**Table S3.**  Experimentally validated targets genes of 33 selected miRNAs differentially expressed in the three group comparisons.

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| --- | --- | --- |
| **Clinical groups** | **miRNAs** | ***Target genes*** |
| **Tumor size**(≥5 cm/<5 cm | hsa-miR-452-5p | *DPYSL2, KRAS, THRB, BMI1, LEF1, TCF4, CDKN1B* |
|   | hsa-miR-519c-3p | *HIF1A, ABCG2, ELAVL1, TIMP2, PTEN, CDKN1A* |
| **LN Status** | hsa-let-7f-5p | *KLK10, KLK6, PRDM1, IL13, CYP19A1, COPS8, GPS1, CCND1, COPS6, MYH9, SOCS3, ELF4, DYRK2, CCL7, AGO1, IL6, POSTN* |
|   | hsa-miR-1253 | *BTK* |
|   | hsa-miR128-1-5p | *SNAI1, WNT3A, BMI1, E2F3* |
|   | hsa-miR-133a-5p | *FSCN1, EGFR, GDNF, RHOA, MMP9* |
|   | hsa-miR-200c-3p | *TUBB3, BMI1, GEMIN2, BAP1, ZEB2, ZEB1, FN1, ZFPM2, PTPN13, RNF2, RCOR3, BRD7, ACVR2B, MSN, NTRK2, ERRFI1, CCNE2, XIAP, BCL2, TIMP2, FBLN5, VEGFA, NCAM1, IKBKB, FLT1, KLF9, TBK1, PMAIP1, NTF3, LPAR1, EDNRA, RHOA, KLHL20, PTPRD, ELMO2, ERBIN, WDR37, VAC14, TCF7L1, RASSF2, HOXB5, RIN2, KLF11, SEPT7, SHC1, MYB, ETS1, DUSP1, USP25, EFNA1, RND3, DNMT3A, DNMT3B, SP1, CFL2, CDH11, SEC23A, KDR, HFE, DLC1, ATRX, ZNF217, BTC, ZFPM1, PIN1, KRAS, NOTCH1, GATA4, SUZ12, ROCK2, UBQLN1, E2F3, MALAT1, CDK2, PRKCZ, NOS3, SIRT1, FOXO1, PDCD10, ADAM12, PTEN, LEPR, CRKL, MYLK, SH3PXD2A, DNAJC3, JAZF1, RPS6KB1, SLC1A2* |
|   | hsa-miR-301a-5p | *PTEN, BTG1, NDRG2* |
|   | hsa-miR-367-3p | *MDM2, KLF4, RAB23, FBXW7* |
|   | hsa-miR-513b-5p | *HMGB3, GNG13, DR1, BTG3* |
|   | hsa-miR-520d-5p | *PPIB* |
|   | hsa-miR-518a-5p | *MCL1, PIK3C2A, CCL2* |
|   | hsa-miR-580-3p | *TWIST1* |
|   | hsa-miR-595 | *PARD6A* |
|   | hsa-miR-873-5p | *SRCIN1, CDK3, ABCB1* |
| **REC status** | hsa-miR-10a-5p | *HOXA1, USF2, NOCOR2, MAP3K7, BTRC, SRSF1, TRA2B, EPHA4, CHL1, ACTG1, BCL2L11, PTEN, PIK3CG, SERPINE1, GP1BA, NOD2, MMP14, MAPK8IP1, BDNF, BCL6, HOXA5, MAFB, TAC1, ATXN1, MEOX2, CSF1, HOXA10, KLF4, PPARG, DICER1, ATG2B, ESR1, IFITM1, RUNX3, RAB5A, SMAD4, GJA1, PDGFRA, TNF, SLAIN1, TGFBR2, XIAP, Acvr1, IL18, TGFB1, PPARA, MYC, PTEN, DLL4, PPARGC1A, MAP3K12, MECP2* |
|   | hsa-miR-184 | *AKT2, INPPL1, NFATC2, SOX7, AGO2, MYC, BCL2, EZR, SND1, GAS1, ZFPM2, PDGFB, PLPP3, AKT1, BIN3, PRKCB, PPP1R13L, TNFAIP2, PKM* |
|   | hsa-miR-18a-5p | *ESR1, PTEN, CTGF, TNFSF11, NR3C1, HIF1A, TGFBR2, SMAD4, HSF2, ATM, NEDD9, CDK19, DICER1, SMAD3, PHLPP1, PIAS3, BCL2, TBPL1, SMAD2, SDC4, STK4, BCL2L10, FCGR2B, NEO1, DNMT1, IRF2, RUNX1, MEF2D, TNFAIP3, NR1I2* |
|   | hsa-miR-376a-5p | *SLC16A1, TTK, SRSF11, RAP2A, AMFR* |
|   | hsa-miR-411-5p | *GRB2, SPRY4* |
|   | hsa-miR-449b-5p | *SIRT1, CCNE2, MET, GMNN, HDAC1, CDC25A, CDK6, MYCN, NEAT1* |
|   | hsa-miR-491-5p | *BCL2L1, MMP9, MMP2, TP53, GIT1, SMAD3, NOTCH3, IGF2BP1, EGFR, CDK6, CAPNS1, KDM4B, WNT3A, SLC6A3* |
|   | hsa-miR-517c-3p | *PTK2B* |
|   | hsa-miR-519a-3p | *ELAVL1, YES1, DICER1, PTEN, CDKN1A, TIMP1, RB1, FOXF2, STAT3* |
|   | hsa-miR-542-3p | *BIRC5, ILK, MTDH, PIM1, AKT1, BMP7, RPS23, ANGPT2, OTUB1, IGFBP1, CTTN, PIK3R1, FZD7* |
|   | hsa-miR-587 | *PPP2R1B* |
|   | hsa-miR-593-3p | *CDC274, PROP1* |
|   | hsa-miR-595 | *PARD6A* |
|   | hsa-miR-891a-5p | *NFKBIA* |
|   | hsa-miR-99b-5p | *RAVER2, MTOR, IGF1R, ARID3A* |
|   | hsa-miR-197-3p | *FOXO3, TUSC2, NSUN5, CD82, BMF, PMAIP1, MTHFD1, FOXJ2, MAPK1, RAN* |
|   | hsa-miR-208a-3p | *CDKN1A, MED13, ETS1, SOX6, CACNA1C, CACNB2, PDCD4, Qk, QKI* |
|   | hsa-miR-362-5p | *CYLD, PIK3C2B* |