.98 | 6.38-35.15 | < 0.001 |
| cg09318158 | 4.46 | 1.92-10.38 | 0.001 |
| cg11444828 | 4.55 | 1.96-10.60 | 0.001 |
| cg13972491 | 10.25 | 4.34-24.22 | < 0.001 |
| cg14601621 | 7.20 | 3.05-17.00 | < 0.001 |
| cg15186488 | 3.45 | 1.46-8.16 | 0.003 |
| cg18007341 | 1.53 | 0.66-3.53 | 0.322 |
| cg21492137 | 4.23 | 1.83-9.80 | 0.002 |
| cg23492249 | 1.91 | 0.83-4.41 | 0.136 |
| cg24128045 | 2.15 | 0.93-4.96 | 0.082 |
| cg26371705 | 6.30 | 2.70-14.70 | < 0.001 |

KM, Kaplan-Meier; HR, Hazard ratio; CI, confidence interval.

Supplementary Table 5. KM analyses of lncRNA CpG methylation for overall survival.

| CG_ID (high vs. low risk) | HR | 95% CI | P value |
|--------------------------------------|-----------|---------------|----------------|
| cg01498249 | 4.50 | 1.94-10.47 | 0.001 |
| cg04783231 | 6.98 | 2.96-16.42 | < 0.001 |
| cg09098720 | 2.21 | 0.95-5.13 | 0.062 |
| cg11316386 | 6.29 | 2.70-14.68 | < 0.001 |
| cg14011368 | 4.80 | 2.08-11.08 | 0.002 |
| cg14981637 | 35.58 | 14.98-84.49 | < 0.001 |
| cg17948136 | 4.84 | 2.07-11.31 | < 0.001 |
| cg20059151 | 7.47 | 3.15-17.71 | < 0.001 |
| cg22232978 | 5.83 | 2.51-13.55 | < 0.001 |

HR, Hazard ratio; CI, confidence interval.