

Table S9. MiRNA regulates TFs and the TFs regulate genes in the ovarian cancer modules.

| Module ID | miRNA | PubMed ID | TF | Genes | p-value |
|-----------|--|--|-------|---|----------|
| 2 | miR-96 miR-125b | 17597072 21368288 | MITF | ACP5, CD44, CD74, CXCL13, DOCK2, DPYD, EPB41L3, FGR, GZMH, HCK, ITGB2, LCP2, MEF2C, SIGLEC1, SNX10, SPP1, VAV1 | 1.69E-02 |
| 2 | miR-17 miR-20a | 18700987 18700987 | RUNX1 | FGR, ICOS, LCK, LCP2, PTPN22, RASSF4, SLA, TFEC | 4.32E-04 |
| 3 | miR-25 | 20036482 | MITF | COQ7, E2F1, GINS1, IQCK, MCM2, PLK1, SEC61A2, SYT17, TFDP2, TRMT11, TUBG1 | 2.67E-02 |
| 3 | miR-106b miR-18a | 19559694 23322197 | STAT3 | ARL6IP1, EZH2, IQCK, LRRC20, MCM2, POLA2, TUBG1 | 4.72E-02 |
| 6 | miR-101 miR-29a miR-29b miR-29c | 21654684 21654684 21654684 21654684 | MYCN | CDC25A, CDC7, CHEK1, FEN1, KIF4A, KNTC1, TIMELESS | 1.08E-07 |
| 13 | miR-25 | 20811575 | EGR1 | ACOT7, AURKAIP1, AURKB, BIRC5, CBX3, CDC45L, CHEK1, DBF4, FANCE, GAD1, GINS2, HEATR3, LSM5, MCM6, MCM7, NADK, NCAPH, ORC5L, RANBP1, RIF1, SNTB1, SUB1, TFAM, TMPO, WDR8 | 3.98E-03 |
| 13 | miR-29a | 21654684 | MYCN | AURKB, CDC6, CDCA8, CHEK1, KIF4A, TIMELESS | 2.88E-04 |
| 13 | miR-18a | 19114653 | RUNX1 | BIRC5, BUB3, CBX3, CDC42, CDC6, CDCA8, DBF4, DDX49, EIF4EBP1, GAD1, GMNN, MCM7, PCNA, PEX10, RAD1, RANBP1, RIF1, SMARCB1, SUB1, TMPO, UCHL5 | 6.64E-03 |
| 15 | miR-20a | 19559694 | STAT3 | DNAH7, GPATCH2, LAMA2, RHOBTB1, SP100, TAF1A, TSN | 4.72E-02 |
| 17 | let-7b | 23738143 | E2F1 | C11ORF30, CAND1, KIAA0286, MSH2, SHMT2, TIMELESS, YEATS4 | 5.11E-05 |
| 18 | miR-29a | 21654684 | MYCN | AURKB, CDC7, CHEK1, FEN1, FOXM1, KNTC1, TIMELESS | 5.46E-08 |
| 18 | miR-18a | 23322197 | STAT3 | CASP8AP2, DSN1, EXO1, MCM2, RACGAP1, RINGTT, WHSC1 | 2.58E-02 |
| 19 | miR-17 | 20811575 | EGR1 | ALS2CL, CAPN1, CD82, CTSB, ETV6, IFNAR2, KIF13B, LCN2, LMNA, MAPKAPK2, PRKCD, RHBDF2, TFEB, ZDHHC18 | 4.07E-05 |
| 19 | miR-17 miR-20a | 18700987 18700987 | RUNX1 | C1ORF116, CAPN1, CD82, ETV6, KIF13B, LMNA, MAPKAPK2, RAD54L2, SMARCA2 | 9.77E-03 |
| 20 | miR-101 miR-29a miR-29b | 21654684 21654684 21654684 | MYCN | AURKB, CDCA3, CDCA8, FOXM1, KIF4A, MAD2L1, RAD51AP1 | 5.93E-07 |
| 23 | miR-17 | 18700987 | RUNX1 | CAMSAP1L1, H3F3A, NSL1, NUP133, PARP1, RAB4A, RBBP5, TSNAX | 4.97E-03 |
| 23 | miR-17 | 19559694 | STAT3 | CAMSAP1L1, FBXO28, NUP133, RAB4A, TAF1A, TSNAX | 7.27E-03 |
| 26 | let-7b | 22698995 | BACH1 | BIRC5, CCNA2, CENPA, CHEK1, H2AFZ, MCM10, MCM4, PCNA, RAP1GDS1 | 9.97E-06 |
| 26 | let-7b | 23738143 | E2F1 | CDC7, CENPA, CHEK1, EXOSC9, FBXO5, GINS2, GMNN, H2AFZ, KPNA2, PCNA, RPA3, SLC25A11, TIMELESS | 2.29E-09 |
| 26 | miR-101 miR-29a miR-29b | 21654684 21654684 21654684 | MYCN | CDC7, CHEK1, FEN1, MAD2L1, TIMELESS, XRCC4 | 1.11E-05 |
| 26 | miR-17 miR-18a | 18700987 19114653 | RUNX1 | BIRC5, EXOSC9, FAM64A, GMNN, PCNA, RAN, RANBP1, RFC4, RIT1, RPA3, STK17B, UCHL5, XRCC4 | 1.34E-02 |
| 30 | miR-25 | 20811575 | EGR1 | CDC5L, CSNK2B, DAXX, EHMT2, GTF2H4, PBX2, RDBP, RGL2, RXRB, TBCC, ZBTB22 | 3.58E-03 |
| 30 | miR-20b miR-25 | 19056895 20036482 | MITF | CDC5L, DAXX, EHMT2, LSM2, PAK1IP1, RGL2, SNRPC, TBCC | 4.98E-02 |
| 31 | miR-185 | 23417242 | AR | CAPG, EYA2, OAS1, RAB25, RAB27A, SAMSN1, SIGLEC1, SMARCA2, SQRDL, STAT1 | 6.90E-03 |

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|----|--|--|-------|--|----------|
| 31 | miR-125b | 21368288 | MITF | BAZ1A, CAPG, CTSB, CTSD, CTSL1, DBI, DPYD, EPB41L3, EYA2, HERC5, IRF9, ITGB2, KLF12, LAPTM5, LCP2, OAS2, PTAFR, RAB25, RAB27A, S100A13, SERPINF1, SIGLEC1, SPP1, STAT1, STAT3, STOM, TACC1 | 2.91E-06 |
| 31 | miR-17 miR-20a | 18700987 18700987 | RUNX1 | CAPG, CD82, CTSD, CTSL1, DBI, HERC5, IRF1, IRF2, ITGB2, KLF12, LAPTM5, LYN, RFXAP, SLA, SMARCA2, SP100, STAT1, STAT3, STOM, TACC1, TNFSF10, USP18, WASF1 | 6.58E-05 |
| 33 | let-7b | 22698995 | BACH1 | BIRC5, BUB1, CCNA2, CENPA, CENPF, KIF11, MCM10, OIP5, RRM2, TK1 | 1.06E-04 |
| 33 | miR-146b let-7b | 23762142 23762142 | E2F1 | AURKB, CENPA, DLG7, EXO1, FBXO5, KPNA2, OIP5, PBK, RRM2 | 1.56E-04 |
| 33 | miR-101 miR-29a miR-29b miR-29c | 21654684 21654684 21654684 21654684 | MYCN | AURKB, CDCA8, DLG7, FOXM1, KIF11, KIF4A, RAD51AP1, TROAP, TTK, UBE2C | 1.10E-09 |