

Human Liver Cancer PCR Array
Genes Up-Regulated During HCC: BCL2, BIRC5, CCND1, CFLAR (CASPER), FZD7, IGF2, IRS1, LEF1, MCL1,
MET, NFKB1, PIN1, PTK2, RAC1, RHOA, SMAD7, STAT3, TCF4, TGFA, TGFB1, TNFSF10 (TRAIL), XIAP.
Genes Down-Regulated During HCC: BAX, BID, CASP8 (FLICE), CDKN1A (p21CIP1/WAF1), CDKN2A
(p16INK4), DLC1, FADD, FAS (TNFRSF6), HHIP, IGFBP1, IGFBP3, ITGB1, PTEN, RB1, SMAD4, SOCS1, SOCS3,
TGFB2, TNFRSF10B (DR5).
Signal Transduction:
Classical WNT: CCND1, CDKN2A (p16INK4), CTNNB1, FZD7, LEF1, MTDH, PIN1, RB1, SFRP2, TCF4.
TGFβ: SMAD4, SMAD7, TGFB1, TGFB2.
PI3K/AKT: AKT1, IRS1, PTEN.
IGF/IGFR: IGF2, IGFBP1, IGFBP3, IRS1.
Hippo: YAP1.
Ras/Raf/MEK/ERK: CDKN1A (p21CIP1/WAF1), CDKN2A (p16INK4), DLC1, HRAS, NRAS, RAC1, RASSF1, RB1,
RHOA, TP53.
EGFR: ADAM17 (CD156B), CDH13, EGF, EGFR, TGFA, TGFB1.
MET/HGF: MET, HGF.
Small GTPase-Mediated: CDH13, CDKN1A (p21CIP1/WAF1), CDKN2A (p16INK4), DAB2IP, DLC1, HRAS, NRAS,
RAC1, RASSF1, RB1, RELN, RHOA, TP53.
Epithelial to Mesenchymal Transition (EMT): CTNNB1, HGF, LEF1, SMAD4, SMAD7, TGFB1.
Cell Cycle: BIRC5, CCND1, CCND2, CDKN1A (p21CIP1/WAF1), CDKN1B (p27KIP1), CDKN2A (p16INK4), E2F1,
EP300, GADD45B, IGF2, MYC, PTEN, RASSF1, RUNX3.

Apoptosis: BAX, BCL2, BCL2L1 (BCL-X), BID, BIRC2 (c-IAP2), BIRC5, CASP8 (FLICE), CFLAR (CASPER),
DLC1, E2F1, EP300, FADD, FAS (TNFRSF6), FHIT, GADD45B, GSTP1, MCL1, MSH2, PYCARD (ASC), RUNX3,
SOCS3, TERT, TNFRSF10B (DR5), TNFSF10 (TRAIL), WT1.
Immune & Inflammatory Response: CCL5 (RANTES), CXCR4, NFKB1, PTGS2 (COX2), RAC1, TGFB1, TLR4.
Adhesion & Proteolysis: ADAM17 (CD156B), AKT1, CDH1 (E-Cadherin), CDH13, CFLAR (CASPER), DLC1,
EGFR, EP300, HGF, ITGB1, LEF1, OPCML, PTEN, PYCARD (ASC), RAC1, RELN, RHOA, SMAD7, SOCS1,
SOCS3, TGFB1.
Angiogenesis: ANGPT2, CASP8 (FLICE), CDH13, CTNNB1, EGF, FLT1, KDR, PDGFRA, PTEN, PTK2, TGFB2,
VEGFA.
DNA Damage: CCND1, CDKN1A (p21CIP1/WAF1), MSH2, MSH3, TP53, XIAP.