

Table SI. Putative target genes of miRNAs regulated by P4.

| hsa-miR-5739 | hsa-miR-6068 | hsa-miR-452-5p | hsa-miR-1281 | hsa-miR-485-3p | hsa-miR-1306-3p | hsa-miR-197-5p | hsa-miR-1293 | hsa-miR-4721 | hsa-miR-1538 | hsa-miR-6735-5p | hsa-miR-4730 | hsa-miR-1244 | hsa-miR-3178 | hsa-miR-3679-3p | hsa-miR-4750-5p |
|---------------|--------------|----------------|--------------|----------------|-----------------|----------------|--------------|---------------|--------------|-----------------|--------------|--------------|--------------|-----------------|-----------------|
| SPPL2A | DUSP3 | CDKN1B | PDE6A | PCGF3 | AIF1L | NDUFA2 | HIST1H3H | CHST15 | SRSF2 | N4BP1 | ARHGA P31 | TMED5 | CPLX1 | IL1RAPL1 | POLR2J3 |
| CTNNBI P1 | BTG1 | BMI1 | PHLDA3 | LNPEP | CXCR2 | SET | HIC2 | ARHGA P12 | NKX2-5 | TMPRSS5 | MRII | TRIM33 | C19orf35 | CCP110 | FAM3C |
| PNPLA4 | YWHAZ | CCDC390 | EXOSC1 | NRF1 | ZNF425 | NONO | HIST3H3 | KLHL15 | ZNF704 | TMEM109 | GPR37L 1 | PMAIP1 | CSTF1 | TNS1 | MARVEL D1 |
| TNRC6A 70A | TMEM1 | DSTN | ST3GAL2 | MTF2 | ERVMER3 | ZNF689 | HIST1H1E | KIAA0391 | MINK1 | ALS2CL | PTPRF | LIN54 | HOOK3 | DOK6 | VPREB1 |
| MICAL2 | THRB | OCIAD2 | HS3ST3B1 | HSPA6 | SNRNP27 | HIST3H2BB | C1QTNF 6 | LLGL2 | SLC6A9 | RPS28 | CDK17 | YIPF4 | SIK2 | UPK3BL | |
| CACNA1B | CASD1 | ERO1L | SRSF2 | TOMM40 | UBE2Q1 | SESTD1 | OGT | GPRC5C | AURKA | MICAL2 | RAB10 | NCOR2 | MKNK2 | MFI2 | |
| ARL5C | LAMC1 | HN1L | NFYB | HIST1H2BD | | HIST2H2BE | MBD6 | BRSK1 | SYT7 | SLC47A1 | ITM2A | WDR1 | KCTD11 | RNF20 | |
| LY6H | TMCC1 | TUBD1 | ARID1A | CDK4 | | HIST2H2AA4 | MLEC | RAB11F IP4 | EVX1 | LY6H | NACC1 | YME1L1 | ZNF704 | | |
| DLX6 | KIAA1715 | UTP20 | RPS6KA5 | TRIB1 | | ELN | CBX5 | SLC2A1 | KMT2D | GPRC5C | UQCRCB | MBOAT1 | ZNF394 | | |
| CDK6 | ZNF621 | MESDC2 | SLC40A1 | PCBD2 | | SETD5 | PHYHIP | SLC6A1 | PUM2 | RAB40C | MARVELD2 | CCDC122 | ZNF385A | | |
| RAB40C | SMU1 | SLC38A5 | NBEA | CD3EAP | | NFIC | EFNB1 | HPCAL1 | NABP1 | ZNF264 | CSNK1A1 | ULBP3 | GEM | | |
| CHIC1 | RPS16 | NWD1 | UBE2E3 | | | MAPK6 | ATXN7L3B | BAZ2A | CTDNEP1 | FAM228A | DCK | RBMS2 | TAOK1 | | |
| C6orf106 | ADD3 | FBXO42 | MAPKAPK2 | | | ARMCX6 | AURKA | KIF1C | RGMB | LACE1 | SMAD7 | SSR3 | BRIX1 | | |
| CD207 | ATXN7L3B | FGFR1 | HOOK3 | | | ANP32B | TCF21 | ADAMTS13 | YTHDF3 | ZNF33A | HSBP1 | ZNF107 | SEMA4D | | |
| NEURL1B | EMC8 | DIP2A | SNTG1 | | | HIST2H3C | GATSL2 | SEPT8 | AGO1 | RANGAP1 | SNRNP27 | AKIP1 | SRRM4 | | |
| GP5 | FGD4 | KPNA2 | CEP170 | | | HIST1H2BF | ANAPC1 | ARHGDI | CCNL1A | | SAT1 | BVES | CDCA4 | | |
| FAM228A | ABI2 | FAM73A | ATP1B1 | | | HIST2H2AC | PODXL | ABCB11 | SUV39H1 | | CSR2 | SVIP | TLCD2 | | |
| SCARB1 | IREB2 | MAFK | TRIM2 | | | HIST2H2AA3 | PCSK9 | TLK2 | GLTSCR1L | | TMEM35 | NICN1 | PAQR8 | | |
| NFIC | PGM2L1 | AIPL1 | UBR3 | | | MNT | HMOX1 | EFCAB1 | FBXO41 | | LZIC | IRAK3 | HDHD2 | | |
| PLXDC1 | SUMO3 | NLRP10 | OTUD4 | | | GCN1L1 | TMEM91 | FAM160A1 | FRK | | TRIM4 | KDM6B | PHB2 | | |
| ATP6V0E1 | BZW1 | HES7 | CPEB3 | | | HIST1H3B | MTA1 | CTC1 | KMT2A | | AVPR1A | DNA2 | KLF2 | | |
| C11orf54 | ITGA6 | HIST1H2BJ | PPM1A | | | CDK16 | BCL7B | CAPZB | CBX5 | | ZFP37 | MALL | LGR5 | | |
| | KLF12 | ZNF655 | MZT1 | | | PHF12 | STK11 | IGF2BP1 | SOD2 | | KPNA3 | AQP6 | XIAP | | |
| | SLC7A11 | UBXN7 | SOX9 | | | WDR82 | SFT2D2 | LETMD1 | KCNH1 | | JRK1 | RPL24 | SC5D | | |
| | NAA15 | ZNF320 | TMEM248 | | | PABPN1 | ZFAND2B | | LCE1A | | ATF7IP | YES1 | TMOD2 | | |
| | DAG1 | ITPRIPL2 | PREX2 | | | FBRS | XRCC6 | | HOXC4 | | SUMO2 | ZMYM1 | ANKRD40 | | |

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|-------------|---------------|--------------|---------------|--------------|--------------|--------------|--------------|----------------|
| SEC23A | AGTPBP 1 | ELAVL2 | ATXN7L 3 | MMAB | DNM2 | ZC3HA V1L | AGPAT6 | OR1L8 |
| MTF2 | TAB1 | CGGBP1 | THRA | RHOA | BCL2L12 | HMGA2 1 | CEP57L | TNFAIP3 |
| SMAD2 | VSTM4 | DNAJA1 | DMWD | EMP1 | CTIF | TMEM1 61B | CRX | ST6GALNA C3 |
| IGF2BP2 | ATP6AP 1L | FGF12 | ATXN2L | FTSJ3 | FOLR1 | CBY1 | SPPL2A | FAM13A |
| FAM8A1 | POC1A | REPS2 | FAM89B | ATG9A | MAU2 | TRIM59 | TULP1 | PABPN1 |
| INHBA | CXorf23 | PDCD6IP | TOM1 | AGO1 | THBD | CNEP1R 1 | STIL | PIK3C2B |
| TNPO1 | ZNF419 | MEGF9 | IGF2BP1 | SERPIN H1 | MIDN | DCAF16 | TAF1 | FAM8A1 |
| SLC30A1 | TMIGD2 | CUL3 | CELF1 | TMEM1 09 | MPHOSPH 8 | HSP90A A1 | SRPX2 | BLMH |
| TMBIM6 | GPS1 | NR1D2 | ANKRD 52 | PHF13 | ZNF444 | CEP55 | BAZ2B | MESDC1 |
| IL6ST | SECTM1 | CDK16 | SGK2 | PPM1F | SRSF1 | ABHD2 | EPG5 | GLIS3 |
| LDLRAD 3 | TPGS1 | ERC2 | TNRC6B | ZNF282 | RPL13A | YTHDF1 | ASB6 | UNC13A |
| DR1 | FKBP5 | NRXN1 | MDGA1 | PTGS1 | ZMAT4 | GALNT3 | ZNF426 | NSFL1C |
| ZNF532 | STRN3 | SMG1 | SRCAP | SLC38A 7 | ATP1B3 | CNOT6 | RBM22 | C19orf68 |
| NAV3 | APTX | TMEM18 4B | BRD2 | VAV3 | | RDX | KIAA14 56 | KLHL5 |
| RNF157 | GRM1 | KATNB1 1 | GIGYF1 | CDCA8 | | EFHD2 | BARHL1 | SUCLG2 |
| SEC61A2 | ZKSCA N1 | PUM2 | MEF2D | | | SLC4A1 | TMEM1 05 | MYLK3 |
| E2F3 | GXYLT2 | PTPRD | FASN | | | NKX2-1 | MED28 | ALG1 |
| TMEM14 7 | SLC7A1 1 | RAP1B | FAM222 B | | | ACER2 | SLC12A 5 | NARS |
| ATP2B1 | SAR1A | PPP3R1 | FBXO41 | | | SLC25A 45 | ZBTB8B | AAK1 |
| RPS6KA3 | RSPH3 | GNAI1 | BCL7A | | | WFDC6 | NOL9 | TPD52L3 |
| PGK1 | NLRP9 | ZMAT1 | ZNF703 | | | CDH2 | CDH7 | C15orf61 |
| | SSBP2 | MAGI2 | ZNF445 | | | NUP155 | ORA12 | ERGIC1 |
| ZBTB24 | SEPT2 | | CCDC64 | | | PHAX | C6orf25 | STT3A |
| GSR | SECISBP2 L | | ABI2 | | | NUFIP2 | FXYD1 | TGFB2 |
| FAM20B | ARHGAP 29 | | HIST1H2 AG | | | MAPK1 | ZKSCA N3 | PTPRE |
| GFPT1 | THBS1 | | ULK1 | | | DNAL1 | ELP2 | TBC1D5 |
| POLR3A | PDZD2 | | CHAC1 | | | TRIM2 | ZNF490 | RBM23 |
| | SLC35F5 | PDE10A | | | | TAOK1 | DENND 6B | R3HDM4 |
| METTL1 4 | ZER1 | | | | | | PTCHD1 | NDUFAF6 |
| FAM153 B | AZIN1 | | | | | JUN | PAN2 | |

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|------------------|--------------|--------------|---------|
| ABCA10 | CREBRF | SEPT6 | ALDH1A2 |
| CTNS | PDIA6 | PTDSS2 | HUWE1 |
| SPANX N5 | FAM168A | ATP6V0 E1 | EFCAB14 |
| SPANX N1 3 | HNRNPA | VAV3 | GPRC5A |
| WDR92 | CCDC85A | STX4 | PRR15L |
| RXFP4 | CKAP5 | MAST3 | ASB16 |
| C1orf158 | MAP2K1 | PTGIS | GOSR1 |
| SLC10A 6 | ANK3 | MDM4 | ACTN2 |
| SLC43A 2 | SOX11 | | VDR |
| KCMF1 | GNB1 | | GCC1 |
| MCM4 | PVRL3 | | ERBB3 |
| OGFOD 1 | AUTS2 | | TMEM109 |
| TRPM3 | DDX3X | | PSMB5 |
| KIAA15 86 | UBE2Q1 | | ZFP64 |
| CNDP1 | PRKCA | | SLC38A1 |
| RND2 | TMEM10 6B | | DPY19L4 |
| SLC25A 51 | RCN2 | | HDGF |
| LRRC27 | RBMS1 | | FBXL18 |
| ZNF91 | KPNA2 | | WAC |
| RNF222 | MAML3 | | DCAF5 |
| RSL1D1 | PANK3 | | MITF |
| TTC4 | SRCAP | | TET3 |
| MTFR1L | TCF7L2 | | ECE1 |
| CISD3 | | | YIPF6 |
| RBM48 | | | SLC39A9 |
| SCO1 | | | ACBD7 |
| ABLIM1 | | | CD200 |
| HMGB1 | | | CYP2A7 |
| CDC25A | | | UBE2K |
| RNF41 | | | SAR1A |
| DIP2C | | | ABCA12 |
| BMPR1 A | | | MDFI |

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|---------------|-------------------|
| APOL6 | GABRA1 |
| MURC | IP6K2 |
| ANGPT L3 | DKK3 |
| TAF1B | SNX9 |
| LRRC58 | TENM3 |
| TRIM72 | SLAIN2 |
| TRMT10 B | AMMECR1 L |
| FAM216 A | BBS5 |
| SMAGP | PKIA |
| TSHZ2 | SEC14L6 |
| MYPN | VASP |
| GGPS1 | HINFP |
| SUGT1 | RAB1A |
| SNRPD1 | AMER1 |
| FAM212 B | RSL24D1 |
| DPYSL5 | TBX2 |
| PCYOX1 | SIX3 |
| TNFAIP 8L1 | YY1 |
| SIT1 | GSTO2 |
| CAMK2 N1 | TMEM57 |
| LRP10 | FAM212B |
| TNFRSF 13C | OLAHL |
| ZFP82 | AK2 |
| PLAA | GPR26 |
| ARIH2O S | KDM3B |
| NCKAP1 | PHLPP1 |
| MCTS1 | TMEM45B |
| PHACT R4 | HTR1F |
| CDK9 | BCL2L2- PABPN1 |
| ATP1A2 | CACNG8 |
| CABP4 | SRSF10 |
| ADM2 | MAP3K2 |

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|--------------|---------|
| KLF8 | UBA6 |
| ZSCAN2 | MRPS27 |
| ZNF844 | UBAP2L |
| CEP76 | SLC30A6 |
| SF3B1 | SRSF2 |
| IGLON5 | IPO11 |
| TGOLN2 | POU2F3 |
| SCAMP1 | ENPP1 |
| GLYAT | LPCAT3 |
| RHBDL2 | TM4SF5 |
| SLC30A 5 | NPAS3 |
| PTAFR | WAPAL |
| CYTH3 | SMIM18 |
| ORAI2 | |
| AKAP13 | |
| BTBD19 | |
| ACSL6 | |
| CDNF | |
| RAB27A | |
| EDN2 | |
| NUDT5 | |
| DSN1 | |
| CLUAP1 | |
| VTA1 | |
| SLC16A 10 | |

The table shows the genes that resulted from the coincidences among the bioinformatics tools of prediction (Tarbase, MiRWALK, MicroT-CDS, and TargetScan). Blue, miRNAs downregulated by P4; red, miRNAs upregulated by P4. miRNAs, microRNAs; P4, progesterone; has, human.