## SUPPLEMENTAL FIGURE LEGENDS

**Supplemental Figure S1.** Overexpression of miR-194 reduces proliferation in HepaRG cells. **(A):** Relative expression levels of *Ki-67* at day 14 and day 28 of hepatocytic differentiation process in HepaRG-miR-194 compared to HepaRG-empty cell lines. The results were presented as means ± SEM from two independent experiments ($P < 0.05$). **(B):** Proliferation of HepaRG-empty and HepaRG-miR-194 cell lines assessed by Ki-67 immunofluorescence staining at day 28 of hepatocytic differentiation process. Nuclei are stained with DAPI blue. Scale bar, 100 µm.

**Supplemental Figure S2.** Deactivation of *YAP1* upon directed hepatocytic differentiation of HepaRG cells and hESCs. **(A):** *YAP1* mRNA expression upon hepatocytic differentiation of liver progenitor HepaRG cells measured by quantitative PCR and shown as fold-changes and SEM, at day 28 relative to day 2, in two independent experiments. **(B):** Phospho-YAP1 and YAP1 protein expression levels upon hepatocytic differentiation of HepaRG cells determined respectively by western blot analysis. Expression of α-tubulin was used to control protein loading. **(C):** *YAP1* mRNA expression during the hepatocyte differentiation process of hESCs. The graphs show fold-changes and SEM relative to day 0 in two independent experiments. **(D):** Phospho-YAP1 and YAP1 protein expression levels upon hepatocytic differentiation of hESCs determined respectively by western blot analysis. Expression of α-tubulin was used to control protein loading.

# Supplemental Tables

## Supplemental Table S1. Primers information for qRT-PCR analysis

| Gene Symbol (Human) | Forward Primer (5'-3') | Reverse Primer (5'-3') | Size |
|---|---|---|---|
| ALB | gtcaactccaactcttgtaga | ttggtgactctgtcacttact | 171 |
| ALDOB | agtgcatcttatgaaacagtc | gttgaagacctttactgttga | 198 |
| BICD2 | ctccttgttacacatgttctt | agtctaaagctacacgctatg | 215 |
| CENPF | aactcacatcagtaaagcaac | agtgactcttaaggaggttgt | 162 |
| CYP3A4 | aagtcgcctcgaagatacaca | aaggagagaacactgctcgtg | 174 |
| ECT2 | agtagagcatcaagagcaata | acgactcattacatgcttatc | 162 |
| ELOVL6 | cagggtgtatatctagaacga | atgcagtgaagatgaagttag | 156 |
| FGFR3 | gtcctttttcaggagaattag | ttgcgtaagaagtgttaagtc | 261 |
| GALNT7 | aaaggagtcttccaactagag | ataaggcctaatctaacaagg | 211 |
| HAND1 | gacgcactgagagcatta | atccgccttcttgagttc | 197 |
| HDAC2 | aagaccagataacatgtctga | ctgatgcttctgatttcttag | 209 |
| HNF4A | gaatgcgactctccaaaacc | ggcactggttcctcttgtct | 339 |
| IGF1R | tcatctatccacagttctagc | gatcaagttcaacagtgtctc | 260 |
| Ki-67 | ctgaggtctttgtattagcag | tgactttgtctctaggtatgg | 132 |
| NANOG | ccgaagaatagcaatggtgtgacg | aggagaatttggctggaactgc | 303 |
| NOTCH2 | agttatacttgcttgtgtgct | agtattcactccatccataca | 231 |
| OCT4 | acatcaaagctctgcagaaagaact | ctgaataccttcccaaatagaccc | 127 |
| PRC1 | atgagtgttacagttgaaagc | cagcaagtagaattatgtggt | 145 |
| RACGAP1 | ctattgagactgtgccatatt | gtctcgacacttcagagataa | 251 |
| RAP2B | tgagagaaattaggaacactg | cccttatctcttcacacacta | 112 |
| REV3L | cagtaagcaaagaagtgtttc | ttagattgtgaaggagagcta | 256 |
| RHEB | ttcctcagacatactccatag | cagtctgattttctttagcag | 258 |
| THBS1 | tctgtgaaagttgtaaactcc | ccagcataggttttatcatag | 251 |
| YAP1 | ctctcgagatgagagtacaga | taaggatgtcagaactcaaag | 275 |

**Supplemental Table S2. MiRNAs that are significantly (P value < 0.05) downregulated during hepatocytic differentiation of HepaRG cells by at least 2 fold (FC HepaRG D/P). ~ indicates estimated changes from limit of detection.**

| miRNA | FC (HepaRG D/P) | P value |
|---|---|---|
| hsa-miR-122 | ~506.7 | 0.005 |
| hsa-miR-194 | ~459.8 | 0.008 |
| hsa-miR-135a | ~166.0 | 0.006 |
| hsa-miR-1975 | 54.4 | 0.02 |
| hsa-miR-455-5p | 50.9 | 0.05 |
| hsa-miR-210 | 46.7 | 0.008 |
| hsa-miR-146b-5p | 44.2 | 0.006 |
| hsa-miR-509-3p | 41.5 | 0.05 |
| hsa-miR-218 | 33.2 | 0.05 |
| hsa-miR-98 | 32.8 | 0.03 |
| hsa-miR-296-5p | 26.2 | 0.02 |
| hsa-miR-190b | 26.2 | 0.008 |
| hsa-miR-769-5p | 24.1 | 0.006 |
| hsa-miR-767-5p | 21.9 | <0.001 |
| hsa-miR-520b | 20.6 | 0.006 |
| hsa-miR-1263 | 19.1 | 0.05 |
| hsa-miR-363 | 19.3 | 0.01 |
| hsa-miR-493 | 19.3 | 0.01 |
| hsa-miR-590-3p | 18.9 | 0.05 |
| hsa-miR-532-3p | 18.8 | 0.02 |
| hsa-miR-1275 | 18.4 | 0.01 |
| hsa-miR-147 | 18.4 | 0.01 |
| hsa-miR-500+hsa-miR-501-5p | 18.0 | 0.02 |
| hsa-miR-326 | 18.0 | 0.007 |
| hsa-miR-570 | 17.9 | 0.03 |
| hsa-miR-656 | 17.2 | 0.006 |
| hsa-miR-1255a | 17.1 | 0.04 |
| hsa-miR-184 | 16.5 | 0.05 |
| hsa-miR-1266 | 15.8 | 0.03 |
| hsa-miR-1183 | 15.7 | 0.05 |
| hsa-miR-330-3p | 15.7 | 0.05 |
| hsa-miR-30b | 4.7 | 0.04 |
| hsa-miR-30d | 4.6 | 0.01 |
| hsa-miR-30a | 4.1 | 0.05 |
| hsa-miR-26b | 4.1 | 0.05 |
| hsa-miR-148a | 3.8 | 0.04 |

| | | |
|---|---|---|
| hsa-miR-30e | 3.8 | 0.05 |
| hsa-miR-26a | 3.3 | 0.05 |
| hsa-miR-101 | 2.9 | 0.02 |
| hsa-miR-23b | 2.5 | 0.02 |
| has-miR-128 | -2.0 | 0.05 |
| hsa-miR-223 | -2.6 | 0.05 |
| hsa-miR-92b | -2.7 | 0.05 |
| hsa-miR-10a | -2.8 | 0.03 |
| hsa-miR-221 | -2.9 | 0.05 |
| hsa-miR-421 | -3.0 | 0.02 |
| hsa-miR-18a | -3.6 | 0.05 |
| hsa-miR-34c-5p | -3.8 | 0.05 |
| hsa-miR-145 | -42.7 | 0.05 |
| hsa-miR-1825 | -43.3 | 0.05 |
| hsa-miR-1181 | -44.6 | 0.04 |
| hsa-miR-1231 | -44.6 | 0.04 |

**Supplemental Table S3. Genes that are significantly (P value <0.05) downregulated during hepatocytic differentiation of HepaRG cells by at least 2 fold (FC HepaRG D/P) and that are predicted to be targets of miR-194 by at least two programs in miRwalk (Sum).**

| Gene symbol | FC (HepaRG D/P) | *P* value | Sum |
|---|---|---|---|
| **ACTB** | -2.64 | 0.007 | 6 |
| **ACTG1** | -2.62 | <0.001 | 6 |
| **ACVR2B** | -2.23 | <0.001 | 6 |
| **ADAM10** | -2.98 | 0.015 | 6 |
| **AIM1** | -2.26 | 0.003 | 4 |
| **AP1G1** | -4.95 | 0.013 | 4 |
| **AP2B1** | -3.15 | 0.007 | 4 |
| **APC** | -2.71 | 0.005 | 4 |
| **ARF3** | -2.02 | 0.018 | 3 |
| **ARF4** | -2.13 | 0.003 | 7 |
| **ARF6** | -2.16 | 0.002 | 4 |
| **ASB1** | -3.46 | 0.008 | 6 |
| **ASB6** | -2.63 | 0.001 | 5 |
| **ASPH** | -2.27 | <0.001 | 4 |
| **ATM** | -3.06 | 0.002 | 5 |
| **ATP10D** | -4.79 | 0.027 | 5 |
| **ATP6V0A2** | -2.59 | 0.001 | 6 |
| **ATP6V1C1** | -4.20 | <0.001 | 5 |
| **ATP6V1H** | -2.16 | 0.025 | 6 |
| **B4GALT1** | -2.05 | 0.005 | 3 |
| **B4GALT4** | -2.03 | <0.001 | 5 |
| **BICD2** | -14.24 | 0.006 | 6 |
| **BIRC5** | -16.11 | 0.001 | 6 |
| **BLM** | -3.12 | 0.014 | 3 |
| **BNIP2** | -3.01 | 0.001 | 6 |
| **C9orf40** | -3.20 | 0.002 | 5 |
| **CAMK2G** | -2.57 | 0.007 | 7 |
| **CAMSAP1** | -2.78 | 0.006 | 5 |
| **CARD8** | -2.43 | 0.011 | 5 |
| **CASK** | -2.03 | 0.019 | 4 |
| **CBFB** | -2.37 | 0.04 | 5 |
| **CBLL1** | -2.18 | <0.001 | 3 |
| **CBX5** | -4.71 | 0.002 | 3 |
| **CCNT2** | -4.92 | <0.001 | 5 |
| **CCT5** | -2.08 | 0.045 | 5 |
| **CCT6A** | -2.56 | 0.032 | 3 |

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|---|---|---|---|
| **CD2AP** | -3.87 | 0.011 | 6 |
| **CD44** | -3.44 | 0.049 | 3 |
| **CD47** | -2.27 | 0.007 | 5 |
| **CDC25A** | -14.81 | <0.001 | 3 |
| **CDC42BPA** | -2.69 | 0.001 | 5 |
| **CDKN1B** | -2.04 | 0.001 | 6 |
| **CELSR1** | -2.02 | 0.01 | 5 |
| **CENPF** | -3.09 | 0.004 | 5 |
| **CHORDC1** | -4.23 | <0.001 | 3 |
| **CHSY1** | -3.66 | 0.012 | 5 |
| **CIT** | -5.43 | <0.001 | 4 |
| **CLASP2** | -2.08 | 0.001 | 5 |
| **CLCN4** | -4.10 | 0.009 | 4 |
| **CLN5** | -2.48 | 0.008 | 3 |
| **CNTNAP2** | -3.46 | 0.002 | 6 |
| **COIL** | -9.92 | 0.015 | 3 |
| **COPS7B** | -2.07 | 0.002 | 5 |
| **CORO1C** | -9.70 | 0.004 | 5 |
| **CPSF6** | -3.20 | 0.001 | 4 |
| **CREBBP** | -2.16 | 0.001 | 5 |
| **CSE1L** | -4.90 | 0.014 | 8 |
| **CSTF3** | -2.02 | 0.027 | 5 |
| **CTDSPL** | -2.82 | 0.004 | 5 |
| **CTPS** | -6.65 | <0.001 | 3 |
| **CUL3** | -2.05 | <0.001 | 5 |
| **CUL4A** | -2.18 | 0.018 | 4 |
| **CXCL10** | -3.40 | <0.001 | 6 |
| **CYR61** | -7.03 | 0.005 | 3 |
| **DCK** | -4.49 | <0.001 | 5 |
| **DCP2** | -5.06 | <0.001 | 6 |
| **DDEF1** | -6.91 | 0.039 | 8 |
| **DDX10** | -3.82 | 0.001 | 3 |
| **DDX11** | -6.55 | 0.001 | 3 |
| **DDX18** | -2.82 | 0.011 | 5 |
| **DDX46** | -3.63 | <0.001 | 5 |
| **DENR** | -2.98 | 0.008 | 3 |
| **DFNA5** | -7.62 | 0.03 | 4 |
| **DHX15** | -2.33 | <0.001 | 7 |
| **DISC1** | -2.26 | 0.015 | 6 |
| **DIXDC1** | -4.69 | 0.035 | 4 |
| **DNAJC6** | -6.66 | 0.024 | 4 |
| **DPYSL3** | -8.64 | 0.001 | 6 |
| **DR1** | -2.36 | 0.003 | 7 |

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|---|---|---|---|
| **DUSP1** | -2.94 | 0.012 | 5 |
| **DYRK2** | -2.14 | <0.001 | 5 |
| **E2F3** | -7.09 | 0.021 | 6 |
| **ECT2** | -22.46 | <0.001 | 6 |
| **EDN1** | -10.91 | 0.002 | 6 |
| **EIF2S2** | -2.01 | 0.009 | 5 |
| **ELF2** | -2.11 | 0.024 | 6 |
| **ELOVL6** | -3.63 | 0.027 | 3 |
| **ENAH** | -4.89 | 0.007 | 5 |
| **EPB41L2** | -6.90 | <0.001 | 3 |
| **EPB41L4B** | -2.50 | 0.026 | 5 |
| **EXTL2** | -2.24 | 0.004 | 3 |
| **FAM20B** | -2.74 | 0.007 | 5 |
| **FCGR2B** | -2.60 | <0.001 | 5 |
| **FECH** | -3.56 | 0.003 | 3 |
| **FEN1** | -9.14 | 0.001 | 5 |
| **FGFR1** | -2.48 | 0.004 | 5 |
| **FGFR3** | -2.83 | 0.021 | 5 |
| **FMR1** | -3.53 | 0.009 | 6 |
| **FTSJ1** | -4.26 | <0.001 | 4 |
| **FUBP3** | -2.54 | 0.001 | 3 |
| **FUS** | -2.49 | <0.001 | 3 |
| **FUT4** | -6.83 | <0.001 | 3 |
| **GAD1** | -2.05 | 0.039 | 7 |
| **GALNT7** | -5.96 | <0.001 | 5 |
| **GBF1** | -4.07 | 0.026 | 3 |
| **GCC1** | -2.76 | 0.003 | 5 |
| **GGA1** | -2.09 | 0.031 | 3 |
| **GGA2** | -3.55 | 0.002 | 5 |
| **GGA3** | -2.71 | 0.017 | 6 |
| **GGCX** | -2.03 | 0.005 | 3 |
| **GMDS** | -2.42 | 0.003 | 5 |
| **GMEB2** | -2.65 | 0.033 | 5 |
| **GMFB** | -2.48 | 0.005 | 6 |
| **GNAI3** | -3.21 | <0.001 | 3 |
| **GORASP2** | -2.60 | 0.006 | 5 |
| **GPD2** | -3.91 | 0.009 | 4 |
| **GRSF1** | -2.23 | 0.001 | 3 |
| **GSPT1** | -2.43 | 0.008 | 4 |
| **GTF2A2** | -2.41 | 0.006 | 3 |
| **GTF2E2** | -2.00 | 0.002 | 5 |
| **GTF2H1** | -2.03 | 0.004 | 6 |
| **HBS1L** | -3.29 | <0.001 | 4 |

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|---|---|---|---|
| **HDAC2** | -3.07 | 0.006 | 5 |
| **HIF1A** | -2.79 | 0.043 | 5 |
| **HIVEP2** | -3.05 | 0.034 | 3 |
| **HMGB1** | -2.89 | 0.002 | 5 |
| **HOXB5** | -2.49 | <0.001 | 3 |
| **HS2ST1** | -2.58 | 0.007 | 4 |
| **HSPA12A** | -2.68 | 0.027 | 3 |
| **IDS** | -2.31 | <0.001 | 3 |
| **IGF1R** | -2.16 | 0.019 | 4 |
| **IGSF3** | -2.44 | 0.001 | 5 |
| **IL2RB** | -2.79 | <0.001 | 4 |
| **IPO4** | -2.95 | <0.001 | 6 |
| **ITGB3** | -2.40 | <0.001 | 5 |
| **KARS** | -2.41 | 0.003 | 3 |
| **KCTD15** | -3.26 | <0.001 | 5 |
| **KCTD7** | -4.83 | 0.002 | 3 |
| **KIAA0226** | -4.90 | 0.048 | 5 |
| **KIAA0241** | -2.72 | 0.003 | 6 |
| **KIAA0317** | -2.98 | 0.045 | 5 |
| **KIAA0888** | -2.05 | <0.001 | 5 |
| **KIAA1128** | -4.50 | 0.017 | 5 |
| **KIAA1219** | -4.41 | 0.011 | 5 |
| **KLHL4** | -3.89 | 0.008 | 4 |
| **KPNA1** | -2.45 | <0.001 | 5 |
| **KPNB1** | -2.77 | 0.004 | 5 |
| **LIN7C** | -2.58 | <0.001 | 6 |
| **LPHN2** | -5.24 | <0.001 | 7 |
| **LPP** | -3.49 | 0.044 | 3 |
| **MAN1A2** | -2.08 | 0.006 | 5 |
| **MAP1B** | -4.39 | 0.006 | 4 |
| **MAP4K5** | -2.35 | 0.022 | 5 |
| **MAPRE1** | -2.06 | 0.008 | 5 |
| **MARCKS** | -5.04 | 0.002 | 3 |
| **MBP** | -2.10 | <0.001 | 3 |
| **MCL1** | -3.59 | 0.001 | 5 |
| **MCM10** | -12.04 | 0.019 | 3 |
| **MKLN1** | -3.01 | 0.007 | 6 |
| **MLL** | -2.21 | 0.003 | 3 |
| **MLLT3** | -5.14 | 0.001 | 6 |
| **MMP24** | -6.19 | 0.043 | 3 |
| **MPHOSPH1** | -11.00 | <0.001 | 3 |
| **MPHOSPH6** | -5.19 | 0.001 | 5 |
| **MPP5** | -2.75 | 0.002 | 5 |

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|---|---|---|---|
| **MRE11A** | -4.24 | <0.001 | 4 |
| **MRP63** | -2.34 | 0.004 | 5 |
| **MTF1** | -2.85 | 0.004 | 5 |
| **MTMR2** | -6.16 | <0.001 | 3 |
| **MTMR6** | -3.30 | 0.003 | 5 |
| **MYO1C** | -2.47 | 0.01 | 4 |
| **MYO5A** | -2.52 | 0.023 | 6 |
| **NAP1L1** | -2.04 | 0.001 | 4 |
| **NCL** | -2.47 | 0.005 | 6 |
| **NFATC1** | -3.88 | <0.001 | 4 |
| **NOLC1** | -2.01 | 0.018 | 4 |
| **NOTCH2** | -2.26 | 0.031 | 3 |
| **NPAT** | -3.97 | <0.001 | 5 |
| **NR2F2** | -2.16 | 0.004 | 7 |
| **NRCAM** | -3.03 | 0.001 | 4 |
| **NSD1** | -2.73 | <0.001 | 3 |
| **NUDT4** | -2.49 | 0.003 | 5 |
| **NUFIP1** | -2.22 | 0.013 | 5 |
| **NUP50** | -3.12 | <0.001 | 6 |
| **NVL** | -7.34 | <0.001 | 7 |
| **OCRL** | -2.39 | 0.011 | 4 |
| **OSBPL3** | -4.59 | 0.016 | 5 |
| **PAFAH1B1** | -2.01 | 0.014 | 7 |
| **PCM1** | -2.67 | <0.001 | 4 |
| **PCNX** | -4.80 | 0.005 | 4 |
| **PDE4D** | -3.50 | 0.001 | 5 |
| **PDXK** | -2.04 | 0.013 | 3 |
| **PEA15** | -3.38 | 0.041 | 5 |
| **PEX3** | -2.85 | 0.001 | 5 |
| **PFDN4** | -2.91 | 0.002 | 5 |
| **PHLDA1** | -3.11 | <0.001 | 5 |
| **PIGA** | -2.48 | 0.018 | 4 |
| **PKNOX1** | -2.17 | 0.025 | 3 |
| **PLAA** | -2.57 | 0.001 | 4 |
| **PLAGL2** | -3.91 | 0.001 | 3 |
| **PLEK2** | -3.62 | 0.005 | 5 |
| **POLD3** | -4.43 | <0.001 | 5 |
| **POLI** | -2.16 | 0.002 | 4 |
| **PPAT** | -2.38 | 0.021 | 5 |
| **PPP2R1B** | -3.26 | 0.013 | 4 |
| **PRC1** | -42.38 | 0.001 | 5 |
| **PRDM10** | -3.62 | 0.001 | 5 |
| **PRMT3** | -3.41 | 0.019 | 5 |

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|---|---|---|---|
| **PRPF4** | -2.65 | 0.016 | 3 |
| **PRPF4B** | -2.51 | 0.009 | 5 |
| **PSME3** | -2.34 | 0.049 | 4 |
| **PSME4** | -3.30 | 0.001 | 6 |
| **PTBP1** | -2.57 | <0.001 | 5 |
| **PTPN2** | -2.73 | 0.001 | 6 |
| **QRSL1** | -2.29 | 0.027 | 5 |
| **RACGAP1** | -14.43 | <0.001 | 3 |
| **RAD1** | -2.82 | <0.001 | 3 |
| **RAD21** | -3.21 | <0.001 | 5 |
| **RAD51** | -6.21 | <0.001 | 5 |
| **RANBP2** | -2.21 | 0.01 | 4 |
| **RAP2B** | -3.81 | 0.006 | 5 |
| **RB1** | -6.76 | 0.011 | 3 |
| **RELB** | -2.83 | 0.001 | 5 |
| **REV3L** | -2.60 | 0.027 | 7 |
| **RFC5** | -3.06 | 0.002 | 4 |
| **RHEB** | -2.27 | 0.001 | 5 |
| **RHOBTB1** | -4.76 | 0.044 | 5 |
| **RIF1** | -2.94 | 0.001 | 3 |
| **RNF111** | -2.53 | 0.009 | 5 |
| **RNGTT** | -2.49 | <0.001 | 5 |
| **RPA2** | -2.48 | 0.001 | 5 |
| **RPIA** | -5.88 | <0.001 | 5 |
| **RRAS2** | -4.12 | 0.035 | 5 |
| **RUNX1** | -3.64 | 0.008 | 4 |
| **SAV1** | -2.46 | <0.001 | 5 |
| **SCHIP1** | -15.08 | 0.021 | 5 |
| **SEC23B** | -2.14 | 0.006 | 5 |
| **SEPHS1** | -2.19 | 0.002 | 8 |
| **SERPINE2** | -5.04 | 0.016 | 6 |
| **SF3B4** | -2.02 | 0.003 | 5 |
| **SFRS1** | -2.37 | 0.028 | 3 |
| **SFRS10** | -2.22 | <0.001 | 6 |
| **SFRS11** | -2.17 | <0.001 | 5 |
| **SFRS7** | -4.14 | 0.029 | 4 |
| **SLBP** | -3.64 | 0.011 | 6 |
| **SLC16A1** | -2.64 | <0.001 | 5 |
| **SLC25A14** | -2.05 | 0.002 | 5 |
| **SLC26A2** | -5.82 | 0.012 | 5 |
| **SLC30A1** | -2.03 | 0.02 | 5 |
| **SLC31A1** | -2.00 | 0.006 | 5 |
| **SLC35C1** | -2.62 | 0.012 | 4 |

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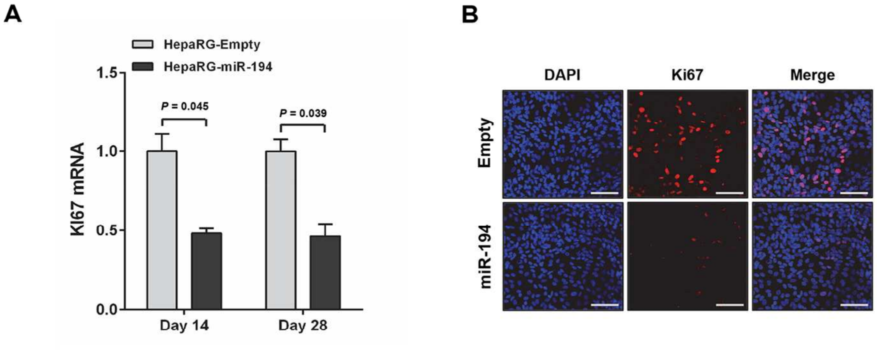
|---|---|---|---|
| **SLC39A6** | -6.07 | 0.011 | 5 |
| **SLC7A1** | -4.30 | <0.001 | 3 |
| **SLC7A11** | -11.36 | 0.017 | 4 |
| **SLC7A6** | -3.46 | 0.009 | 4 |
| **SLC9A3R1** | -2.91 | 0.013 | 5 |
| **SMARCC1** | -6.39 | 0.011 | 5 |
| **SMURF1** | -2.00 | 0.001 | 4 |
| **SNAPC1** | -8.50 | 0.023 | 3 |
| **SNRPE** | -2.84 | 0.011 | 3 |
| **SNX11** | -3.32 | 0.002 | 4 |
| **SNX5** | -2.31 | 0.004 | 4 |
| **SOCS2** | -3.34 | 0.033 | 6 |
| **SP3** | -4.34 | 0.007 | 6 |
| **SPATS2** | -3.77 | <0.001 | 5 |
| **SPTLC2** | -2.44 | <0.001 | 5 |
| **U2SURP** | -4.55 | 0.001 | 3 |
| **SRI** | -2.42 | 0.019 | 6 |
| **SRM** | -2.92 | 0.008 | 5 |
| **SRP72** | -2.31 | 0.004 | 6 |
| **SRR** | -2.19 | 0.022 | 4 |
| **SS18** | -2.02 | <0.001 | 7 |
| **STAC** | -2.48 | 0.037 | 4 |
| **STAT5B** | -2.04 | <0.001 | 6 |
| **STK24** | -2.19 | 0.014 | 5 |
| **STK38L** | -6.83 | 0.019 | 5 |
| **STMN1** | -2.67 | <0.001 | 4 |
| **STX6** | -2.49 | 0.005 | 6 |
| **SWAP70** | -4.13 | 0.007 | 3 |
| **SYNJ2** | -3.27 | 0.004 | 5 |
| **TAF5L** | -4.27 | <0.001 | 3 |
| **TBL2** | -2.48 | 0.001 | 5 |
| **TFAM** | -4.15 | 0.001 | 5 |
| **THAP10** | -4.39 | 0.008 | 8 |
| **THBS1** | -4.19 | 0.037 | 6 |
| **TJP1** | -6.40 | 0.009 | 7 |
| **TPD52L2** | -2.16 | 0.005 | 6 |
| **TRAF1** | -3.62 | <0.001 | 5 |
| **TRAM2** | -5.40 | <0.001 | 4 |
| **TRPA1** | -3.29 | 0.021 | 3 |
| **TTC4** | -5.45 | <0.001 | 4 |
| **TULP4** | -2.92 | 0.03 | 5 |
| **UBA2** | -2.18 | 0.008 | 7 |
| **UBE2B** | -2.01 | 0.011 | 5 |

| | | | |
|---|---|---|---|
| **UBE2V2** | -5.18 | <0.001 | 7 |
| **UBE3A** | -2.48 | 0.002 | 4 |
| **UBE4A** | -2.41 | 0.018 | 4 |
| **UFD1L** | -3.55 | <0.001 | 6 |
| **USP46** | -2.37 | 0.005 | 4 |
| **VAPB** | -2.32 | <0.001 | 3 |
| **WEE1** | -4.40 | 0.002 | 4 |
| **WRN** | -2.36 | <0.001 | 6 |
| **WTAP** | -2.79 | 0.001 | 3 |
| **XPO7** | -2.10 | 0.043 | 4 |
| **YAP1** | -2.55 | <0.001 | 4 |
| **YES1** | -2.82 | 0.019 | 5 |
| **YWHAB** | -4.87 | 0.002 | 3 |
| **ZAK** | -2.38 | 0.001 | 3 |
| **ZC3HAV1** | -2.08 | 0.001 | 6 |
| **ZCCHC2** | -3.27 | 0.04 | 5 |
| **ZFX** | -3.15 | 0.009 | 4 |
| **ZFYVE16** | -3.35 | 0.023 | 3 |
| **ZNF180** | -2.18 | 0.004 | 6 |
| **ZNF202** | -3.23 | <0.001 | 6 |
| **ZNF22** | -2.30 | <0.001 | 5 |
| **ZNF330** | -2.74 | 0.015 | 5 |
| **ZNF337** | -2.54 | <0.001 | 4 |
| **ZNF473** | -2.81 | 0.024 | 4 |
| **ZWINT** | -12.56 | 0.003 | 5 |

**Supplemental Table S4. Expression changes (fold change and p value) of 16 predicted miR-194 target genes upon miR-194 overexpression in HepaRG cells (HepaRG-miR-194 cell lines vs HepaRG-empty cell lines) and in hESCs (hESC-miR-194 cell lines vs hESC-empty cell lines).**

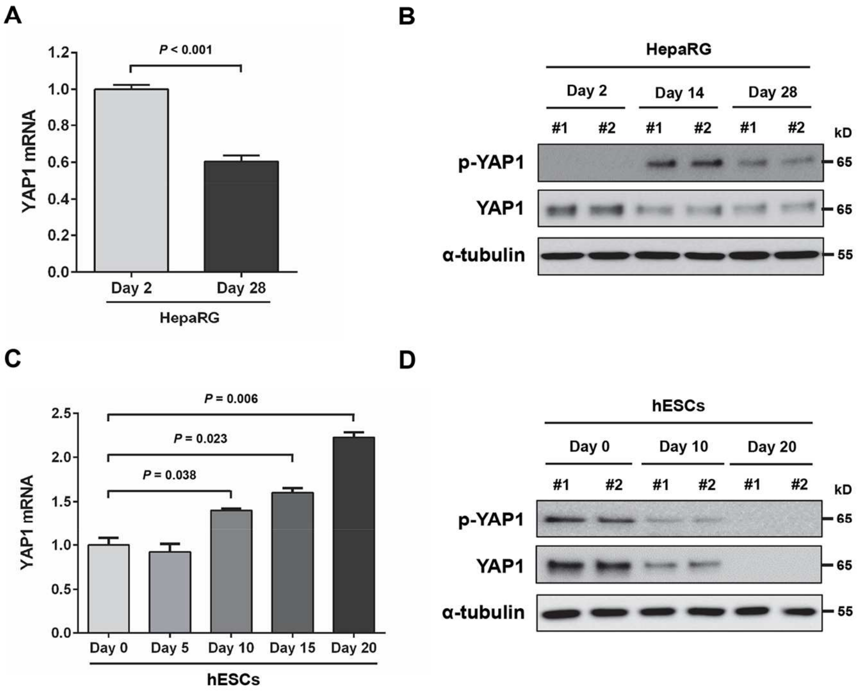
| Gene Symbol | Gene description | FC HepaRG | *P* value | FC hESC | *P* value |
|---|---|---|---|---|---|
| BICD2 | bicaudal D homolog 2 (Drosophila) | -3.6 | 0.010 | -1.3 | 0.011 |
| CENPF | centromere protein F, 350/400ka (mitosin) | -3.3 | 0.005 | -1.6 | 0.004 |
| ECT2 | epithelial cell transforming sequence 2 oncogene | -2.0 | 0.012 | -1.6 | <0.001 |
| ELOVL6 | ELOVL family member 6, elongation of long chain fatty acids | -2.5 | 0.008 | -1.6 | 0.023 |
| FGFR3 | fibroblast growth factor receptor 3 | -2.3 | 0.048 | -1.5 | 0.040 |
| GALNT7 | polypeptide N-acetylgalacto-saminyltransferase 7 | -2.6 | 0.004 | -1.8 | 0.004 |
| HDAC2 | histone deacetylase 2 | -1.8 | 0.005 | -1.7 | 0.001 |
| IGF1R | insulin-like growth factor 1 receptor | -2.0 | 0.025 | -1.6 | <0.001 |
| NOTCH2 | Notch homolog 2 (Drosophila) | -1.9 | 0.001 | -1.5 | <0.001 |
| PRC1 | protein regulator of cytokinesis 1 | -3.9 | < 0.001 | -1.3 | 0.002 |
| RACGAP1 | Rac GTPase activating protein 1 | -3.2 | 0.002 | -1.5 | 0.000 |
| RAP2B | RAP2B, member of RAS oncogene family | -3.0 | 0.030 | -1.5 | 0.003 |
| REV3L | REV3-like, polymerase zeta, catalytic subunit | -2.6 | 0.001 | -1.2 | 0.028 |
| RHEB | Ras homolog enriched in brain | -2.7 | 0.009 | -2.0 | <0.001 |
| THBS1 | thrombospondin 1 | -8.8 | 0.026 | -2.3 | 0.000 |
| YAP1 | Yes-associated protein 1 | -1.8 | 0.029 | -1.7 | 0.003 |

## Supplementary Figure S1



147x76mm (300 x 300 DPI)

# Supplementary Figure S2



147x119mm (300 x 300 DPI)