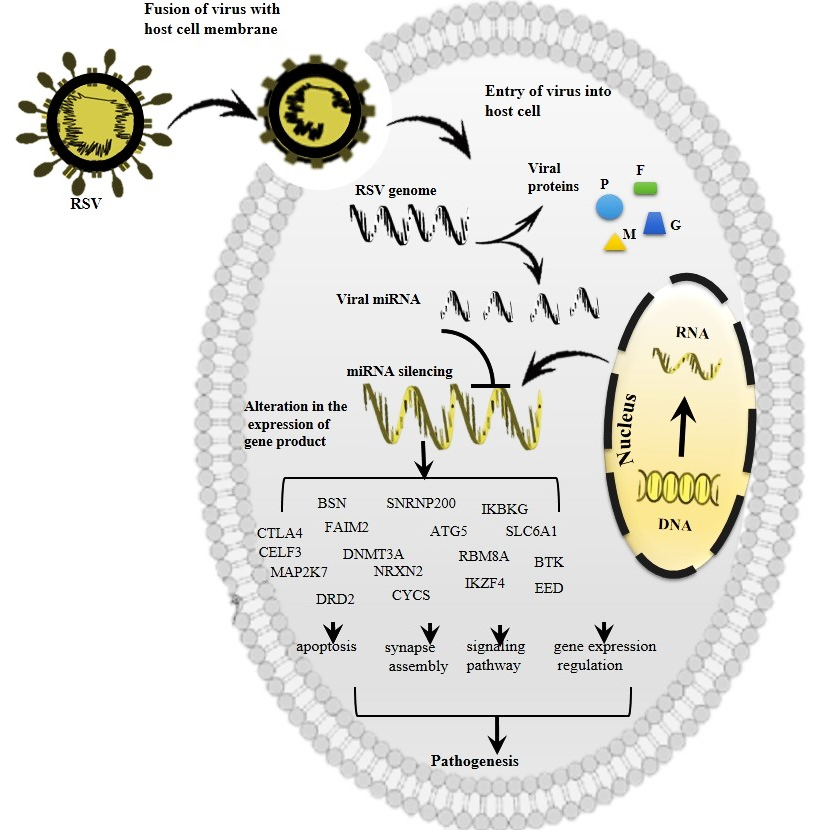


**Figure S1: 7 modules were selected having cutoff criteria node > 4 and the score is ≥4.(A) First module constructed from MCDOE comprised of 6 genes(B) Second module constructed from MCDOE comprised of 5 genes(C) Third module constructed from MCDOE comprised of 4 genes (D) Fourth module constructed from MCDOE comprised of 4 genes (E) Fifth module constructed from MCDOE comprised of 4 genes (F) Sixth module constructed from MCDOE comprised of 4 genes (G) Seventh module constructed from MCDOE comprised of 4 genes.**



**Figure S2: Schema diagram representing the overall mechanism behind the pathogenesis of RSV**

**Table S1:Table containing the putative RSV miRNAs and their target genes**

|  |  |  |  |
| --- | --- | --- | --- |
| **miRNA** | **Target gene** | **Binding energy** | **p-value** |
| RSV-miR-1 | PSD4 | -27.2 | 0.204603 |
| RSV-miR-1 | CAMSAP1 | -28.1 | 0.14805 |
| RSV-miR-1 | MGC14327 | -26.1 | 0.16756 |
| RSV-miR-1 | KIAA0877 | -27.8 | 0.265006 |
| RSV-miR-1 | SNX1 | -26.0 | 0.846062 |
| RSV-miR-1 | RAI17 | -28.9 | 0.240678 |
| RSV-miR-1 | ALDH5A1 | -27.2 | 0.426256 |
| RSV-miR-1 | CNR1 | -26.0 | 0.673399 |
| RSV-miR-1 | BCL11B | -25.6 | 0.807929 |
| RSV-miR-1 | PPP1R12B | -25.6 | 0.933634 |
| RSV-miR-1 | MN1 | -25.8 | 0.544275 |
| RSV-miR-1 | ZNF497 | -26.2 | 0.331999 |
| RSV-miR-1 | LRRN6D | -25.6 | 0.126928 |
| RSV-miR-1 | WNT8B | -27.8 | 0.070381 |
| RSV-miR-1 | CDC42BPA | -27.4 | 0.217036 |
| RSV-miR-1 | SNX1 | -26.0 | 0.846062 |
| RSV-miR-1 | TMEM43 | -26.1 | 0.368654 |
| RSV-miR-1 | GSTM3 | -25.7 | 0.630113 |
| RSV-miR-1 | SMCR7 | -26.2 | 0.175792 |
| RSV-miR-1 | SNX1 | -26.0 | 0.846062 |
| RSV-miR-1 | KIAA0247 | -30.2 | 0.157493 |
| RSV-miR-1 | IGFBP5 | -25.6 | 0.798485 |
| RSV-miR-1 | TENC1 | -25.5 | 0.094226 |
| RSV-miR-1 | DAAM2 | -29.5 | 0.135731 |
| RSV-miR-1 | TBC1D5 | -25.8 | 0.529963 |
| RSV-miR-1 | C20orf117 | -29.0 | 0.114359 |
| RSV-miR-1 | FLJ25778 | -25.9 | 0.762042 |
| RSV-miR-1 | LOC92691 | -26.3 | 0.39664 |
| RSV-miR-1 | PRX | -28.0 | 0.421661 |
| RSV-miR-1 | ARHGEF18 | -26.4 | 0.345412 |
| RSV-miR-1 | DKFZp667G2110 | -27.6 | 0.168931 |
| RSV-miR-1 | IGLL1 | -27.7 | 0.002391 |
| RSV-miR-1 | FLJ43374 | -26.5 | 0.426561 |
| RSV-miR-1 | S100A7L1 | -25.9 | 0.690301 |
| RSV-miR-1 | RAI14 | -28.0 | 0.161811 |
| RSV-miR-1 | C1orf160 | -25.7 | 0.205862 |
| RSV-miR-1 | FAM20A | -27.0 | 0.023285 |
| RSV-miR-1 | APRT | -25.7 | 0.023025 |
| RSV-miR-1 | CCDC25 | -27.1 | 0.375906 |
| RSV-miR-1 | REM1 | -27.9 | 0.024952 |
| RSV-miR-1 | EIF4ENIF1 | -27.1 | 0.041126 |
| RSV-miR-1 | CABP7 | -26.9 | 0.327956 |
| RSV-miR-1 | PPM1H | -25.5 | 0.797445 |
| RSV-miR-1 | ETNK2 | -25.9 | 0.247479 |
| RSV-miR-1 | SLC25A34 | -28.5 | 0.147129 |
| RSV-miR-1 | GTPBP5 | -26.6 | 0.257871 |
| RSV-miR-1 | C9orf36 | -25.5 | 0.018475 |
| RSV-miR-1 | MMP19 | -25.8 | 0.52822 |
| RSV-miR-1 | ALDH5A1 | -27.2 | 0.426256 |
| RSV-miR-1 | TNRC4 | -28.3 | 0.07038 |
| RSV-miR-1 | MFRP | -25.7 | 0.12003 |
| RSV-miR-1 | PTPRU | -29.0 | 0.053102 |
| RSV-miR-1 | DRD2 | -25.9 | 0.233996 |
| RSV-miR-1 | SCN2B | -25.9 | 0.700961 |
| RSV-miR-1 | CENTB2 | -25.5 | 0.803628 |
| RSV-miR-1 | LASS3 | -26.1 | 0.452895 |
| RSV-miR-1 | KCNJ9 | -25.5 | 0.395428 |
| RSV-miR-1 | BTG2 | -26.5 | 0.358332 |
| RSV-miR-1 | GRAMD3 | -27.7 | 0.131532 |
| RSV-miR-1 | FOXP4 | -27.6 | 0.366449 |
| RSV-miR-1 | SH3KBP1 | -27.3 | 0.109059 |
| RSV-miR-1 | SYN3 | -26.4 | 0.207543 |
| RSV-miR-1 | MGAT5B | -27.0 | 0.204349 |
| RSV-miR-1 | SNX22 | -26.0 | 0.556484 |
| RSV-miR-1 | AQP6 | -26.0 | 0.51375 |
| RSV-miR-1 | ADAM11 | -25.5 | 0.499233 |
| RSV-miR-1 | TNXB | -25.6 | 0.017888 |
| RSV-miR-1 | KIAA1030 | -26.5 | 0.480649 |
| RSV-miR-1 | FAT2 | -27.0 | 0.191139 |
| RSV-miR-1 | ATP2B3 | -27.8 | 0.290485 |
| RSV-miR-1 | HSPC142 | -26.1 | 0.030424 |
| RSV-miR-1 | NMNAT3 | -26.9 | 0.097166 |
| RSV-miR-1 | MPHOSPH1 | -28.2 | 0.055355 |
| RSV-miR-1 | CACNB1 | -25.6 | 0.409839 |
| RSV-miR-1 | UBE2J1 | -27.0 | 0.409256 |
| RSV-miR-1 | MOSC1 | -26.2 | 0.175358 |
| RSV-miR-1 | C10orf62 | -26.2 | 0.046878 |
| RSV-miR-1 | IIP45 | -27.9 | 0.080763 |
| RSV-miR-1 | P53AIP1 | -25.8 | 0.455298 |
| RSV-miR-1 | MBTPS1 | -25.5 | 0.1508 |
| RSV-miR-1 | BCAN | -26.1 | 0.073214 |
| RSV-miR-1 | YEATS2 | -25.9 | 0.423704 |
| RSV-miR-1 | EFHD2 | -25.5 | 0.401312 |
| RSV-miR-1 | NTSR1 | -25.6 | 0.55511 |
| RSV-miR-1 | CHML | -25.7 | 0.803947 |
| RSV-miR-1 | RBM8A | -26.1 | 0.427437 |
| RSV-miR-1 | MAFF | -25.7 | 0.367804 |
| RSV-miR-1 | COL20A1 | -28.0 | 0.005779 |
| RSV-miR-1 | CTLA4 | -27.1 | 0.135428 |
| RSV-miR-1 | CSEN | -26.9 | 0.287402 |
| RSV-miR-1 | C6orf136 | -25.8 | 0.017404 |
| RSV-miR-1 | SNAPC2 | -26.7 | 0.047142 |
| RSV-miR-1 | PPM1F | -25.7 | 0.693964 |
| RSV-miR-1 | DCI | -28.5 | 0.00058 |
| RSV-miR-1 | YTHDF3 | -25.7 | 0.629857 |
| RSV-miR-1 | IGSF3 | -25.5 | 0.63328 |
| RSV-miR-1 | MAF | -27.6 | 0.455146 |
| RSV-miR-1 | FAIM2 | -27.6 | 0.380072 |
| RSV-miR-1 | ZNF398 | -25.5 | 0.675507 |
| RSV-miR-1 | PSCD1 | -25.8 | 0.440934 |
| RSV-miR-1 | KIAA1727 | -26.6 | 0.456598 |
| RSV-miR-1 | C15orf41 | -28.8 | 0.106047 |
| RSV-miR-1 | LOC388610 | -25.7 | 0.21324 |
| RSV-miR-1 | PTPRF | -27.0 | 0.218787 |
| RSV-miR-1 | MAP1D | -26.1 | 0.06188 |
| RSV-miR-1 | SMCR7 | -26.2 | 0.179916 |
| RSV-miR-1 | KIAA1086 | -25.9 | 0.402471 |
| RSV-miR-1 | COL8A2 | -28.8 | 0.146521 |
| RSV-miR-1 | DNMT3A | -25.8 | 0.200473 |
| RSV-miR-1 | SLC26A10 | -26.8 | 0.038471 |
| RSV-miR-1 | APOC1 | -27.1 | 0.002548 |
| RSV-miR-1 | RAB2B | -25.8 | 0.349066 |
| RSV-miR-1 | DEPDC4 | -25.7 | 0.330048 |
| RSV-miR-1 | MTMR11 | -28.1 | 0.140217 |
| RSV-miR-1 | ACTR3B | -26.7 | 0.105213 |
| RSV-miR-1 | CRB2 | -28.3 | 0.124483 |
| RSV-miR-1 | CTNNBIP1 | -25.5 | 0.562507 |
| RSV-miR-1 | ZNF521 | -25.6 | 0.166411 |
| RSV-miR-1 | C1QTNF1 | -26.0 | 0.348981 |
| RSV-miR-1 | KIF1A | -26.1 | 0.618883 |
| RSV-miR-1 | ZNF319 | -25.7 | 0.417831 |
| RSV-miR-1 | FAM100B | -26.4 | 0.114939 |
| RSV-miR-1 | RAB39B | -25.5 | 0.583036 |
| RSV-miR-1 | FIBCD1 | -26.0 | 0.31582 |
| RSV-miR-1 | C10orf39 | -28.5 | 0.295602 |
| RSV-miR-1 | RBMXL1 | -26.3 | 0.394191 |
| RSV-miR-1 | KIAA1509 | -27.2 | 0.149534 |
| RSV-miR-1 | ADCY7 | -27.5 | 0.293865 |
| RSV-miR-1 | C1QTNF8 | -27.4 | 0.220226 |
| RSV-miR-1 | KIAA0323 | -26.0 | 0.679399 |
| RSV-miR-1 | C19orf36 | -27.6 | 0.158542 |
| RSV-miR-1 | ICOSLG | -27.2 | 0.274065 |
| RSV-miR-1 | IKBKG | -25.5 | 0.12431 |
| RSV-miR-1 | KIAA1257 | -25.7 | 0.777271 |
| RSV-miR-1 | ITPK1 | -25.9 | 0.357307 |
| RSV-miR-1 | MLF2 | -29.6 | 0.013775 |
| RSV-miR-1 | FLJ13710 | -25.8 | 0.270541 |
| RSV-miR-1 | DKFZp564I122 | -25.9 | 0.287838 |
| RSV-miR-1 | C1QTNF6 | -25.5 | 0.489056 |
| RSV-miR-1 | GPR68 | -25.6 | 0.341899 |
| RSV-miR-1 | DHH | -25.7 | 0.07848 |
| RSV-miR-1 | SLC4A1 | -26.3 | 0.11984 |
| RSV-miR-1 | FBXO3 | -26.3 | 0.039182 |
| RSV-miR-1 | MXD4 | -29.2 | 0.172718 |
| RSV-miR-1 | RORC | -25.6 | 0.336577 |
| RSV-miR-1 | ATP10A | -25.6 | 0.477839 |
| RSV-miR-1 | TMBIM1 | -26.9 | 0.173197 |
| RSV-miR-1 | RGL1 | -26.3 | 0.399892 |
| RSV-miR-1 | ZNF592 | -27.8 | 0.047561 |
| RSV-miR-1 | ABCD1 | -26.5 | 0.147845 |
| RSV-miR-1 | ENPP4 | -25.5 | 0.631398 |
| RSV-miR-1 | GLI3 | -25.6 | 0.030193 |
| RSV-miR-1 | ZNF346 | -25.8 | 0.462431 |
| RSV-miR-1 | NRBP2 | -27.6 | 0.204462 |
| RSV-miR-1 | RALGPS1 | -26.2 | 0.677507 |
| RSV-miR-1 | BTK | -25.8 | 0.068315 |
| RSV-miR-1 | THAP2 | -26.7 | 0.51022 |
| RSV-miR-1 | FAM45A | -25.5 | 0.259852 |
| RSV-miR-1 | KIAA1909 | -26.0 | 0.883352 |
| RSV-miR-1 | TGDS | -26.4 | 0.10516 |
| RSV-miR-1 | WTIP | -26.5 | 0.130062 |
| RSV-miR-1 | FLJ10916 | -27.4 | 0.070137 |
| RSV-miR-1 | CACNG4 | -27.6 | 0.254891 |
| RSV-miR-1 | HYOU1 | -26.0 | 0.280785 |
| RSV-miR-1 | ABTB1 | -28.4 | 0.016921 |
| RSV-miR-1 | LRRC8E | -25.7 | 0.252632 |
| RSV-miR-1 | TOMM40 | -27.2 | 0.041288 |
| RSV-miR-1 | DLGAP3 | -26.0 | 0.106012 |
| RSV-miR-1 | CDC42BPA | -27.4 | 0.217036 |
| RSV-miR-1 | TSPAN9 | -26.9 | 0.469517 |
| RSV-miR-1 | ST3GAL5 | -27.4 | 0.095451 |
| RSV-miR-1 | EPS8L2 | -27.0 | 0.079913 |
| RSV-miR-1 | IGLL1 | -27.7 | 0.020435 |
| RSV-miR-2 | KIAA0543 | -28.0 | 0.465555 |
| RSV-miR-2 | MUC6 | -28.4 | 0.064666 |
| RSV-miR-2 | MGC21644 | -31.6 | 0.048574 |
| RSV-miR-2 | GPX2 | -28.9 | 0.020709 |
| RSV-miR-2 | MAPKAPK2 | -29.6 | 0.125983 |
| RSV-miR-2 | GPR176 | -30.0 | 0.013636 |
| RSV-miR-2 | BTBD7 | -28.1 | 0.140352 |
| RSV-miR-2 | MIP | -28.9 | 0.121363 |
| RSV-miR-2 | STX18 | -28.5 | 0.126116 |
| RSV-miR-2 | SULT1A2 | -31.4 | 0.000194 |
| RSV-miR-2 | IL19 | -29.4 | 0.015291 |
| RSV-miR-2 | BCORL1 | -28.0 | 0.232133 |
| RSV-miR-2 | C20orf35 | -28.2 | 0.305708 |
| RSV-miR-2 | DDN | -28.4 | 0.211472 |
| RSV-miR-2 | SLC39A9 | -29.4 | 0.177337 |
| RSV-miR-2 | CRY2 | -30.8 | 0.121395 |
| RSV-miR-2 | GABRR2 | -28.3 | 0.005435 |
| RSV-miR-2 | TRAF4 | -31.0 | 0.011781 |
| RSV-miR-2 | SHF | -28.9 | 0.128185 |
| RSV-miR-2 | ADH5 | -28.3 | 0.197004 |
| RSV-miR-2 | BLMH | -30.7 | 0.030053 |
| RSV-miR-2 | IGFBP5 | -29.3 | 0.429988 |
| RSV-miR-2 | SLC26A9 | -28.1 | 0.282087 |
| RSV-miR-2 | C11orf44 | -28.1 | 0.456289 |
| RSV-miR-2 | SCAMP5 | -28.8 | 0.294631 |
| RSV-miR-2 | PPFIA4 | -31.4 | 0.094269 |
| RSV-miR-2 | AMAC1 | -31.7 | 0.01689 |
| RSV-miR-2 | NCF4 | -28.6 | 0.00794 |
| RSV-miR-2 | FGF12 | -28.8 | 0.241278 |
| RSV-miR-2 | ATP9A | -29.4 | 0.395582 |
| RSV-miR-2 | PCBP4 | -29.0 | 0.047175 |
| RSV-miR-2 | KIAA1609 | -28.3 | 0.337459 |
| RSV-miR-2 | SULT1A3 | -28.6 | 0.030392 |
| RSV-miR-2 | SULT1A1 | -28.6 | 0.011323 |
| RSV-miR-2 | SNRK | -28.8 | 0.299384 |
| RSV-miR-2 | NDST1 | -28.3 | 0.588294 |
| RSV-miR-2 | FAM20C | -28.5 | 0.084238 |
| RSV-miR-2 | SSR2 | -28.4 | 0.043964 |
| RSV-miR-2 | MKL2 | -28.8 | 0.548141 |
| RSV-miR-2 | CLDN19 | -30.2 | 0.128612 |
| RSV-miR-2 | GCC1 | -28.2 | 0.197603 |
| RSV-miR-2 | SIN3B | -28.4 | 0.215907 |
| RSV-miR-2 | UNC45A | -29.2 | 0.021596 |
| RSV-miR-2 | ERBB2IP | -28.6 | 0.311812 |
| RSV-miR-2 | TTLL11 | -30.8 | 0.056156 |
| RSV-miR-2 | RASL11B | -28.5 | 0.123412 |
| RSV-miR-2 | PBX2 | -28.5 | 0.208278 |
| RSV-miR-2 | CHST3 | -29.6 | 0.414423 |
| RSV-miR-2 | NCF4 | -28.6 | 0.030272 |
| RSV-miR-2 | CRISPLD2 | -28.3 | 0.395495 |
| RSV-miR-2 | C20orf55 | -28.4 | 0.07202 |
| RSV-miR-2 | ABCC3 | -28.4 | 0.20373 |
| RSV-miR-2 | CCRK | -28.2 | 0.135309 |
| RSV-miR-2 | MAP2K7 | -31.0 | 0.094931 |
| RSV-miR-2 | SLC6A9 | -28.7 | 0.114026 |
| RSV-miR-2 | FURIN | -29.8 | 0.115134 |
| RSV-miR-2 | PTPRH | -30.6 | 0.014762 |
| RSV-miR-2 | PRKAG3 | -28.3 | 0.095908 |
| RSV-miR-2 | FLJ20245 | -30.0 | 0.197576 |
| RSV-miR-2 | NR1H2 | -28.3 | 0.032312 |
| RSV-miR-2 | FLJ39743 | -29.3 | 0.244362 |
| RSV-miR-2 | TTLL11 | -30.8 | 0.056156 |
| RSV-miR-2 | RASL11B | -28.5 | 0.123412 |
| RSV-miR-2 | PBX2 | -28.5 | 0.208278 |
| RSV-miR-2 | CHST3 | -29.6 | 0.414423 |
| RSV-miR-2 | NCF4 | -28.6 | 0.030272 |
| RSV-miR-2 | CRISPLD2 | -28.3 | 0.395495 |
| RSV-miR-2 | C20orf55 | -28.4 | 0.07202 |
| RSV-miR-2 | NDFIP1 | -30.0 | 0.11146 |
| RSV-miR-2 | TMEM28 | -29.8 | 0.203743 |
| RSV-miR-2 | ZNF651 | -28.4 | 0.394412 |
| RSV-miR-2 | NCOA7 | -28.6 | 0.296841 |
| RSV-miR-2 | MAPKAPK2 | -30.2 | 0.145214 |
| RSV-miR-2 | MGC4251 | -28.6 | 0.076616 |
| RSV-miR-2 | SPTLC2 | -28.0 | 0.670619 |
| RSV-miR-2 | CDR2 | -28.2 | 0.137502 |
| RSV-miR-2 | GPX1 | -28.6 | 0.084981 |
| RSV-miR-2 | BAI1 | -30.2 | 0.023833 |
| RSV-miR-2 | ADARB2 | -28.9 | 0.109039 |
| RSV-miR-2 | TMEM80 | -28.3 | 0.125561 |
| RSV-miR-2 | CAPN3 | -29.3 | 0.20162 |
| RSV-miR-2 | HOXB5 | -28.9 | 0.089821 |
| RSV-miR-2 | FLJ13154 | -28.8 | 0.153812 |
| RSV-miR-2 | DVL3 | -28.0 | 0.423898 |
| RSV-miR-2 | TRIM39 | -28.1 | 0.221923 |
| RSV-miR-2 | RAB43 | -30.0 | 0.259557 |
| RSV-miR-2 | KIAA1522 | -29.4 | 0.18924 |
| RSV-miR-2 | WFDC3 | -30.7 | 0.002946 |
| RSV-miR-2 | PRDM2 | -28.4 | 0.262694 |
| RSV-miR-2 | IER2 | -28.3 | 0.143527 |
| RSV-miR-2 | HARSL | -28.7 | 0.073948 |
| RSV-miR-2 | GAGE1 | -29.0 | 0.005307 |
| RSV-miR-2 | CALR | -29.6 | 0.030642 |
| RSV-miR-2 | LPHN1 | -28.3 | 0.428825 |
| RSV-miR-2 | AKAP13 | -29.4 | 0.413245 |
| RSV-miR-2 | C20orf173 | -28.9 | 0.015198 |
| RSV-miR-2 | FOSB | -30.0 | 0.154244 |
| RSV-miR-2 | TAPBP | -28.9 | 0.138823 |
| RSV-miR-2 | FADS2 | -31.9 | 0.048097 |
| RSV-miR-2 | ADAMTS6 | -30.4 | 0.196749 |
| RSV-miR-2 | C22orf19 | -28.1 | 0.02346 |
| RSV-miR-2 | RASGEF1A | -29.2 | 0.165478 |
| RSV-miR-2 | ARMC1 | -29.8 | 0.11459 |
| RSV-miR-2 | EFNA1 | -28.4 | 0.100292 |
| RSV-miR-2 | OVOL1 | -28.4 | 0.25453 |
| RSV-miR-2 | TMEM54 | -29.3 | 0.010424 |
| RSV-miR-2 | IL19 | -29.4 | 0.015366 |
| RSV-miR-2 | NDUFS6 | -28.5 | 0.024259 |
| RSV-miR-2 | DNAJC11 | -30.3 | 0.086653 |
| RSV-miR-2 | AYTL2 | -30.0 | 0.163003 |
| RSV-miR-2 | C20orf45 | -28.1 | 0.275093 |
| RSV-miR-2 | CDCP1 | -30.9 | 0.174763 |
| RSV-miR-2 | SON | -31.0 | 0.097511 |
| RSV-miR-2 | SPFH2 | -29.5 | 0.324992 |
| RSV-miR-2 | ALDOC | -28.7 | 0.02986 |
| RSV-miR-2 | AKAP13 | -29.4 | 0.413245 |
| RSV-miR-2 | CELSR3 | -30.9 | 0.080327 |
| RSV-miR-2 | LIM2 | -29.1 | 0.012503 |
| RSV-miR-2 | ANTXR1 | -29.1 | 0.087296 |
| RSV-miR-2 | NNAT | 28.4 | MGC17839 |
| RSV-miR-2 | LOC89944 | -28.7 | 0.116388 |
| RSV-miR-2 | CLPP | -28.7 | 0.010698 |
| RSV-miR-2 | DGKH | -28.8 | 0.04441 |
| RSV-miR-2 | SH3MD1 | -30.3 | 0.465195 |
| RSV-miR-2 | TRAF4 | -31.0 | 0.011781 |
| RSV-miR-2 | BAZ1B | -28.7 | 0.14799 |
| RSV-miR-2 | PPP1R1A | -28.2 | 0.158174 |
| RSV-miR-2 | C11orf45 | -28.7 | 0.359195 |
| RSV-miR-2 | KIAA0100 | -29.4 | 0.040688 |
| RSV-miR-2 | FBXO42 | -29.0 | 0.04877 |
| RSV-miR-2 | NRXN2 | -30.3 | 0.052367 |
| RSV-miR-2 | MDGA1 | -29.2 | 0.453579 |
| RSV-miR-2 | FLJ42486 | -29.3 | 0.080795 |
| RSV-miR-2 | RPL37 | -28.9 | 0.120735 |
| RSV-miR-2 | BSDC1 | -30.2 | 0.224798 |
| RSV-miR-2 | RPS6KB2 | -29.1 | 0.062737 |
| RSV-miR-2 | C10orf56 | -28.5 | 0.487207 |
| RSV-miR-2 | ECAT11 | -30.3 | 0.004235 |
| RSV-miR-2 | TNFSF4 | -28.6 | 0.348083 |
| RSV-miR-2 | SNN | -31.3 | 0.123168 |
| RSV-miR-2 | SULT1A4 | -28.6 | 0.026854 |
| RSV-miR-2 | PAQR4 | -29.4 | 0.133979 |
| RSV-miR-2 | ARHGEF19 | -28.4 | 0.045083 |
| RSV-miR-2 | MFAP4 | -28.3 | 0.132705 |
| RSV-miR-2 | MR-1 | -28.4 | 0.246141 |
| RSV-miR-2 | GARNL4 | -29.6 | 0.367544 |
| RSV-miR-2 | FGF12 | -28.8 | 0.241278 |
| RSV-miR-2 | CBX6 | -28.3 | 0.27848 |
| RSV-miR-2 | WBP1 | -30.1 | 0.004159 |
| RSV-miR-2 | FLJ39647 | -28.9 | 0.098259 |
| RSV-miR-2 | HS3ST4 | -28.9 | 0.152599 |
| RSV-miR-2 | C10orf90 | -28.2 | 0.111675 |
| RSV-miR-2 | KIAA0310 | -28.2 | 0.240311 |
| RSV-miR-2 | RIMS3 | -28.0 | 0.700462 |
| RSV-miR-2 | MDFIC | 28.3 | 0.440534 |
| RSV-miR-2 | ZNFN1A4 | -30.7 | 0.136395 |
| RSV-miR-2 | BMPER | -28.6 | 0.324802 |
| RSV-miR-2 | RPH3AL | -30.1 | 0.08445 |
| RSV-miR-2 | EIF1AX | -29.4 | 0.345166 |
| RSV-miR-2 | CTNNBIP1 | -31.0 | 0.116724 |
| RSV-miR-2 | C11orf9 | -30.8 | 0.122807 |
| RSV-miR-2 | C1QTNF1 | -29.1 | 0.173346 |
| RSV-miR-2 | KIF1A | -28.5 | 0.448655 |
| RSV-miR-2 | CD300LB | -29.3 | 0.145066 |
| RSV-miR-2 | C3orf9 | -28.5 | 0.297992 |
| RSV-miR-2 | BSN | -30.2 | 0.277413 |
| RSV-miR-2 | MMD2 | -28.2 | 0.198729 |
| RSV-miR-2 | TRIM26 | -28.8 | 0.158168 |
| RSV-miR-2 | TTMP | -28.9 | 0.168787 |
| RSV-miR-2 | RNPC1 | -29.3 | 0.167679 |
| RSV-miR-2 | RNF144 | -29.8 | 0.345812 |
| RSV-miR-2 | TOMM34 | -28.3 | 0.126049 |
| RSV-miR-2 | GLB1 | -32.3 | 0.002477 |
| RSV-miR-2 | ZGPAT | -28.1 | 0.267564 |
| RSV-miR-2 | MCART6 | -28.6 | 0.566085 |
| RSV-miR-2 | CTNNBIP1 | -31.0 | 0.116724 |
| RSV-miR-2 | LIF | -28.9 | 0.352717 |
| RSV-miR-2 | LOC283914 | -29.8 | 0.144893 |
| RSV-miR-2 | GPR3 | -29.2 | 0.090001 |
| RSV-miR-2 | NUDCD1 | -28.1 | 0.32314 |
| RSV-miR-2 | ARSJ | -29.5 | 0.19408 |
| RSV-miR-2 | DHCR24 | -30.3 | 0.169514 |
| RSV-miR-2 | C14orf32 | -28.1 | 0.303135 |
| RSV-miR-2 | KCNS2 | -29.7 | 0.10673 |
| RSV-miR-2 | FLRT2 | -32.6 | 0.120755 |
| RSV-miR-2 | TCF2 | -28.9 | 0.311944 |
| RSV-miR-2 | PLA2G4F | -28.1 | 0.105847 |
| RSV-miR-2 | ANKRD43 | -29.1 | 0.148592 |
| RSV-miR-2 | ERBB2IP | -28.6 | 0.311812 |
| RSV-miR-2 | DEPDC5 | -28.4 | 0.055965 |
| RSV-miR-2 | ZBTB9 | -28.6 | 0.116177 |
| RSV-miR-2 | JPH3 | -28.2 | 0.214661 |
| RSV-miR-2 | PDDC1 | -31.2 | 0.079163 |
| RSV-miR-2 | SMYD5 | -33.5 | 0.015755 |
| RSV-miR-2 | MXD4 | -29.0 | 0.332301 |
| RSV-miR-2 | C6orf49 | -29.0 | 0.107496 |
| RSV-miR-2 | CHD5 | -28.2 | 0.498227 |
| RSV-miR-2 | BET1L | -29.5 | 0.227874 |
| RSV-miR-2 | PFDN1 | -28.5 | 0.1039 |
| RSV-miR-2 | DHX37 | -28.3 | 0.125074 |
| RSV-miR-2 | PTPRN | -28.7 | 0.054982 |
| RSV-miR-2 | LMBR1L | -29.7 | 0.02541 |
| RSV-miR-2 | GDF5 | -31.9 | 0.008893 |
| RSV-miR-2 | ZNF445 | -28.0 | 0.689526 |
| RSV-miR-2 | P2RY8 | -28.6 | 0.361014 |
| RSV-miR-2 | CARHSP1 | -28.0 | 0.019731 |
| RSV-miR-2 | HS3ST2 | -30.8 | 0.028081 |
| RSV-miR-2 | CLEC11A | -28.9 | 0.012434 |
| RSV-miR-2 | USP20 | -28.1 | 0.239191 |
| RSV-miR-3 | PRKX | -25.6 | 0.87434 |
| RSV-miR-3 | RFP2 | -25.8 | 0.888457 |
| RSV-miR-3 | RIPK5 | -26.1 | 0.840806 |
| RSV-miR-3 | DC12 | -26.5 | 0.080352 |
| RSV-miR-3 | IHPK1 | -27.5 | 0.412062 |
| RSV-miR-3 | LRRC32 | -26.1 | 0.511453 |
| RSV-miR-3 | SLC22A7 | -26.7 | 0.148882 |
| RSV-miR-3 | SLC22A7 | -26.7 | 0.41053 |
| RSV-miR-3 | ZFPL | -26.9 | 0.675177 |
| RSV-miR-3 | CCRL1 | -25.4 | 0.369894 |
| RSV-miR-3 | WDR20 | -30.3 | 0.017197 |
| RSV-miR-3 | SPR | -25.8 | 0.167703 |
| RSV-miR-3 | LY6G6C | -25.7 | 0.108423 |
| RSV-miR-3 | IHPK1 | -27.5 | 0.412062 |
| RSV-miR-3 | LTB4DH | -25.5 | 0.022713 |
| RSV-miR-3 | MXRA7 | -26.8 | 0.26681 |
| RSV-miR-3 | PTPRH | -26.5 | 0.085564 |
| RSV-miR-3 | PIK3AP1 | -25.4 | 0.666248 |
| RSV-miR-3 | RAB23 | -28.3 | 0.179223 |
| RSV-miR-3 | SFRS1 | -25.9 | 0.514016 |
| RSV-miR-3 | STK24 | -25.4 | 0.350395 |
| RSV-miR-3 | USP25 | -26.1 | 0.405348 |
| RSV-miR-3 | CDCA8 | -28.4 | 0.131598 |
| RSV-miR-3 | MXRA7 | -26.8 | 0.254086 |
| RSV-miR-3 | C9orf100 | -25.7 | 0.616215 |
| RSV-miR-3 | C19orf22 | -25.6 | 0.299276 |
| RSV-miR-3 | CHD9 | -30.2 | 0.092513 |
| RSV-miR-3 | C1orf19 | -25.4 | 0.460726 |
| RSV-miR-3 | SLC30A10 | -25.4 | 0.406684 |
| RSV-miR-3 | WDR20 | -30.3 | 0.017997 |
| RSV-miR-3 | PAG1 | -25.6 | 0.976699 |
| RSV-miR-3 | DKFZP781I1119 | -30.8 | 0.09607 |
| RSV-miR-3 | CCRL1 | -25.4 | 0.369894 |
| RSV-miR-3 | WIRE | -26.5 | 0.699637 |
| RSV-miR-3 | NSUN4 | -25.5 | 0.779147 |
| RSV-miR-3 | MSRB3 | -26.6 | 0.653591 |
| RSV-miR-3 | WDR20 | -30.3 | 0.017997 |
| RSV-miR-3 | SLC6A6 | -27.9 | 0.314392 |
| RSV-miR-3 | GPR155 | -26.2 | 0.788216 |
| RSV-miR-3 | STK24 | -25.4 | 0.349354 |
| RSV-miR-3 | ITGA10 | -27.2 | 0.267926 |
| RSV-miR-3 | RIPK5 | -26.1 | 0.840806 |
| RSV-miR-4 | RASSF2 | -36.1 | 0.039962 |
| RSV-miR-4 | IRAK2 | -35.3 | 0.013277 |
| RSV-miR-4 | C20orf96 | -38.6 | 0.000144 |
| RSV-miR-4 | SERBP1 | -35.0 | 0.081901 |
| RSV-miR-4 | RASSF2 | -36.1 | 0.042657 |
| RSV-miR-4 | VGL-3 | -35.0 | 0.144508 |
| RSV-miR-4 | ADAM12 | -35.6 | 0.022848 |
| RSV-miR-4 | CTNS | -35.5 | 0.008054 |
| RSV-miR-4 | NR1I2 | -34.9 | 0.012538 |
| RSV-miR-4 | GAS8 | -34.5 | 0.021102 |
| RSV-miR-4 | CTNS | -35.5 | 0.004513 |
| RSV-miR-4 | STIL | -35.9 | 0.004752 |
| RSV-miR-4 | NR1I2 | -34.9 | 0.012538 |
| RSV-miR-4 | CEP164 | -35.8 | 0.007082 |
| RSV-miR-4 | DIDO1 | -34.9 | 0.054533 |
| RSV-miR-4 | CNNM3 | -35.2 | 0.01108 |
| RSV-miR-4 | PLEKHA6 | -34.6 | 0.066784 |
| RSV-miR-4 | ASCC3L1 | -37.3 | 0.00135 |
| RSV-miR-4 | SERBP1 | -35.0 | 0.081901 |
| RSV-miR-4 | LLGL1 | -36.0 | 0.004677 |
| RSV-miR-4 | GATA2 | -35.2 | 0.015194 |
| RSV-miR-4 | HUNK | -35.6 | 0.057759 |
| RSV-miR-4 | DDI1 | -36.0 | 0.006458 |
| RSV-miR-4 | DZIP1L | -35.4 | 0.004994 |
| RSV-miR-4 | ZNF69 | -35.0 | 0.00687 |
| RSV-miR-4 | NR1I2 | -34.9 | 0.012808 |
| RSV-miR-4 | MGRN1 | -34.5 | 0.030262 |
| RSV-miR-4 | SLC6A1 | -34.7 | 0.031874 |
| RSV-miR-4 | DAP | -34.6 | 0.022712 |
| RSV-miR-4 | SNPH | -35.9 | 0.031045 |
| RSV-miR-4 | STAC3 | -37.6 | 0.000296 |
| RSV-miR-4 | C20orf11 | -35.4 | 0.042431 |
| RSV-miR-4 | C21orf58 | -40.8 | 0.0011 |
| RSV-miR-4 | ZNF346 | -34.6 | 0.030274 |
| RSV-miR-4 | NR5A1 | -34.6 | 0.018719 |
| RSV-miR-4 | CD5 | -36.9 | 0.007039 |
| RSV-miR-4 | C21orf58 | -40.8 | 0.000411 |
| RSV-miR-5 | TPRX1 | -29.2 | 0.029553 |
| RSV-miR-5 | MSL3L1 | -29.0 | 0.049 |
| RSV-miR-5 | RAB6B | -30.4 | 0.272511 |
| RSV-miR-5 | ZNF396 | -30.8 | 0.071457 |
| RSV-miR-5 | PSG4 | -29.5 | 0.038737 |
| RSV-miR-5 | DDEF2 | -29.2 | 0.216342 |
| RSV-miR-5 | CYCS | -30.0 | 0.339644 |
| RSV-miR-5 | AHCY | -29.9 | 0.036306 |
| RSV-miR-5 | SEC14L1 | -29.7 | 0.228442 |
| RSV-miR-5 | BZRP | -32.3 | 0.001458 |
| RSV-miR-5 | RASD2 | -30.1 | 0.126582 |
| RSV-miR-5 | PARVA | -29.9 | 0.203464 |
| RSV-miR-5 | C20orf114 | -28.9 | 0.001936 |
| RSV-miR-5 | FAM102B | -29.4 | 0.352754 |
| RSV-miR-5 | EED | -29.5 | 0.043546 |
| RSV-miR-5 | PSG7 | -29.5 | 0.037045 |
| RSV-miR-5 | MSL3L1 | -29.0 | 0.047092 |
| RSV-miR-6 | EYA2 | -23.0 | 0.426728 |
| RSV-miR-6 | TNRC15 | -22.1 | 0.921869 |
| RSV-miR-6 | ICK | -21.9 | 0.997927 |
| RSV-miR-6 | NUAK1 | -23.2 | 0.949414 |
| RSV-miR-6 | ZNFN1A1 | -21.9 | 0.973944 |
| RSV-miR-6 | H3F3B | -22.4 | 0.939479 |
| RSV-miR-6 | LZTFL1 | -22.9 | 0.903669 |
| RSV-miR-6 | ATG5 | -22.1 | 0.954232 |
| RSV-miR-7 | CAMK2G | -28.6 | 0.212408 |
| RSV-miR-7 | HMGA2 | -28.1 | 0.402498 |
| RSV-miR-7 | C14orf58 | -28.0 | 0.2253 |
| RSV-miR-7 | ECAT1 | -27.5 | 0.03281 |
| RSV-miR-7 | NCOA6 | -27.7 | 0.058616 |
| RSV-miR-7 | HNMT | -27.6 | 0.019459 |
| RSV-miR-7 | RNF4 | -28.4 | 0.2361 |
| RSV-miR-7 | EPB41 | -27.9 | 0.476011 |

**Table S2:** Top 7 modules were selected having cutoff criteria node > 4 and the score is ≥4 in MCODE

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **MCODE clusters** | **Node score** | **Nodes** | **Edges** | **Nodes IDs** |
| **Cluster 1** | 6.000 | 6 | 15 | RAB43, RAB2B, RAB23, RAB6B, CHML, RAB39B |
| **Cluster 2** | 5.000 | 5 | 10 | ATP2B3, MMD2, SLC6A1, FAIM2, KCNJ9 |
| **Cluster 3** | 4.000 | 4 | 6 | RNF4, MGRN1, TRIM39, UBE2J1 |
| **Cluster 4** | 4.000 | 4 | 6 | FAM20C, MBTPS1, FAM20A, IGFBP5 |
| **Cluster 5** | 4.000 | 4 | 6 | SULT1A2, SULT1A1, SULT1A3, SULT1A4 |
| **Cluster 6** | 4.000 | 4 | 6 | IKZF1, CD5, CTLA4, BTK |
| **Cluster 7** | 4.000 | 4 | 6 | THOC5, RBM8A, SRSF1, SNRNP200 |

**Table S3:** List of FDA approved drugs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Gene** | **Drug** | **Interaction\_types** | **Sources** | **PMID** |
| CYCS | ARTENIMOL | ligand | DrugBank | 26340163 |
| CYCS | MINOCYCLINE | negative modulator | DrugBank | 11986668, 16469440, 15665864, 17067803, 18977395, 14680842 |
| CTLA4 | ABATACEPT |  | NCI | 9758890 |
| CTLA4 | PREDNISONE |  | PharmGKB | 21228734 |
| CTLA4 | BORTEZOMIB |  | PharmGKB | 21228734 |
| CTLA4 | CYCLOSPORINE |  | PharmGKB | 18021981 |
| CTLA4 | IPILIMUMAB | antibody, inhibitor | TALC, DrugBank, MyCancerGenome, TdgClinicalTrial, ClearityFoundationClinicalTrial, ChemblInteractions, GuideToPharmacology, CancerCommons, TTD | 18049334 |
| CTLA4 | SIROLIMUS |  | NCI | 7982907, 11698435 |
| CTLA4 | THALIDOMIDE |  | NCI | 10823791 |
| CTLA4 | MELPHALAN |  | PharmGKB | 21228734 |
| CTLA4 | ALCOHOL |  | NCI | 11025487 |
| CTLA4 | ATEZOLIZUMAB |  | CIViC | 25428504 |
| CTLA4 | BLEOMYCIN |  | NCI | 11489978 |
| CTLA4 | METHIMAZOLE |  | NCI | 15504312 |
| CTLA4 | DEXAMETHASONE |  | PharmGKB | 21228734 |
| CTLA4 | TACROLIMUS |  | PharmGKB |  |
| BTK | IBRUTINIB | inhibitor | DTC, DrugBank, MyCancerGenome, TdgClinicalTrial, ChemblInteractions, CGI, DoCM, COSMIC, CIViC, GuideToPharmacology, PharmGKB, TTD | 26182309, 27626698, 24869598, 24697238, 25802231, 27199251, 25222877 |
| BTK | VANDETANIB |  | DTC |  |
| BTK | ACALABRUTINIB | inhibitor | DrugBank, GuideToPharmacology, TTD |  |
| BTK | FOSTAMATINIB | inhibitor | DrugBank | 26516587 |
| BTK | DASATINIB |  | DTC, DrugBank | 17684099 |