

Table S1. IPA analysis network list (top 10)

| ID | miRNAs in Network | mRNAs in Network | Score | Focus Molecules | Top Diseases and Functions |
|----|---|--|-------|-----------------|--|
| 1 | miR-125a-3p, miR-128-3p, miR-17-5p, miR-21-5p, miR-342-3p, miR-487-3p, let-7a-5p, miR-125b-1-3p, miR-130a-3p, miR-18a-5p, miR-218-5p, miR-377-5p, miR-543-3p, miR-126a-3p, miR-132-3p, miR-193a-3p, miR-292b-5p, miR-382-5p, miR-7a-5p, miR-100-5p, miR-126a-5p, miR-150-5p, miR-19b-3p, miR-330-3p, miR-433-3p, miR-92a-3p | Akt, Insulin, Smad2/3, CG, Tgf beta, Creb, MAP2K1/2, VEGF | 52 | 26 | Cancer, Organism injury and Abnormalities, Reproductive system Disease |
| 2 | miR-218-1-3p, miR-340-5p, miR-409-3p, miR-495-3p, miR-3065-5p, miR-34c-3p, miR-452-5p, miR-142-5p, miR-335-3p, miR-369-3p, miR-501-3p, miR-151-3p, miR-374b-5p, miR-493-5p, miR-7-1-3p | AGO2, GMFB, LIG4, MRPS36, TNF, AGO3, HIGD1A, LXN, NHEJ1, UBE2W, CDH1, HNRNP A1, RP11_176H81, XKR4, GABRA4, IGFL1, TGFB2, , IGFL1, TGFB2, | 25 | 15 | Cell-To-Cell Signaling and Abnormalities, Reproductive system Disease |
| 3 | Let-7i-3p, miR-29b-1-5p, miR-515, miR-548f-3p, miR-1285-3p, miR-485-3p, miR-517a-3p, miR-618, LET-7E-3P, Mir-182-5P, miR-486-5p, miR-542-3p, let-7f-2-3p, miR-183-5p, miR-504-5p | AK3, CMPK1, miR-515, RAB27B, TP53INP1, C1orf131, CNMD, let-7, RPL23A, ZMAT3, C2orf88, DBP, NDUFA4L2, SKIL, ZNF302, CAMK2N1, FABP2, miR-548, PLAGL1, TP53 | 22 | 14 | Cancer, Organismal Injury and Abnormalities, Reproductive System Disease |
| 4 | miR-103-3p, miR-145-5p, miR-214-3p, miR-548-3p, miR-10399-5p, miR-154-3p, miR-296-3p, miR-135a-5p, miR-188-3p, miR-3194-3p, miR-145-3p, miR-212-5p, miR-339-5p | APEX1, CSNK1A1, IKZF2, BATF3, DDC, JUNB, C2orf197, FAM120AOS, METTL7A, NIF3L1, TGFRAP1, ZNF667, CEP57L1, GFI1, PKIA, tretinoin | 20 | 13 | Cell Morphology, Infectious Disease, Organismal Development |
| 5 | miR-147, miR-22-5p, miR-3909, miR-766-3p, miR-148a-3p, miR-223-3p, miR-545-5p, miR-154-5p, miR-377-3p, miR-548o-3p, miR-197-3p, miR-378a-5p, miR-574-3p | ADORA2B, FAM169A, IFIT2, TCIM, ZNF233, CCDC180, FAM9C, IKZF2, PIK3IP1, TMEM100, ZNF550, CD28, FEZ2, IL6, RNF146, XKR4, ZNF772, EPDR1, GMFB, LINC01553, RSPO3, ZBTB37 | 20 | 13 | Inflammatory Disease, Inflammatory Response, Organismal injury and Abnormalities |
| 6 | miR-138-5p, miR-23a-5p, miR-381-3p, miR-592, miR- | AR, CCRB, KLLN, MYO22, TMEM68, | 20 | 13 | |

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|----|---|---|----|----|---|
| | 140-5p,miR28-3p,miR-508-3p,miR18a-3p,miR-514-3p,miR-874-5p,miR-211-3p,miR-3617-5p,miR519a-3p | C1orf147,DTX4,LINC01553,miR641,POMZP3,TNF,C1orf185,ENPP5,LXN,miR-290,PRRG4,TRUB1,CAPSL,ENTPD5,LYRM1,MYD88,SMIM15 | | | |
| 7 | miR-1255b-5p,miR-3913-5p,miR-532-3p,miR-22-3p,miR-421-3p,miR542-5p,miR-3118,miR4423-3p,miR-548h-5p,miR-1180-3p,miR344a-5p,miR483-5p,miR590-3p | ARL17A/ARL17B,DERA,ERBB2,JPT1,C5orf24,DOK6,GSG1L,KIAA0087,PTTG1IP,XPO4,CHST9,DTX4,HOXA4,MGARP,RPS15,YWHAZ,CYLC2,EGFR,HSH2D,STMN3 | 20 | 13 | Cancer, Organismal Injury and Abnormalities, Renal and urological Disease |
| 8 | miR-155-3p,miR-4723-5p,miR-548v,let-7a-2-3p,miR-192-5p,miR489-3p,miR-509-5p,miR-570-3p,miR-346,miR493-3p,miR-511-5p,miR-450a-5p,miR-503-5p | ANGPTL7,CYBRD1,L2HGDH,PRR9,ZBTB37,C18orf25,FAM9C,RAB31,ZNF256,C1D,GABRA4,LITAF,MYBL1,SLC25A36,ZNF420,CXCL10,IL13,METTL21A,miR-548,NFIB,TGFB1 | 20 | 13 | Cardiovascular System development and Function, Cellular Growth and proliferation |
| 9 | miR-1247-5p,miR-144-3p,miR-424-3p,miR-708-5p,miR-132-5p,miR328-3p,miR-486-3p,miR-133a-5p,miR329-3p,miR-507,miR-143-5p,miR344d-3p,miR-513a-3p | C1QTNF6,FOS,HIF1A,PIGA,TM4SF1,C2orf88,GIT2,KIAA1217,NFATC2IP,PROK2,TNFSF11,CCNG2,GLRX,KPNA5,OGG1,RAB36,ZNF667,FMR1,GRIN1,MBD3,PDK4,TFF3 | 20 | 13 | Cell-to Cell Signaling and Interaction, cellular Development, Nervous System Development and Function |
| 10 | miR-152-5p,miR-3173-5p,miR-548e-5p,miR-156-5p,miR3585-5p,miR-642a-5p,miR-1268a,miR-185-5p,miR-365-1-5p,miR-1301-3p,miR-30c-1-3p,miR-513c-5p | ARL3,FAM169A,JUN,PCDHAC2,RHOA,TMEM100,C18orf25,GPRB84,LPAR5,PDE6B,RSPO3,TMIE,CARD18,HMOX1,OMG,RAB31,SLC5A8,TNFRS10B,DGCR2,HRAS,PALM2AKAP2,RELL1,SSBP3-AS1 | 18 | 12 | Cell Death and survival, Post-Translation Modification, Protein Degradation |