

Table S1. Differentially expressed circadian genes sorted in the whole transcriptome of HepG2 cells knocked-down for macroH2A1 and profiled through RNA-Seq in comparison with control HepG2 cells

Gene ID	Gene description	<i>p</i> -value	Fold change
HSD17B2	<i>hydroxysteroid (17-beta) dehydrogenase 2</i>	0.033298	263.6635
MPDZ	<i>multiple PDZ domain crumbs cell polarity complex component</i>	0.046816	76.82502
ABCG5	<i>ATP-binding cassette. sub-family g (white). member 5</i>	0.040097	16.35242
SGTB	<i>small glutamine-rich tetratricopeptide repeat (tpr)-containing. beta</i>	0.047386	3.093502
SERPINH1	<i>serine (or cysteine) peptidase inhibitor. clade H. member 1</i>	0.047949	2.80151
ACOX2	<i>acyl-coenzyme a oxidase 2. branched chain</i>	0.018885	2.498472
CD164	<i>sialomucin core protein 24 (endolyn)</i>	0.024452	2.268357
OAT	<i>ornithine aminotransferase</i>	0.023627	2.018097
SYAP1	<i>synapse associated protein 1</i>	0.014185	2.008324
C16orf87	<i>chromosome 16 open reading frame 87</i>	0.015596	1.947027
ELF1	<i>e74-like factor 1</i>	0.026288	1.941783
MMD	<i>monocyte to macrophage differentiation-associated</i>	0.031814	1.913883
SCARB2	<i>scavenger receptor class B. member 2</i>	0.036201	1.849744
PAH	<i>phenylalanine hydroxylase</i>	0.030445	1.816262
ARL1	<i>ADP-ribosylation factor-like 1</i>	0.002337	1.81595
SAR1B	<i>SAR1 gene homolog b (s. cerevisiae)</i>	0.034401	1.722179
SERP1	<i>stress-associated endoplasmic reticulum protein 1</i>	0.028741	1.687226
OSTC	<i>oligosaccharyltransferase complex subunit</i>	0.042151	1.667932
TM9SF2	<i>transmembrane 9 superfamily member 2</i>	0.028584	1.664967
SSR3	<i>signal sequence receptor. gamma</i>	0.019285	1.65734
RIOK2	<i>rio kinase 2 (yeast)</i>	0.016325	1.567359
C16orf72	<i>chromosome 16 open reading frame 72</i>	0.015424	1.527632
PER1	<i>period homolog 1 (drosophila)</i>	0.006832	1.51221
RTN3	<i>reticulon 3</i>	0.011982	-1.50179
KLHL7	<i>kelch-like 7 (drosophila)</i>	0.021659	-1.51883
ARL4A	<i>ADP-ribosylation factor-like 4a</i>	0.031309	-1.57754
VPS41	<i>vacuolar protein sorting 41 (yeast)</i>	0.037859	-1.64827
WDR91	<i>WD repeat domain 91</i>	0.011823	-1.65977
AQP11	<i>aquaporin 11</i>	0.045677	-1.70335
TIFA	<i>traf-interacting protein with forkhead-associated domain</i>	0.015102	-1.73665
TTC19	<i>tetratricopeptide repeat domain 19</i>	0.030689	-1.76779
MYO5B	<i>myosin Vb</i>	0.01665	-1.77951
GNA12	<i>guanine nucleotide binding protein. alpha 12</i>	0.020672	-1.788
FECH	<i>ferrochelatase</i>	0.04973	-1.80066
SNX5	<i>sorting nexin 5</i>	0.044838	-1.83988
C5orf30	<i>chromosome 5 open reading frame 30 (MACIR - macrophage immunometabolism regulator)</i>	0.009526	-2.01614
IFIH1	<i>interferon induced with helicase c domain 1</i>	0.020856	-2.01981
SPTBN1	<i>spectrin beta. non-erythrocytic 1</i>	0.003645	-2.07228

PDGFC	<i>platelet-derived growth factor. c polypeptide</i>	0.02281	-2.1033
MAP2K3	<i>mitogen-activated protein kinase kinase 3</i>	0.039758	-2.15536
RORC	<i>rar-related orphan receptor gamma</i>	0.017741	-2.2504
BAAT	<i>bile acid-coenzyme a: amino acid n-acyltransferase</i>	0.010839	-2.51111
SLC27A2	<i>solute carrier family 27 (fatty acid transporter). member 2</i>	0.047782	-2.56038
ID2	<i>inhibitor of dna binding 2</i>	0.038002	-2.61672
SOD2	<i>superoxide dismutase 2. mitochondrial</i>	0.018167	-2.67649
IL18	<i>interleukin 18</i>	0.031359	-2.69189
F3	<i>coagulation factor iii</i>	0.015085	-4.30378
SERPINE2	<i>serine (or cysteine) peptidase inhibitor. clade e. member 2</i>	0.016606	-5.82444
C8orf4	<i>chromosome 8 open reading frame 4 (TCIM - transcriptional and immune response regulator</i>	0.016299	-5.93032
ARSG	<i>arylsulfatase g</i>	0.025216	-6.0746
SH3BGR12	<i>SH3 domain binding glutamic acid-rich protein like 2</i>	0.038313	-6.24096
PIK3AP1	<i>phosphoinositide-3-kinase adaptor protein 1</i>	0.031764	-7.32897
RGS2	<i>regulator of g-protein signaling 2</i>	0.011005	-7.45041
MT1F	<i>metallothionein 1f</i>	0.037504	-8.2128
CDH2	<i>cadherin 2</i>	0.015223	-8.30998
SAA4	<i>serum amyloid a 4</i>	0.041197	-8.42766
ABCG2	<i>ATP-binding cassette. sub-family g (white). member 2</i>	0.049408	-10.4263
CPT1A	<i>carnitine palmitoyltransferase 1a. liver</i>	0.03947	-10.5143
CMPK2	<i>cytidine monophosphate (ump-cmp) kinase 2. mitochondrial</i>	0.020668	-10.7883
BHMT2	<i>betaine-homocysteine methyltransferase 2</i>	0.011336	-13.1606
NR3C2	<i>nuclear receptor subfamily 3. group c. member 2</i>	0.027234	-13.7428
HOMER2	<i>homer homolog 2 (drosophila)</i>	0.048467	-21.43
BHMT	<i>betaine-homocysteine methyltransferase</i>	0.006191	-25.7045
RNF144A	<i>ring finger protein 144a</i>	0.040718	-27.3101
RHBDD1	<i>rhomboid domain containing 1</i>	0.042967	-29.9971
CYP7A1	<i>cytochrome p450. family 7. subfamily a. polypeptide1</i>	0.033018	-31.383
SPARC	<i>secreted acidic cysteine rich glycoprotein</i>	0.046717	-36.121
CDO1	<i>cysteine dioxygenase 1. cytosolic</i>	0.038785	-60.5354
GNG12	<i>guanine nucleotide binding protein (g protein). gamma 12</i>	0.000291	-115.271

Supplementary Table S2. Ingenuity Canonical Pathways significantly enriched			
Pathway	-log(p-value)	z-score	Molecules
Superpathway of Methionine Degradation	2.49E00	2.236	AHCY,BHMT,BHMT2,CDO1,MRM2
PTEN Signaling	2.1E00	1.667	FGFR2,FOXO3,GSK3A,HRAS,MAGI3,PDGFRB,PDPK1,PIK3CA,YWHAH
NRF2-mediated Oxidative Stress Response	2.66E00	1.414	CCT7,DNAJB1,DNAJC5,FMO1,GCLC,GSTM2,HRAS,KEAP1,MAP2K3,MAP3K7,PIK3CA,SOD2,STIP1
ERK5 Signaling	1.32E00	1.342	FOXO3,GNA12,HRAS,MEF2A,YWHAH
Actin Nucleation by ARP-WASP Complex	1.32E00	1.342	GNA12,HRAS,PPP1R12A,RHOD,ROCK1
Cholecystokinin/Gastrin-mediated Signaling	1.34E00	1.134	GNA12,HRAS,IL18,MAP2K3,MEF2A,RHOD,ROCK1
Heme Biosynthesis II	4.2E00	1	ALAS1,FECH,PPOX,UROD
Inhibition of ARE-Mediated mRNA Degradation Pathway	2.19E00	1	CNOT4,CNOT6,EXOSC2,MAP3K7,PPP2R1A,PRKAR2A,PSME2,PSMF1,YWHAH
IL-1 Signaling	1.41E00	1	GNA12,GNG12,MAP2K3,MAP3K7,NFKBIA,PRKAR2A
Fatty Acid Activation	3.48E00	-1	ACSL3,ACSL4,ACSL5,SLC27A2
Bile Acid Biosynthesis, Neutral Pathway	3.48E00	-1	AKR1D1,BAAT,CYP7A1,HSD3B7
PPAR Signaling	2.65E00	-1	CITED2,HRAS,IL18,MAP3K7,NCOA1,NFKBIA,NRIP1,PDGFC,PDGFRB
Senescence Pathway	2.4E00	-1	CAPN2,DMTF1,E2F5,EIF4EBP1,ELF1,FOXO3,HRAS,KAT2B,MAP2K3,MAP3K7,PIK3CA,PPP2R1A,SAA4,SMAD7,SOD2,YPEL3
Cardiac β -adrenergic Signaling	2.26E00	-1.134	AKAP11,AKAP9,GNG12,PDE2A,PDE9A,PKIG,PPP1R12A,PPP1R14B,PPP2R1A,PRKAR2A
Fatty Acid β -oxidation I	2.78E00	-1.342	ACSL3,ACSL4,ACSL5,AUH,SLC27A2
Intrinsic Prothrombin Activation Pathway	2.25E00	-1.342	COL5A3,F11,FGA,FGB,FGG
Stearate Biosynthesis I (Animals)	2.08E00	-1.342	ACSL3,ACSL4,ACSL5,ELOVL6,SLC27A2
ErbB2-ErbB3 Signaling	1.49E00	-1.342	ERBB3,GSK3A,HRAS,PDPK1,PIK3CA
Autophagy	2.87E00	-1.342	ATG3,ATG7,CTSH,MAP1LC3B,RB1CC1,ULK1,VPS11
Sirtuin Signaling Pathway	5.21E00	-1.414	ACLY,ACSS2,ATG3,ATG4D,CDH1,CLOCK,CPT1A,ESRRA,FOXO3,G6PD,GABARAP,GTF3C2,MAP1LC3B,NDUFA12,NDUFA9,NDUFB9,NDUFS8,NR1H4,PPIF,SIRT5,SOD2,TIMM10,TIMM44
Hepatic Fibrosis Signaling Pathway	1.87E00	-1.414	COL5A3,DVL1,HRAS,IL18,JAK2,KLF9,MAP2K3,MAP3K7,NFKBIA,PDGFC,PDGFRB,PIK3CA,PRKAR2A,RHOD,ROCK1,SMAD7,SOD2,WNT5B
Type II Diabetes Mellitus Signaling	2.23E00	-1.633	ACSL3,ACSL4,ACSL5,IRS1,MAP3K7,NFKBIA,PDPK1,PIK3CA,SLC27A2,SLC2A2
GP6 Signaling Pathway	1.77E00	-2.828	COL27A1,COL5A3,FGA,FGB,FGG,GSK3A,PDPK1,PIK3CA
An increase in the Z-score value indicates pathway activation, while the decrease in the Z-score indicates pathway inhibition. On a logarithmic scale (-log (p-value)) a P-value equal to 0.05 corresponds to 1.3 and the statistical significance of the result increases with the decrease in p-value and with the increase in - log (p-value) values.			

Supplementary Table S3: Significantly deregulated functions

Categories	Function	Diseases Or Functions Annotation	P-Value	Z-Score	Molecules	
Cell Cycle	Interphase	Interphase	2.45E-04	2.587	ABCB1,AKAP9,BAP1, BID,CAMKK2,CDH1, CEBPD,CES1,CYLD, DCTN1,DGKZ,DMTF 1,DPP4,E2F5,EGR1, EIF4EBP1,ERBB3,ES RRA,FOXO3,GNA12, HRAS,HSPB1,ID2,ID 4,ING4,IRS1,JAK2,KI TLG,KLF12,KPNB1,L MNA,LPIN1,MAP2K3, MRNIP,NET1,NFKBI A,NRIP1,OGA,POLE4 ,PPIF,PPM1A,PPP1R 12A,PPP2R1A,PRPF 19,PSEN2,RASSF3,R B1CC1,RPA1,SMAD7 ,SOD2,TCP1,TUBB CPT1A,DNAJB1,F2R, FKBP4,IRS1,NR1H4, NR3C2,SIRT5,STIP1	52
Lipid Metabolism, Small Molecule Biochemistry	Binding	Binding Of Lipid	1.02E-03	2.414	ABCB1,BIK,CAPN2,C D47,DHX9,ENDOG,H RAS,HSPB1,KEAP1, KITLG,KPNB1,NFKBI A,PIK3CA,PRDX6,SO D2,STK24,VPS13A	9
DNA Replication, Recombination, And Repair	Degradation	Degradation Of DNA	2.41E-04	2.253	ABCB1,BIK,CAPN2,C D47,DHX9,ENDOG,H RAS,HSPB1,KEAP1, KITLG,KPNB1,NFKBI A,PIK3CA,PRDX6,SO D2,STK24,VPS13A	17
Cell Death And Survival,DNA Replication, Recombination, And Repair	Fragmentation	Fragmentation Of DNA	4.78E-04	2.174	ABCB1,BIK,CAPN2,E NDOG,HRAS,HSPB1, KEAP1,KITLG,KPNB 1,NFKBIA,PIK3CA,P RDX6,SOD2,STK24, VPS13A	15
DNA Replication, Recombination, And Repair,Nucleic Acid Metabolism, Small Molecule Biochemistry	Hydrolysis	Hydrolysis Of Nucleotide	1.04E-04	1.873	ABCG2,ANXA7,ATP1 A1,CCT4,CCT5,ITPA, N4BP2,NME1,PDE2A ,PDE9A,RAN,SNRNP 200,TBC1D16	13
Infectious Diseases	Infection	Infection Of Cells	1.20E-04	1.649	AFG3L2,ARGLU1,CA MKK2,CBLB,CD164, CDH1,CLDND1,CLO CK,CLTA,CXADR,CY B5B,DCTN1,DHX9,D NAJB1,DPP4,DVL1,F 2R,F3,FAM172A,FAM 76B,FPGS,GABARAP ,GPD2,HMGCR,HRA S,IL18,KLHDC2,KPN B1,LIN7C,LSM14B,M AP3K7,MPDZ,MRPL4 4,NUP62,PER3,PNR C1,PRPF6,PSEN2,P SME2,RAB1B,RABE PK,RB1CC1,REPIN1, SBF2,SLC10A1,SLC2 0A1,SPTBN1,ST3GA L4,STARD3NL,STIP1	52

Infectious Diseases	Infection	Infection By HIV-1	5.78E-04	1.399	,UBE2L3,UNG AFG3L2,ARGLU1,CA MKK2,CD164,CLDND 1,CLOCK,CLTA,DHX 9,DNAJB1,DPP4,DVL 1,FAM172A,FAM76B, FPGS,GABARAP,GP D2,IL18,KLHDC2,KP NB1,LIN7C,LSM14B, MAP3K7,MPDZ,MRP L44,NUP62,PER3,PN RC1,PRPF6,PSEN2, PSME2,RAB1B,RAB EPK,RB1CC1,REPIN 1,SBF2,SPTBN1,STA RD3NL,STIP1,UBE2L 3,UNG	40
Cellular Development	Epithelial-Mesenchymal Transition	Epithelial-Mesenchymal Transition	9.41E-04	1.376	AHNAK,ARHGAP21, CDH1,DICER1,ERBB 3,FGFR2,FOXO3,HO OK1,HRAS,IRS1,MA CROH2A1,MEF2A,N COA1,NFKBIA,PDLI M1,PDPK1,PIK3CA,P RKAR2A,RICTOR,SM AD7	20
Cellular Assembly And Organization	Development	Development Of Cytoplasm	1.26E-05	1.371	AKAP11,AKAP9,ARH GAP18,ARHGAP6,AT G3,CD47,CIB3,CNP, COL5A3,CUL4B,DCT N1,DMD,DSTN,F2R,F KBP4,GDA,GNA12,G NG12,HRAS,IRS1,M PRIP,NET1,NRIP1,P DPK1,PES1,PEX26,P EX6,PLD1,PPP1R9A, RB1CC1,RHOD,RICT OR,ROCK1,SDC4,SN X9,SPARC,STXBP3, TMEM41B,TUBB,ULK 1,UTRN,WIP1	42
Cardiovascular Disease, Organismal Injury And Abnormalities	Fibrosis	Fibrosis Of Heart	3.21E-05	1.315	DICER1,DMD,DSP,E GR1,F11,F3,GAS2L3, GSK3A,HRAS,LMNA, MBNL2,NR3C2,PDE9 A,PDGFC,PFKFB1,PI K3CA,PNKD,ROCK1, SOD2,UTRN	20
Cell Death And Survival, Organismal Injury And Abnormalities	Necrosis	Necrosis Of Epithelial Tissue	3.51E-04	1.275	ABCG2,ARHGAP18, BID,BIK,CA3,CDH1,C DH2,CEBPD,CITED2, CNP,CUL4B,CYLD,C YP7A1,DICER1,EGR 1,ENDOG,ERBB3,F3, FKBP4,FOXO3,GSD MD,HRAS,HSPB1,ID 2,IL18,ING4,IRS1,JA K2,MAP2K3,NCOA1, NFKBIA,NR1H4,PDG FRB,PDPK1,PPM1A, PRDX6,RB1CC1,SLC 20A1,SOD2,SPARC,	42

Cell Death And Survival	Cell Death	Cell Death Of Leukemia Cell Lines	6.49E-04	1.138	SPTBN1,TRIB3 ABCB1,ABCB4,BID,BIK,CD47,CDH1,CEBP D,CYLD,DICER1,DP P4,EIF4EBP1,FOXO3 ,HLF,HSPB1,JAK2,KI TLG,MAP1LC3B,NFK BIA,NR3C2,PDGFC,P PP1R1B,RCAN1,RIC TOR,SOD2,TUBB6,V PS13A	26
Cell Death And Survival	Apoptosis	Apoptosis Of Mesothelioma Cell Lines	5.12E-04	1.131	BAP1,BID,BIK,DVL1, PDPK1	5
Cellular Compromise,Inflammatory Response	Degranulation	Degranulation Of Phagocytes	4.59E-04	1.117	ACLY,AGPAT2,ATP6 V1D,CD47,CD9,CDA, CMTM6,CORO1B,CT SH,DGKZ,DNAJC5,D SP,GSDMD,GYG1,K CMF1,KITLG,KPNB1, LPIN1,PDPK1,PLD1, PRDX6,PSMD1,PSM D11,PSMD2,ROCK1, SLC27A2,SLC2A5,SL C9A3R1,STOM,STXB P3,TMBIM1,TRIB3,T UBB	33
Organismal Injury And Abnormalities	Benign Lesion	Benign Lesion	1.13E-06	1.098	ABCB1,ABCG2,AHN AK,ANXA7,ARIH2,AT P1A1,BAP1,BDH1,BH MT,BID,C9orf16,CDH 1,CDH2,CEBPD,CLM N,CNP,COL27A1,CO L5A3,CYLD,DICER1, DMD,DMTF1,DVL1,E GR1,EIF4EBP1,ERB B3,FGFR2,FH,FLCN, FOXO3,GSK3A,HRA S,ICK,ID4,ING4,KDM 6A,KITLG,LRIG1,MLX ,NHLRC2,NINJ1,NR1 H4,NR3C2,NR5A2,N RIP1,NUDT1,OAZ1,O SBPL1A,PDGFC,PD GFRB,PGAP1,PIK3C A,PKHD1,POR,PRDX 6,PSEN2,PSMA6,SE RPINE2,SLC2A5,SLC 30A10,SOD2,SPON2, SPOP,SPTBN1,SYN E1,TRIB3,UBAC1,UG P2,UNG,UTRN,WNT5 B	71
Cell Death And Survival	Cell Viability	Cell Viability Of Tumor Cell Lines	1.27E-08	1.093	ABCB1,ABCG2,ACSL 5,ATG3,BID,BUD23,C AMKK2,CAPN2,CAR S1,CDH1,CDH2,CEB PD,CES1,DHX9,DIO1 ,DPP4,DPP9,DUSP1 9,EGR1,ERBB3,ESR RA,FBXO9,FGFR2,F KBP4,FOXO3,FPGS,	78

					GCLC,GSK3A,HRAS,HSPB1,ID2,ID4,IGFBP2,JAK2,JMJD1C,KDM6A,KHK,KITLG,KPNB1,LRIG1,MACROH2A1,MAP1LC3B,MAP2K3,MAP3K7,MCOLN1,NEK7,NFKBIA,NUP62,PDGFRB,PDPK1,PES1,PFDN2,PHKA2,PIK3CA,PPP1R1B,PPP1R9A,PPP2R1A,PRPF19,PRPS2,PSMA6,RB1CC1,RCAN1,RICTOR,RPA1,SHPRH,SLC2A2,SNRNP200,SNX10,SOD2,SPOP,STIP1,STX8,TBC1D16,TCP1,THRSP,UBE2L3,USP47,YPEL3	
Hematological System Development And Function	Hemostasis	Hemostasis	7.02E-04	1.093	ABCB1,ANXA7,CYP4F2,DGKZ,DMD,F11,F2R,F3,FADS2,FGA,FGGB,FGG,GNA12,GSK3A,HMG20B,ITPK1,AK2,JMJD1C,NPC1,DPK1,PIK3CA,PRKAR2A,PSEN2,SERPINE2,ST3GAL4	25
DNA Replication, Recombination, And Repair	Cleavage	Cleavage Of DNA Fragment	7.81E-04	1.091	ENDOG,HRAS,TSN,UNG	4
Neurological Disease	Cognitive Impairment	Cognitive Impairment	4.57E-04	1	ACSL4,AHSA1,ARSG,ATP1A1,CA3,CAMKK2,CD47,CUL4B,CXADR,DDC,DMD,DPP4,DSP,FBXO31,FGFR2,FMO5,FOXO3,GCNT2,GSK3A,GSS,HMGCR,KDM6A,L2HGDH,MBNL2,MYO6,NCOA1,NR3C2,NUS1,OTUD6B,PEX6,PGAP1,PPP1R1B,PPP2R1A,PSEN2,RCAN1,SCAPER,SLC1A4,SLC35A3,SYNE1,SYT1,TBC1D20,TBC1D24,TUBB,UBR1,WDR26,WDR81	46
Cellular Assembly And Organization	Organization	Organization Of Organelle	1.10E-03	1	AFG3L2,AKAP9,ALAS1,ARHGAP21,ARHGAP6,CD2AP,CDH1,CDH2,CENPV,CHCHD3,CNP,CORO1B,CXADR,DSP,DVL1,ESRRA,FLCN,GOLGB1,HOOK1,ITPA,LMNA,LPIN1,MYO1B,PDE2A,PES1,PEX6,PPP1R9A,RPA1,RUFY3,SDC4,SERPINH1,SIRT5,SLK,SNX10,SOD2,SPA	42

Cancer,Organismal Injury And Abnormalities	Malignant Neoplasm Of Retroperitoneu m	Malignant Neoplasm Of Retroperitoneu m	1.59E-05	-1	RC,SPTBN1,SYNE1, TBC1D20,TPR,TUBB, WDR81 AASDH,ABCB1,ABC B4,ABCG2,ABTB2,A CAT2,ACLY,ACOX2, ACSM5,ADH4,AHNA K,AKAP11,AKAP9,AL AS1,ALG13,ANKRD1 2,ANP32A,ARHGAP2 1,ATXN2L,BAP1,BRD 8,C9orf152,CAMKK2, CAPN2,CBLB,CCDC 66,CCT3,CD9,CDC14 B,CDH1,CDH2,CHD6 ,COL5A3,CUL4B,DC TN1,DHX9,DIAPH2,D ICER1,DIO1,DMD,DO CK4,DPP4,DUSP19, E2F5,EGR1,ERBB3,E SRRA,EXOC6,EXTL2 ,F11,F3,FGA,FGFR2, FH,FLCN,FOXO3,FT SJ3,G6PD,GABARAP ,GAS2L3,GCLC,GOL GB1,GRHPR,GTF3C 2,HERC4,HMGCR,H RAS,IL18,IRF6,JAK2, KDM6A,KEAP1,KIAA 0100,KLF12,KLF9,KL HL7,LMNA,LSM14B,L SS,MAGI3,MAP2K3, MIA2,MKNK2,MLLT1 0,MOCOS,MPDZ,MP P1,MRPS27,MYO1B, MYO5B,N4BP2L1,NA GK,NCOA1,NFKBIA, NGEF,NINJ1,NIPBL, NME1,NPC1,NR5A2, NRIP1,NUP62,PAN2, PAQR9,PCDH1,PDE 2A,PDGFRB,PHKA2, PIK3CA,PKHD1,PLX NA2,PNKD,POR,PPP 1R1B,PPP1R9A,PPP 2R1A,PRPF6,PRPS1, PSMD1,PSMD11,PS MD2,PSMF1,PXMP4, RAI14,RB1CC1,RBB P5,RCL1,RPA1,SBF2 ,SCAPER,SEC63,SE NP6,SERPINE2,SER PINH1,SETDB2,SHP RH,SLC1A4,SLC20A 2,SLC2A5,SLC2A9,S LC39A8,SLC9A3R1,S MAD7,SNRNP200,S OD2,SPARC,SPTBN 1,ST3GAL4,STARD7, STXBP3,SYNE1,TEX 2,TMEM126A,TMEM5 1,TNRC6A,TOP1MT,	170
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Cancer, Organismal Injury And Abnormalities, Renal And Urological Disease	Neoplasia	Renal Tumor	2.41E-05	-1	TRIB3, TUBB, TUBB6, TUBGCP2, TXNL1, UBE2F, UGP2, UROD, UTP14A, UTRN, VPS13A, WNT5B, ZFAND2B, ZNF654	80
					ABCB1, ACOX2, AHNAK, AKAP9, ALAS1, ARHGAP21, ATXN2L, BAP1, CCT3, CD9, CDC14B, CDH1, DICER1, DIO1, DUSP19, ERBB3, EXTL2, FGFR2, FH, FLCN, FOXO3, FTSJ3, G6PD, GABARAP, GRHPR, GTF3C2, HMGCR, HRAS, ID2, IL18, IRS1, KDM6A, KEAP1, KLHL7, LMNA, MAP2K3, MLLT10, MOCOS, MPP1, N4BP2L1, NCOA1, NFKBIA, NGEF, NIPBL, NME1, NRIP1, NUP62, PCDH1, PDE2A, PDGFRB, PIK3CA, PKHD1, PNKD, POR, PPP1R1B, PPP2R1A, PSMD1, PSMD2, RAI14, RCL1, SENP6, SLC1A4, SLC20A2, SLC2A9, SLC39A8, SLC9A3R1, SMAD7, SNRNP200, SOD2, SPTBN1, STXBP3, SYNE1, TMEM51, TUBB, TUBB6, UBE2F, UTP14A, UTRN, VPS13A	
Cancer, Organismal Injury And Abnormalities, Renal And Urological Disease	Urinary Tract Tumor	Urinary Tract Tumor	3.53E-05	-1	ABCB1, ACOX2, AFG3L2, AHNAK, AKAP11, AKAP9, ALAS1, ANKRD12, ARHGAP21, ATP1B1, ATXN2L, BAP1, BRD8, CARS1, CCT3, CD9, CDC14B, CDH1, CHD6, CLK2, CROT, DDC, DHX9, DIAPH2, DICER1, DIO1, DIPK2A, DSP, DUSP19, ERBB3, ESSRA, EXTL2, FGA, FGFR2, FGFR1, FH, FLCN, FOXO3, FTSJ3, G6PD, GABARAP, GOLGB1, GRHPR, GTF3C2, HMGCR, HRAS, HSPB1, ID2, IL18, IRS1, KAT2B, KDM6A, KEAP1, KLHDC2, KLHL7, KYN, LMNA, LPIN1, LSM14B, MACROH2A1, MAP2K3, MLLT10, MOCOS, MON2, MPP1, N4BP2L1, NAGK, NCOA1, N	123

					FKBIA,NGEF,NINJ1, NIPBL,NME1,NRIP1, NUP62,OAZ1,OSBPL 1A,PCDH1,PDE2A,P DGFRB,PDRG1,PIK3 CA,PKHD1,PLXNA2, PNKD,POR,PPP1R1 B,PPP2R1A,PSMD1, PSMD2,RAI14,RB1C C1,RCL1,RICTOR,R OCK1,SBF2,SCYL1,S EC63,SENP6,SHPRH ,SLC1A4,SLC20A2,S LC2A9,SLC39A8,SLC 9A3R1,SMAD7,SNRN P200,SOD2,SPARC, SPOP,SPTBN1,STXB P3,SYNE1,TBC1D16, TMEM51,TUBB,TUB B6,UBE2F,UGP2,UT P14A,UTRN,VPS13A, WIPI2	
Reproductive System Development And Function	Decidualization	Decidualization	5,91E-05	-1	CDH1,CITED2,EGR1, FGFR2,FKBP4,LGR5, NCOA1,NR5A2	8
Free Radical Scavenging,Molecul ar Transport	Quantity	Quantity Of Reactive Oxygen Species	3,36E-04	-1,001	BID,CA3,CITED2,DN AJB1,DPP4,FOXO3, G6PD,HRAS,IL18,JA K2,KEAP1,NFKBIA,N R1H4,OGA,PRDX6,P SEN2,SOD2,TXN2	18
Cellular Movement	Migration	Migration Of Tumor Cell Lines	3.26E-04	-1.002	ACSL4,AHNAK,AKAP 11,ARHGAP21,CAMK K2,CAPN2,CBLB,CD 47,CD9,CDH1,CDH2, CMTM8,CTDSP1,CT SH,DPP4,DSP,E2F5, EGR1,EIF4EBP1,EN PP1,ERBB3,ESRRA, F2R,F3,FGA,FGFR2, FH,FOXO3,GNA12,H MGCR,HRAS,ID2,IGF BP2,IL18,ING4,IRS1, JAK2,KEAP1,KITLG,L MNA,NET1,NFKBIA, NINJ1,NME1,NR1H4, NR5A2,PDLIM1,PIK3 CA,PLD1,PLXNA2,PP IF,PPP1R1B,RICTOR ,SDC4,SLC9A3R1,S OD2,SPARC,STK24, WDR26	59
Lipid Metabolism,Small Molecule Biochemistry,Vitami n And Mineral Metabolism	Metabolism	Metabolism Of Sterol	4.81E-09	-1.01	ABCG5,ABCG8,ACA T2,ACLY,AKR1D1,CE S1,CYP39A1,CYP7A 1,ELOVL6,FECH,G6P D,HMGCR,HSD17B2, HSD3B7,KPNB1,LSS, NPC1,NR1H4,POR,R AN,SOAT2	21
Cell Cycle,Cellular	Senescence	Senescence Of	3.67E-04	-1.049	AHCY,CDC14B,DICE	14

Development,Connective Tissue Development And Function		Fibroblast Cell Lines				R1,DMTF1,EGR1,FGFR2,GDA,HRAS,MAP3K7,NUDT1,PDPK1,TNRC6A,UNG,YPEL3	
Cell Cycle	Cell Cycle Progression	Cell Cycle Progression	5.78E-06	-1.051		ABCG2,ACSM5,AHN AK,AKAP9,BAP1,CAPN2,CCT4,CDH1,CITED2,CYLD,DGKZ,DHX9,DICER1,DMTF1,DPP4,E2F5,EGR1,EIF4EBP1,ERBB3,FGFR2,FGFRL1,FO XK1,FOXO3,GNA12,HECA, HMG20B,HRAS,HSPB1,ID2,IGFBP2,ING4,IRF6,IRS1,JAK2,KAT2B,KITLG,KPNB1,LGALS4,LMNA,LRIG1,MAGED1,MAP3K7,NEK7,NET1,NFKBIA,NME1,NUP62,NUP88,PDGFRB,PDPK1,PER1,PER3,PES1,PIK3CA,PPM1A,PPP1R12A,PPP2R1A,PRKAR2A,PSEN2,RAN,RASSF3,RHOD,RNF167,RPA1,SENP6,SETDB2,SLC20A1,SLC9A3R1,SMAD7,SPARC,TBRG4,TCP1,TIFA,TPR,TUBB	75
Cancer,Hematological Disease,Immunological Disease,Organismal Injury And Abnormalities	Neoplasia	Neoplasia Of Leukocytes	6.23E-05	-1.053		ABCB1,ABCG2,AHN AK,AKAP11,ANXA7,ASAP2,ATP1B1,BAP1,BID,CBLB,CCT3,CCT7,CD47,CDH1,CDO1,CEBPD,CHD6,CITED2,CNP,COL27A1,CTSH,CUL4B,DDC,DEK,DGKZ,DICER1,DIO1,DMD,DMTF1,DPP4,DSP,EGR1,EIF4EBP1,ENPP1,ERBB3,EXTL2,F2R,F3,FAM102A,FBXO31,FBXO9,FGFR2,FOXO3,FPGS,GNA12,GPD2,GRHPR,HECA,HMGCR,HRAS,HSPB1,ICK,ID2,IL18, JAK2,JMJD1C,KDM6A,KIAA0100,KITLG,KPNB1,LPIN1,LRIG1,LTBR,MAGED1,MAP2K3,MEF2A,MIA2,MKNK2,MLLT10,MPDZ,MRPL20,MYO5B,NFKBIA,NINJ1,NIPBL,NME1,PALMD,PDE9A,PDGFC,PDGFRB,PDPK1,PER1,PIK3CA,PLXNA2,PNKD,PNRC1,P	113

Cancer,Gastrointestinal Disease,Organismal Injury And Abnormalities	Neoplasia	Gastrointestinal Tumor	7.05E-14	-1.054	OLE4,POR,PRPF19, PRPS1,PSMD1,PSM D2,RAN,RICTOR,RP A1,SARS1,SERPINH 1,SHMT1,SLC25A32, SMAD7,SOD2,SPAR C,SPTBN1,STIP1,ST K24,SYT1,TPR,TUBB 6,TUT4,UBE2F,UBR1 ,UNG,VPS13A	471
					AASDH,ABCB1,ABC B4,ABCG2,ABCG5,A BTB2,ACAD8,ACLY, ACOX2,ACSL4,ACSL 5,ACSS2,ACTR6,AF G3L2,AGPAT2,AHCY ,AHNAK,AHSA1,AKA P11,AKAP9,ALAS1,A LDH1L1,ALG13,ANK RD12,ANXA7,ARF3,A RHGAP18,ARHGAP2 1,ARHGAP6,ARIH2,A RL6IP4,ARSG,ASAP 2,ASB13,ATG3,ATG4 D,ATP1A1,ATP1B1,A TP6V1D,ATXN2L,BA AT,BAP1,BDH1,BHM T,BHMT2,BID,BLMH, BRD8,C11orf54,C9orf 152,C9orf16,CAMKK2 ,CAPN2,CARS1,CBL B,CCBE1,CCDC66,C CT4,CCT5,CCT7,CD 2AP,CD9,CD99L2,CD H1,CDH2,CDO1,CEB PD,CENPV,CES1,CG N,CHCHD3,CHCHD4, CHD6,CHPT1,CHRA C1,CIB3,CITED2,CLD ND1,CLK2,CLMN,CL OCK,CMTM6,CNOT4 ,CNP,COL27A1,COL 5A3,CORO1B,CPEB4 ,CPT1A,CRIP2,CROT ,CS,CTDSP1,CTPS2, CTSH,CUL4B,CXAD R,CYLD,CYP2U1,CY P4F2,CYP7A1,CYTH 1,DAZAP1,DCTN1,D DC,DDX60,DEK,DGK Z,DHX9,DIAPH2,DIC ER1,DIO1,DIPK2A,DI XDC1,DMD,DMTF1,D NAJC5,DOCK4,DPP4 ,DPP9,DSP,DSTN,D USP19,DVL1,E2F5,E CHDC1,EEPD1,EGR 1,EIF4EBP1,ELF1,ER BB3,ESRRA,EXOC6, EXOSC2,F11,F2R,F3 ,FADS2,FAM102A,FA M160B1,FAM172A,F	

ECH,FGA,FGB,FGFR
2,FGFRL1,FGG,FKB
P4,FLCN,FMO1,FMO
5,FOXK1,FOXO3,FP
GS,FTSJ3,G6PD,GA
S2L3,GCAT,GCLC,G
CNT2,GDA,GNA12,G
NG12,GOLGB1,GPD
2,GPN1,GRHPR,GSD
MD,GSK3A,GSS,GT
F2F1,GTFC3C2,HECA,H
ECTD3,HERC4,HMG
20B,HMGCR,HNRNP
C,HNRNPD,HOMER2
,HOOK1,HRAS,HSD1
7B2,HSD3B7,HSPB1,
ICK,ID2,ID4,IGFBP2,I
L18,ING4,IRF6,IRS1,I
TPK1,JAK2,JMJD1C,
KAT2B,KCMF1,KDM6
A,KEAP1,KIAA0100,K
ITLG,KLF12,KLF9,KL
HDC2,KLHL21,KLHL
7,KPNB1,KTN1,KYN
U,LARS2,LGALS4,LG
R5,LIN7A,LIN7C,LMN
A,LRIG1,LRP12,LRR
C28,LRRC3,LSM14B,
LSS,LTBR,MACROH
2A1,MAGED1,MAGI3
,MAP2K3,MAP3K7,M
BNL2,MCOLN1,MEF2
A,MIA2,MKNK2,MLLT
10,MLX,MOCOS,MO
N2,MPDZ,MPRIIP,MR
NIP,MRPL12,MRPL2
0,MRPL24,MRPS25,
MRPS27,MRPS9,MT
1F,MYO1B,MYO5B,M
YO6,N4BP2,NCALD,
NCOA1,NDUFA12,N
DUFA9,NEK7,NET1,
NFKBIA,NGEF,NHLR
C2,NIPBL,NME1,NO
SIP,NPC1,NR1H4,NR
2F6,NR3C2,NR5A2,N
RIP1,NT5C,NUDT1,N
UDT19,NUDT7,NUP6
2,NUP88,OAZ1,OSB
PL1A,OXR1,PALMD,
PAN2,PAN3,PAQR9,
PCDH1,PCGF5,PDE2
A,PDE9A,PDGFC,PD
GFRB,PDLIM1,PDP2,
PDPK1,PDRG1,PER1
,PER3,PES1,PEX6,P
FDN2,PGAP1,PHF20
L1,PHKA2,PIK3AP1,
PIK3CA,PKHD1,PLD
1,PLXNA2,PMPCA,P
NKD,PNRC1,POR,PP
M1A,PPOX,PPP1R12

A,PPP1R14B,PPP1R1B,PPP1R3B,PPP1R9A,PPP2R1A,PRDX6,PRPF39,PRPF6,PRPS1,PSMD1,PSMD11,PSMD8,PSPC1,PSPH,PTBP1,QDPR,RAB11FIP2,RABGAP1L,RAI14,RALGPS2,RAN,RASA3,RASSF3,RB1CC1,RBBP5,RBBP7,REPIN1,RGS2,RHBD1,RICTOR,ROCK1,RPA1,RUFY3,SAA4,SAR1B,SARS1,SBF2,SCAPER,SCARB2,SCYL1,SDC4,SEC63,SECISBP2L,SENP6,SERPINA6,SERPINE2,SERPINH1,SESN3,SETDB2,SFRP5,SGK2,SGTB,SH3D19,SHMT1,SHPRH,SIRT5,SLC1A4,SLC20A1,SLC20A2,SLC27A2,SLC2A2,SLC2A5,SLC2A9,SLC30A10,SLC35B3,SLC38A2,SLC39A10,SLC39A8,SLC6A12,SLK,SMAD7,SMAP1,SNAPC2,SNRNP200,SNBTB1,SNX10,SNX9,SOD2,SPARC,SPG21,SPON2,SPOP,SPTBN1,SPTBN2,ST3GAL4,STIP1,STK40,STOM,STT3B,STX8,STXBP3,SULF2,SYAP1,SYNE1,SYT1,TBC1D16,TBC1D20,TBC1D24,TBRG4,TCP1,TEP1,TEX2,THAP4,THRSP,TIGD2,TIMM44,TBK1,TLE1,TMBIM1,TMEM126A,TMEM219,TMEM41A,TMEM41B,TMEM62,TMEM97,TNFAIP8L1,TNRC6A,TOP1MT,TPI1,TPR,TPRKB,TRIB3,TRMT1,TPSPAN33,TTC1,TTC19,TUBB,TUBB6,TUBGCP2,TXNL1,UBAC1,UBE2L3,UBR1,UBTF,UBXN1,UBXN6,UCK1,UGP2,ULK1,UNG,UPP2,UROC1,UROD,USP47,UTP14A,UTRN,UXS1,VPS13A,WDR18,WDR26,WDR81,WIP12,WNT5B,YWHAH,ZCCHC24,ZNF23,ZN

Cell-To-Cell Signaling And Interaction	Interaction	Interaction Of Tumor Cell Lines	2,01E-04	-1,057	F32,ZNF326 ARHGAP21,CD47,CD9,CDH1,CDH2,CXADR,CYTH1,DPP4,DSP,EGR1,ERBB3,F2R,F3,FGA,FGFR2,HRAS,IL18,IRS1,JAK2,KITLG,LGALS4,LTBR,MYO6,NET1,NFKBIA,NME1,NR1H4,PLD1,RCAN1,RICTOR,TCIM,UTRN	32
Cellular Compromise	Nucleation	Nucleation Of Cells	1.02E-03	-1.067	CD2AP,GAS2L3,HRAS,KPNB1,LMNA,NEK7,PPP1R12A,RHOD	8
Cancer,Gastrointestinal Disease,Organismal Injury And Abnormalities	Large Intestine Neoplasm	Large Intestine Neoplasm	1.52E-14	-1.091	AASDH,ABCB1,ABCB4,ABCG2,ABCG5,ABTB2,ACAD8,ACLY,ACOX2,ACSL4,ACSL5,ACSS2,ACTR6,AFG3L2,AGPAT2,AHCY,AHNAK,AHSA1,AKAP11,AKAP9,ALAS1,ALDH1L1,ALG13,ANKRD12,ANXA7,ARF3,ARHGAP18,ARHGAP21,ARHGAP6,ARIH2,ARL6IP4,ARSG,ASAP2,ASB13,ATG3,ATG4D,ATP1A1,ATP1B1,ATP6V1D,ATXN2L,BAT,BAP1,BDH1,BHMT2,BID,BLMH,BRD8,C11orf54,C9orf152,C9orf16,CAMKK2,CAPN2,CARS1,CBLB,CBE1,CCDC66,CCT4,CCT5,CCT7,CD2AP,CD9,CD99L2,CDH1,CDH2,CDO1,CEBPD,CENPV,CES1,CGN,CHCHD3,CHCHD4,CHD6,CHPT1,CHRA1,CIB3,CITED2,CLDN1,CLK2,CLMN,CLOCK,CMTM6,CNOT4,CNP,COL27A1,COL5A3,CORO1B,CPEB4,CPT1A,CRIP2,CROT,CS,CTDSP1,CTPS2,CUL4B,CXADR,CYLD,CYP2U1,CYP4F2,CYP7A1,CYTH1,DAZAP1,DCTN1,DDC,DDX60,DEK,DGKZ,DHX9,DIPK2A,DICER1,DIO1,DIPK2A,DIXDC1,DMT1,DMTF1,DNAJC5,DOCK4,DPP4,DPP9,DSP,DSTN,DUSP19,DVL1,ECHDC1,EEPD1,EGR1,EIF4EBP1,EL	457

F1,ERBB3,ESRRA,E
XOC6,EXOSC2,F11,
F2R,F3,FADS2,FAM1
02A,FAM160B1,FAM
172A,FECH,FGA,FG
B,FGFR2,FGFRL1,F
GG,FKBP4,FLCN,FM
O1,FMO5,FOXK1,FP
GS,FTSJ3,G6PD,GA
S2L3,GCAT,GCLC,G
CNT2,GDA,GNA12,G
NG12,GOLGB1,GPD
2,GPN1,GRHR,GSD
MD,GSK3A,GSS,GTF
2F1,GTF3C2,HECA,H
ECTD3,HERC4,HMG
20B,HMGCR,HNRNP
C,HNRNPD,HOMER2
,HOOK1,HRAS,HSD1
7B2,HSD3B7,HSPB1,
ICK,ID2,ID4,IGFBP2,I
L18,ING4,IRF6,IRS1,I
TPK1,JAK2,JMJD1C,
KAT2B,KCMF1,KDM6
A,KEAP1,KIAA0100,K
ITLG,KLF12,KLF9,KL
HDC2,KLHL21,KLHL
7,KPNB1,KTN1,KYN
U,LARS2,LGALS4,LG
R5,LIN7A,LMNA,LRI
G1,LRP12,LRR28,L
RRC3,LSM14B,LSS,L
TBR,MACROH2A1,M
AGED1,MAGI3,MAP2
K3,MAP3K7,MBNL2,
MEF2A,MIA2,MKNK2
,MLLT10,MLX,MOCO
S,MON2,MPDZ,MPRI
P,MRNIP,MRPL12,M
RPL20,MRPL24,MRP
S25,MRPS27,MRPS9
,MT1F,MYO1B,MYO5
B,MYO6,N4BP2,NCA
LD,NCOA1,NDUFA12
,NDUFA9,NEK7,NET
1,NFKBIA,NGEF,NHL
RC2,NIPBL,NME1,N
OSIP,NPC1,NR1H4,N
R2F6,NR3C2,NR5A2,
NRIP1,NT5C,NUDT1,
NUDT19,NUDT7,NUP
62,NUP88,OAZ1,OSB
PL1A,OXR1,PALMD,
PAN2,PAN3,PAQR9,
PCDH1,PCGF5,PDE2
A,PDE9A,PDGFC,PD
GFRB,PDLIM1,PDP2,
PDPK1,PDRG1,PER1
,PER3,PEX6,PFDN2,
PGAP1,PHF20L1,PH
KA2,PIK3AP1,PIK3C
A,PKHD1,PLD1,PLX

NA2,PMPCA,PNKD,P
NRC1,POR,PPM1A,P
POX,PPP1R12A,PPP
1R14B,PPP1R1B,PP
P1R3B,PPP1R9A,PP
P2R1A,PRDX6,PRPF
39,PRPF6,PRPS1,PS
MD1,PSMD11,PSMD
8,PSPC1,PSPH,PTB
P1,QDPR,RAB11FIP
2,RABGAP1L,RAI14,
RALGPS2,RAN,RAS
A3,RASSF3,RB1CC1,
RBBP5,RBBP7,REPI
N1,RHBDD1,RICTOR
,ROCK1,RPA1,RUFY
3,SAA4,SAR1B,SAR
S1,SBF2,SCAPER,S
CYL1,SEC63,SECISB
P2L,SENP6,SERPIN
A6,SERPINE2,SERPI
NH1,SESN3,SETDB2
,SFRP5,SGK2,SGTB,
SH3D19,SHMT1,SHP
RH,SIRT5,SLC1A4,S
LC20A1,SLC20A2,SL
C27A2,SLC2A2,SLC2
A5,SLC2A9,SLC30A1
0,SLC35B3,SLC38A2
,SLC39A10,SLC39A8
,SLC6A12,SLK,SMAD
7,SMAP1,SNAPC2,S
NRNP200,SNX10,SN
X9,SOAT2,SOD2,SP
ARC,SPG21,SPOP,S
PTBN1,SPTBN2,ST3
GAL4,STIP1,STK40,S
TOM,STT3B,STX8,S
TXBP3,SULF2,SYAP
1,SYNE1,SYT1,TBC1
D16,TBC1D20,TBC1
D24,TBRG4,TCP1,TE
P1,TEX2,THAP4,THR
SP,TIGD2,TIMM44,T
K1,TLE1,TMBIM1,TM
EM126A,TMEM219,T
MEM41A,TMEM41B,
TMEM62,TMEM97,T
NFAIP8L1,TNRC6A,T
OP1MT,TPI1,TPR,TP
RKB,TRIB3,TRMT1,T
SPAN33,TTC1,TTC1
9,TUBB,TUBB6,TUB
GCP2,TXNL1,UBAC1
,UBE2L3,UBR1,UBTF
,UBXN1,UBXN6,UCK
1,UGP2,ULK1,UNG,U
PP2,UROC1,UROD,U
SP47,UTRN,UXS1,V
PS13A,WDR18,WDR
26,WDR81,WIP1,WN
T5B,YWHAH,ZCCHC

Cancer,Gastrointestinal Disease,Organismal Injury And Abnormalities	Colorectal Neoplasia	Colorectal Tumor	3.84E-07	-1.091	24,ZNF23,ZNF326 AASDH,ABCB1,ABCG2,ABCG5,ACLY,ACOX2,ACSL5,ACSS2,ACTR6,AFG3L2,AGPAT2,AHCY,AKAP9,ALAS1,ALDH1L1,ALG13,ANXA7,ARHGAP21,ARL6IP4,ASAP2,ASB13,ATG3,ATG4D,ATXN2L,BAAT,BAP1,BID,C11orf54,C9orf152,C9orf16,CARS1,CCDC66,CCT4,CCT5,CCT7,CD2AP,CD9,CD99L2,CDH1,CDH2,CDO1,CEBPD,CES1,CGN,CHCHD3,CHD6,CHPT1,CHRA1,CLDND1,CLK2,CLMN,CLOCK,CMTM6,CNOT4,CNP,COL27A1,COL5A3,CPEB4,CPT1A,CS,CTDSP1,CTPS2,CUL4B,CYLD,CYP4F2,DCTN1,DDX60,DGKZ,DHX9,DICER1,DMD,DMTF1,DOCK4,DSTN,EGFR1,EIF4EBP1,ELF1,ERBB3,ESRRA,F2R,F3,FAM160B1,FECH,FGA,FGB,FGFR2,FGG,FLCN,FMO1,FMO5,PGS,G6PD,GAS2L3,GNA12,GNG12,GSS,GTTF2F1,HECA,HECTD3,HMGCR,HNRNPC,HRAS,HSD17B2,HSPB1,ICK,ID2,IGFBP2,IL18,ING4,IRF6,IRS1,JAK2,JMJD1C,KAT2B,KDM6A,KEAP1,KIAA0100,KITLG,KLF12,KLHL7,KPNB1,KTN1,LGALS4,LGR5,LIN7A,LRIG1,LRP12,LRRC3,LTBR,MACROH2A1,MAGED1,MAP3K7,MEF2A,MIA2,MKNK2,MLLT10,MLX,MON2,MPDZ,MPRIIP,MRNIP,MRPS9,MT1F,MYO5B,MYO6,NCOA1,NEK7,NET1,NGEF,NHLRC2,NIPBL,NME1,NOSIP,NR1H4,NR3C2,NR5A2,NT5C,NUDT19,NUDT7,NUP62,OAZ1,OSBPL1A,PAQR9,PCDH1,PCGF5,PDE9A,PDGFRB,PDLIM1,PD2,PDPK1,PDRG1,	271
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Lipid
Metabolism,Molecular
Transport,Small
Molecule
Biochemistry

Concentration

Concentration
Of Lipid

4.91E-07

-1.095

PER1,PFDN2,PGAP1
,PHF20L1,PHKA2,PI
K3AP1,PIK3CA,PKH
D1,PLD1,PLXNA2,PN
KD,PNRC1,POR,PPP
1R14B,PPP1R1B,PP
P1R9A,PPP2R1A,PR
DX6,PRPF39,PRPF6,
PSMD8,PTBP1,QDP
R,RABGAP1L,RASSF
3,RB1CC1,RBBP5,RI
CTOR,ROCK1,RPA1,
RUFY3,SAA4,SBF2,S
CAPER,SCYL1,SEC6
3,SECISBP2L,SENP6
,SERPINE2,SESN3,S
GK2,SHPRH,SLC1A4
,SLC20A1,SLC20A2,
SLC27A2,SLC2A2,SL
C30A10,SLC35B3,SL
C38A2,SLC39A10,SL
C39A8,SLC6A12,SM
AD7,SMAP1,SNRNP
200,SNX9,SOAT2,SO
D2,SPARC,SPOP,SP
TBN1,SPTBN2,STIP1
,STX8,SULF2,SYAP1
,SYNE1,SYT1,TBC1D
16,TBC1D24,TBRG4,
TCP1,TEP1,TIMM44,
TK1,TMEM126A,TME
M41B,TMEM97,TNR
C6A,TOP1MT,TPI1,T
PR,TRIB3,TTC1,TUB
B,UBAC1,UBTF,UGP
2,ULK1,UNG,UROC1,
UTRN,VPS13A,WDR
18,WDR26,WDR81,W
NT5B,ZCCHC24,ZNF
23

65
ABCB1,ABCB4,ABC
G2,ABCG5,ABCG8,A
CAT2,ACLY,ACSL4,A
GPAT2,ATP1A1,BHM
T,BID,CES1,CLOCK,
CPT1A,CYP4F2,CYP
7A1,DGKZ,DICER1,D
IO1,EGR1,F2R,FADS
2,FGFR2,FKBP4,FM
O5,FOXO3,G6PD,GP
D2,GSK3A,HMGCR,
HRAS,HSD3B7,IL18,I
RS1,JAK2,KITLG,LG
R5,LMNA,LPIN1,MAC
ROH2A1,NCOA1,NP
C1,NR1H4,NR5A2,N
US1,OGA,PDGFRB,P
FKFB1,PIK3CA,PLD1
,POR,PRDX6,PRPF1
9,PSEN2,ROCK1,SE
RPINA6,SIRT5,SLC2
A2,SLC9A3R1,SOAT

Lipid Metabolism, Small Molecule Biochemistry	Metabolism	Fatty Acid Metabolism	3.36E-08	-1.107	2, SOD2, STARD4, TH RSP, UBR1 ABCB1, ABCB4, ABCG2, ABCG5, ABCG8, ACLY, ACSL3, ACSL4, ACSL5, ACSM1, ACSS2, BAAT, CD9, CES1, CP T1A, CROT, CS, CYP4 F2, CYP7A1, EGR1, EIF4EBP1, ELOVL6, F2R, FADS2, FH, FOXO3, HLF, HRAS, IL18, JAK2, KITLG, LPIN1, LSS, MAP2K3, NFKB1A, NPC1, NR1H4, NUDT19, NUDT7, OSBPL1A, POR, PRDX6, SCARB2, SERPINA6, SLC10A1, SLC27A2, SLC38A2, SLC9A3R1, SNTB1, SOAT2, STARD4, THRSP, TRIB3	53
Cancer, Organismal Injury And Abnormalities	Neoplasia	Epithelial Neoplasm	1.54E-28	-1.125	AASDH, ABCB1, ABCB4, ABCG2, ABCG5, ABCG8, ABTB2, ACAD8, ACAT2, ACLY, ACOX2, ACSL3, ACSL4, ACSL5, ACSM1, ACSM5, ACSS2, ACTR6, ADH4, AFG3L2, AGPAT2, AH CY, AHNK, AHS1, AKAP11, AKAP9, AKR1D1, ALAS1, ALDH1L1, ALG13, AMDHD1, ANKRD12, ANP32A, ANXA7, ARF3, ARGLU1, ARHGAP18, ARHGAP21, ARHGAP6, ARIH2, ARL15, ARL4A, ARL6IP4, ARSG, ASAP2, ASB13, ATG3, ATG4D, ATP1A1, ATP1B1, ATP6V1D, ATXN2L, AUH, BAA T, BAP1, BDH1, BHMT, BHMT2, BID, BIK, BLMH, BRD8, BUD23, C11orf54, C9orf152, C9orf16, CA3, CAMKK2, CAPN2, CARS1, CBLB, CCB1, CCDC66, CCT3, CCT4, CCT5, CCT6A, CCT7, CD2AP, CD47, CD9, CD99L2, CDA, CDC14B, CDH1, CDH2, CDO1, CEBPD, CENPV, CES1, CGN, CHCHD3, CHCHD4, CHD6, CHPT1, CHRA1, CIB3, CITED2, CLDN1, CLK2, CLMN, CLOCK, CMT6, CMT8, CNN3, CNOT4, CNOT6, CNP, C	583

OL27A1, COL5A3, CO
RO1B, CPEB4, CPT1A
, CRIP2, CRLS1, CROT
, CS, CSRN1P1, CTDSP
1, CTPS2, CTSH, CUL4
B, CXADR, CYB5B, CY
LD, CYP2U1, CYP39A
1, CYP4F2, CYP7A1, C
YTH1, DAZAP1, DCTN
1, DDC, DDX60, DEK, D
GKZ, DHX9, DIAPH2, D
ICER1, DIO1, DIPK2A,
DIXDC1, DMD, DMTF1
, DNAJB1, DNAJC5, D
OCK4, DPP4, DPP9, D
SP, DSTN, DTYMK, DU
SP19, DVL1, E2F5, EC
HDC1, EEPD1, EFHD2
, EGR1, EIF1AX, EIF4E
BP1, ELF1, ENDOG, E
NPP1, ERBB3, ESRRA
, EXOC6, EXOSC2, EX
TL2, F11, F2R, F3, FAD
S2, FAM102A, FAM11
8B, FAM160B1, FAM1
72A, FAM76B, FAM89
A, FBXO31, FBXO9, FE
CH, FGA, FGB, FGFR2
, FGFR1, FGG, FH, FK
BP4, FLCN, FMO1, FM
O5, FOXK1, FOXO3, F
PGS, FTSJ3, G6PD, G
AS2L3, GCAT, GCLC,
GCNT2, GDA, GNA12,
GNG12, GOLGB1, GP
D2, GPN1, GRHR, GS
DMD, GSK3A, GSS, G
STM2, GTF2A2, GTF2
F1, GTF3C2, GYG1, H
ECA, HECTD3, HERC
4, HLF, HMG20B, HMG
CR, HNRNPC, HNRNP
D, HOMER2, HOOK1,
HRAS, HSD17B2, HSD
3B7, HSPB1, ICK, ID2, I
D4, IGFBP2, IL18, ING
4, IRF6, IRS1, ITPA, ITP
K1, JAK2, JMJD1C, KA
T2B, KCMF1, KDM6A,
KEAP1, KHK, KIAA010
0, KITLG, KLF12, KLF9,
KLHDC2, KLHL21, KL
HL7, KPNB1, KTN1, KY
NU, L2HGDH, LARS2,
LGALS4, LGR5, LIN7A
, LIN7C, LITAF, LMNA,
LPIN1, LRIG1, LRP12,
LRRC28, LRRC3, LSM
14B, LSS, LTBR, MAC
ROH2A1, MAGED1, M
AGI3, MAP1LC3B, MA
P2K3, MAP3K7, MBNL

2,MCOLN1,MEF2A,M
IA2,MKNK2,MLLT10,
MLX,MMD,MOCOS,M
ON2,MPDZ,MPP1,M
PRIP,MRNIP,MRPL1
2,MRPL20,MRPL24,
MRPL44,MRPS22,M
RPS25,MRPS27,MR
PS9,MT1F,MYO1B,M
YO5B,MYO6,N4BP2,
N4BP2L1,NAGK,NCA
LD,NCOA1,NDUFA12
,NDUFA9,NDUFB9,N
EK7,NET1,NFKBIA,N
GEF,NHLRC2,NINJ1,
NIPBL,NME1,NOSIP,
NPC1,NR1H4,NR2F6
,NR3C2,NR5A2,NRIP
1,NT5C,NUDT1,NUD
T19,NUDT7,NUP62,N
UP88,NUS1,OAZ1,O
SBPL1A,OTUD6B,OX
R1,PALMD,PAN2,PA
N3,PAQR9,PCDH1,P
CGF5,PDCD2,PDE2A
,PDE9A,PDGFC,PDG
FRB,PDLIM1,PDP2,P
DPK1,PDRG1,PER1,
PER3,PES1,PEX26,P
EX6,PFDN2,PFKFB1,
PGAP1,PHF20L1,PH
KA2,PIK3AP1,PIK3C
A,PKHD1,PLD1,PLX
NA2,PMPCA,PNKD,P
NRC1,POR,PPIF,PP
M1A,PPOX,PPP1R12
A,PPP1R14B,PPP1R
1B,PPP1R3B,PPP1R
9A,PPP2R1A,PRDX6,
PRPF19,PRPF39,PR
PF6,PRPS1,PRPS2,P
SEN2,PSMA6,PSMD
1,PSMD11,PSMD2,P
SMD8,PSME2,PSMG
1,PSPC1,PSPH,PTB
P1,PTBP2,PXMP4,Q
DPR,RAB11FIP2,RA
B1B,RABEPK,RABG
AP1L,RAI14,RALGPS
2,RAN,RASA3,RASS
F3,RB1CC1,RBBP5,
RBBP7,RBKS,RCAN
1,RCL1,REPIN1,RGS
2,RHBDD1,RHOD,RI
CTOR,RNF14,RNF14
4A,RNF167,ROCK1,
RPA1,RPIA,RUFY3,S
AA4,SAR1B,SARS1,
SBF2,SCAPER,SCA
RB2,SCYL1,SDC4,S
DR42E1,SEC63,SECI
SBP2L,SENP6,SERP

Cancer,Organismal Injury And Abnormalities,Repro ductive System Disease	Neoplasia	Prostatic Tumor	3.33E-06	-1.131	INA6,SERPINE2,SER PINH1,SESN3,SETD B2,SFRP5,SGK2,SG TB,SH3D19,SHMT1, SHPRH,SIRT5,SLC1 0A1,SLC16A5,SLC1A 4,SLC20A1,SLC20A2 ,SLC25A32,SLC27A2 ,SLC2A2,SLC2A5,SL C2A9,SLC30A10,SLC 35A3,SLC35B1,SLC3 5B3,SLC38A2,SLC39 A10,SLC39A8,SLC6A 12,SLC9A3R1,SLK,S MAD7,SMAP1,SNAP C2,SNRNP200,SNTB 1,SNX10,SNX5,SNX9 ,SOAT2,SOD2,SPAR C,SPG21,SPON2,SP OP,SPTBN1,SPTBN2 ,ST3GAL4,STARD7,S TIP1,STK24,STK40,S TOM,STT3B,STX18,S TX8,STXBP3,SULF2, SUMF1,SYAP1,SYNE 1,SYT1,TBC1D16,TB C1D20,TBC1D24,TB RG4,TCIM,TCP1,TEP 1,TEX2,THAP4,THRS P,TIFA,TIGD2,TIMM1 0,TIMM44,TK1,TLCD 4,TLE1,TMBIM1,TME M126A,TMEM219,TM EM41A,TMEM41B,T MEM51,TMEM62,TM EM97,TNFAIP2,TNFA IP8L1,TNRC6A,TOP1 MT,TPI1,TPR,TPRG1 L,TPRKB,TRIB3,TRM T1,TSN,TSPAN33,TS TA3,TTC1,TTC19,TU BB,TUBB6,TUBGCP2 ,TXN2,TXNL1,UBAC1 ,UBE2F,UBE2L3,UBR 1,UBTF,UBXN1,UBX N6,UCK1,UGP2,UGT 2B10,ULK1,UNG,UP P2,UROC1,UROD,US P47,UTP14A,UTRN,U XS1,VPS13A,WDR18 ,WDR26,WDR81,WIP I2,WNT5B,YPEL3,YW HAH,ZCCHC24,ZFAN D2B,ZKSCAN1,ZNF2 3,ZNF32,ZNF326,ZN F654	198
					ABCB1,ABCB4,ABC G2,ACAD8,ACLY,AC OX2,ACSL3,ACSL4,A CSM1,ACSS2,AGPA T2,AHNAK,AKAP11,A LDH1L1,ALG13,ANK	

RD12,ARHGAP18,ARHGAP6,ARIH2,ASAP2,ATP1A1,ATP6V1D,ATXN2L,BAAT,BAP1,BDH1,BRD8,CA3,CBLB,CD2AP,CDH1,CDH2,CDO1,CES1,CGN,CHD6,CLDND1,CNOT4,CNOT6,CNP,COL5A3,CPT1A,CSRNP1,CYP7A1,CYTH1,DCTN1,DDX60,DGKZ,DICER1,DMD,DOCK4,DSP,EFHD2,EGR1,EIF1AX,EIF4EBP1,ERBB3,F11,FAM160B1,FAM89A,FGA,FGFR2,FGFRL1,FH,FKBP4,FLCN,FOXK1,FOXO3,GDA,GNA12,GOLGB1,GPD2,GSDMD,GTF2A2,HLF,HMGCR,HRAS,HSD3B7,HSPB1,ID2,IGFBP2,ING4,IRS1,AK2,JMJD1C,KDM6A,KIAA0100,KTN1,LARS2,LGALS4,LGR5,LIN7C,LITAF,LRIG1,LRP12,LRRC28,LSS,LTBR,MAGI3,MBNL2,MIA2,MKNK2,MLLT10,MMD,MOCOS,MON2,MPDZ,MPRIIP,MRPS25,MYO5B,MYO6,N4BP2,NCOA1,NFKBIA,NIPBL,NME1,NRIP1,NUDT7,NUP88,OAZ1,OTUD6B,PAN3,PCDH1,PDGFRB,PDP2,PPDK1,PER1,PEX6,PIK3CA,PKHD1,PLD1,PLXNA2,POR,PPIF,PPP1R1B,PPP1R3B,PPP1R9A,PPP2R1A,PPRPF6,PSEN2,PSMD1,PSMD2,PXMP4,RAB11FIP2,RALGPS2,RCAN1,RCL1,REPIN1,RHOD,RNF144A,ROCK1,SBF2,SCAPER,SCARB2,SCYL1,SDC4,SDR42E1,SECISBP2L,SERPINA6,SERPINE2,SESN3,SIRT5,SLC16A5,SLC1A4,SLC25A32,SLC39A10,SLC6A12,SLK,SMAP1,SNRNP200,SPARC,SPOP,SPTBN1,SPTBN2,ST3GAL4,STX8,STXBP3,SULF2,SYNE1,TBC1D16,TBC1D24,T

Cancer, Organismal Injury And Abnormalities, Reproductive System Disease	Neoplasia	Neoplasia Of Mammary Gland	1.06E-03	-1.131	K1, TNFAIP2, TNRC6A, TOP1MT, TPR, TRMT1, TSPAN33, UBAC1, UBE2F, UBR1, UROC1, USP47, UTRN, VPS13A, YPEL3, ZKSCAN1, ZNF654	6
Cancer, Organismal Injury And Abnormalities	Development	Development Of Adenocarcinoma	5.73E-09	-1.134	CEBPD, ERBB3, HRAS, IRS1, JAK2, PIK3CA	262
					ABCB1, ABCB4, ABCG5, ACAD8, ACOX2, ACSL3, ACSL4, ACSM1, ACSS2, AGPAT2, AHNAK, AKAP11, AKAP9, ALAS1, ALDH1L1, ALG13, ANKRD12, ANP32A, ARHGAP21, ARHGAP6, ARIH2, ARL15, ATXN2L, AUH, BAP1, BDH1, BRD8, BUD23, CAPN2, CCT3, CCT5, CCT6A, CCT7, CD47, CD9, CDC14B, CDH1, CDH2, CDO1, CES1, CGN, CHD6, CLMN, CMTM8, CNOT4, CNOT6, COL27A1, COL5A3, CPEB4, CS, CUL4B, CXADR, CYP4F2, CYP7A1, DAZAP1, DDX60, DEK, DHX9, DIAPH2, DICER1, DIO1, DIPK2A, DIXDC1, DMD, DOCK4, DPP4, DPP9, DSP, DSTN, DUSP19, E2F5, EIF1AX, ELF1, ERBB3, EXOC6, EXTL2, F11, F2R, F3, FAM160B1, FECH, FGA, FGB, FGFR2, FGG, FH, FLCN, FOXO3, FTSJ3, G6PD, GAS2L3, GNA12, GOLGB1, GRHPR, GSK3A, GSTM2, GTF3C2, GYG1, HECA, HECTD3, HERC4, HMGCR, HRAS, ICK, IGFBP2, IL18, ING4, IRF6, IRS1, ITPA, JAK2, JMJD1C, KAT2B, KCMF1, KDM6A, KEAP1, KIAA0100, KLHL7, KTN1, KYNU, L2HGDH, LGR5, LMNA, LRIG1, LRRC28, LSM14B, MAGED1, MAGI3, MAP2K3, MCOLN1, MEF2A, MIA2, MLLT10, MOCOS, MON2, MPDZ, MPP1, MPRIP, MRPL44, MRPS22,	

Cancer, Organismal
Injury And
Abnormalities

Lymphoreticul
ar Neoplasm

Lymphoreticula
r Neoplasm

6,06E-05

-1,152

MRPS27, MYO5B, MYO6, N4BP2L1, NCOA1, NDUFA9, NET1, NFKBIA, NGEF, NHLRC2, NIPBL, NME1, NOSIP, NPC1, NRIP1, NUDT1, NUP62, NUP88, OSBP1A, OXR1, PALMD, PAN2, PAN3, PCGF5, PDCD2, PDE2A, PDGFRB, PDLIM1, PDP2, PER1, PER3, PGAP1, PHF20L1, PHKA2, PIK3CA, PKHD1, PLXNA2, PNKD, POR, PPP1R1B, PPP1R9A, PPP2R1A, PRPF19, PRPF6, PSMD1, PSMD2, PTBP2, RABEPK, RABGAP1L, RAI14, RALGPS2, RB1CC1, RBBP5, RBBP7, RCL1, RHBDD1, RICTOR, ROCK1, RPA1, RPIA, SBF2, SCAPER, SECISBP2L, SENP6, SESN3, SETDB2, SLC1A4, SLC20A1, SLC20A2, SLC2A2, SLC2A9, SLC35B3, SLC39A10, SLC39A8, SLC9A3R1, SMAD7, SNRNP200, SNX10, SOD2, SPARC, SPON2, SPOP, SPTBN1, SPTBN2, STARD7, STK24, STK40, STOM, STT3B, STX8, STXBP3, SYNE1, TBC1D20, TBRG4, TEP1, TIGD2, TK1, TLCD4, TLE1, TMEM126A, TMEM51, TNFAIP2, TOP1MT, TPI1, TPR, TPRG1L, TRIB3, TTC1, TUBB, TUBB6, TXNL1, UBE2F, UGP2, UGT2B10, UTP14A, UTRN, UXS1, VPS13A, ZCCHC24, ZFAND2B, ZKSCAN1, ZNF32, ABCB1, ABCB4, ABCG2, ABCG5, ABCG8, ACSL4, AHNK, AKAP11, ALAS1, ANXA7, ASP2, ATG4D, ATP1A1, ATP1B1, BAAT, BAP1, BMT, CAPN2, CBLB, CCT3, CCT7, CD47, CD4, CDH1, CDO1, CHD6, CNP, COL27A1, CPT1A, CTPS2, CTSH, DAZAP1, DDX60, DEK, DGKZ, DHX9, DICER1, DPK2A, DMD, DMTF1, D

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Endocrine System Disorders, Gastrointestinal Disease, Organismal Injury And Abnormalities	Pancreatic Mass	Pancreatic Mass	6.08E-04	-1.154	NAJC5,DPP4,DSP,E CHDC3,EGR1,EIF4E BP1,ERBB3,F3,FAM1 02A,FBXO31,FGFR2, FGG,FOXO3,FPGS,G NA12,GPD2,GYG1,H ECA,HECTD3,HMG2 0B,HMGCR,HNRNPD ,HOOK1,HRAS,ICK,I D2,ID4,IL18,IRS1,JA K2,JMJD1C,KDM6A, KIAA0100,KITLG,KP NB1,LARS2,LGALS4, LPIN1,LRIG1,LRRC3, MAP2K3,MEF2A,MIA 2,MKNK2,MLLT10,M PDZ,MRPL20,MRPL4 4,MYO5B,NET1,NFK BIA,NINJ1,NME1,NRI P1,NUP88,OSBPL1A, PALMD,PAN3,PAQR 9,PDGFC,PDGFRB,P DPK1,PER1,PER3,P ES1,PEX6,PIK3AP1, PIK3CA,PKHD1,PLX NA2,POLE4,POR,PP M1A,PPP1R14B,PPP 1R1B,PPP1R3B,PRP S1,PSEN2,PSMD1,P SMD2,PSME2,RAN,R HOD,RICTOR,RPA1, SARS1,SCARB2,SER PINH1,SGK2,SHMT1, SHPRH,SMAD7,SOA T2,SOD2,SPARC,SP TBN1,STIP1,STK24,S TK40,SYNE1,SYT1,T CIM,TEP1,TPI1,TPR, TUBB6,TUT4,UBE2F, UBR1,UBXN1,UGT2B 10,UNG,UROC1,VPS 13A AASDH,ABCB4,ABC G2,ABTB2,ACAT2,A CLY,ACSM5,ADH4,A HNAK,AKAP11,AKAP 9,ALG13,ANKRD12,A NP32A,BAP1,BRD8, C9orf152,CAMKK2,C APN2,CBLB,CCDC66 ,CDH1,CDH2,CHD6, COL5A3,CUL4B,CYL D,CYP4F2,DCTN1,D HX9,DIAPH2,DMD,D OCK4,DPP4,E2F5,E CHDC3,EGR1,EIF1A X,ERBB3,ESRRA,EX OC6,F11,F3,FGA,FG FR2,FMO1,FTSJ3,GA S2L3,GCLC,GOLGB1 ,GRHPR,HERC4,HM GCR,HNRNPC,HRAS	140
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					,IL18,IRF6,JAK2,KDM 6A,KEAP1,KIAA0100, KLF12,KLF9,LGR5,LI N7A,LMNA,LRIG1,LS M14B,LSS,MAGI3,MI A2,MKNK2,MPDZ,MR PL24,MRPS27,MYO1 B,MYO5B,NAGK,NC OA1,NGEF,NINJ1,NI PBL,NPC1,NR5A2,P AN2,PAQR9,PCDH1, PDGFRB,PHKA2,PIK 3CA,PKHD1,PLXNA2 ,POR,PPP1R9A,PPP 2R1A,PRPF6,PRPS1, PSMD1,PSMD11,PS MF1,PXMP4,RAB11F IP2,RB1CC1,RBBP5, RHOD,RPA1,SBF2,S CAPER,SEC63,SERP INE2,SERPINH1,SET DB2,SHMT1,SHPRH, SLC20A2,SLC2A5,SL C2A9,SLC35B1,SLC9 A3R1,SMAD7,SNX10 ,SPTBN1,ST3GAL4,S TARD7,SYNE1,TEP1, TEX2,TMEM126A,TN RC6A,TOP1MT,TRIB 3,TUBB6,TUBGCP2, TXNL1,UGP2,UROD, UTRN,WNT5B,ZFAN D2B,ZNF654	
Cancer,Endocrine System Disorders,Gastrointe stinal Disease,Organismal Injury And Abnormalities	Pancreatic Tumor	Pancreatic Tumor	8.25E-04	-1.154	AASDH,ABCB4,ABC G2,ABTB2,ACAT2,A CLY,ACSM5,ADH4,A HNAK,AKAP11,AKAP 9,ALG13,ANKRD12,A NP32A,BAP1,BRD8, C9orf152,CAMKK2,C APN2,CBLB,CCDC66 ,CDH1,CDH2,CHD6, COL5A3,CUL4B,CYL D,CYP4F2,DCTN1,D HX9,DIAPH2,DMD,D OCK4,DPP4,E2F5,E CHDC3,EGR1,EIF1A X,ERBB3,ESRRA,EX OC6,F11,F3,FGA,FG FR2,FMO1,FTSJ3,GA S2L3,GCLC,GOLGB1 ,GRHPR,HERC4,HM GCR,HNRNPC,HRAS ,IL18,IRF6,JAK2,KDM 6A,KEAP1,KIAA0100, KLF12,KLF9,LGR5,LI N7A,LMNA,LRIG1,LS M14B,LSS,MAGI3,MI A2,MKNK2,MPDZ,MR PL24,MRPS27,MYO1 B,MYO5B,NAGK,NC OA1,NGEF,NINJ1,NI	139

					PBL,NPC1,NR5A2,P AN2,PAQR9,PCDH1, PDGFRB,PHKA2,PIK 3CA,PKHD1,PLXNA2 ,POR,PPP1R9A,PPP 2R1A,PRPF6,PRPS1, PSMD1,PSMD11,PS MF1,PXMP4,RAB11F IP2,RB1CC1,RBBP5, RHOD,RPA1,SBF2,S CAPER,SEC63,SERP INE2,SERPINH1,SET DB2,SHMT1,SHPRH, SLC20A2,SLC2A5,SL C2A9,SLC35B1,SLC9 A3R1,SNX10,SPTBN 1,ST3GAL4,STARD7, SYNE1,TEP1,TEX2,T MEM126A,TNRC6A,T OP1MT,TRIB3,TUBB 6,TUBGCP2,TXNL1, UGP2,UROD,UTRN, WNT5B,ZFAND2B,Z NF654	
Cancer,Organismal Injury And Abnormalities	Tumorigenesis	Tumorigenesis Of Tissue	6.34E-29	-1.156	AASDH,ABCB1,ABC B4,ABCG2,ABCG5,A BCG8,ABTB2,ACAD8 ,ACAT2,ACLY,ACOX 2,ACSL3,ACSL4,ACS L5,ACSM1,ACSM5,A CSS2,ACTR6,ADH4, AFG3L2,AGPAT2,AH CY,AHNAK,AHSA1,A KAP11,AKAP9,AKR1 D1,ALAS1,ALDH1L1, ALG13,AMDHD1,AN KRD12,ANP32A,ANX A7,ARF3,ARGLU1,A RHGAP18,ARHGAP2 1,ARHGAP6,ARIH2,A RL15,ARL4A,ARL6IP 4,ARSG,ASAP2,ASB 13,ATG3,ATG4D,ATP 1A1,ATP1B1,ATP6V1 D,ATXN2L,AUH,BAA T,BAP1,BDH1,BHMT, BHMT2,BID,BIK,BLM H,BRD8,BUD23,C11o rf54,C9orf152,C9orf1 6,CA3,CAMKK2,CAP N2,CARS1,CBLB,CC BE1,CCDC66,CCT3, CCT4,CCT5,CCT6A, CCT7,CD2AP,CD47, CD9,CD99L2,CDA,C DC14B,CDH1,CDH2, CDO1,CEBPD,CENP V,CES1,CGN,CHCH D3,CHCHD4,CHD6,C HPT1,CHRA1,CIB3, CITED2,CLDND1,CL K2,CLMN,CLOCK,CM	585

TM6,CMTM8,CNN3,C
NOT4,CNOT6,CNP,C
OL27A1,COL5A3,CO
RO1B,CPEB4,CPT1A
,CRIP2,CRLS1,CROT
,CS,CSRNP1,CTDSP
1,CTPS2,CTSH,CUL4
B,CXADR,CYB5B,CY
LD,CYP2U1,CYP39A
1,CYP4F2,CYP7A1,C
YTH1,DAZAP1,DCTN
1,DDC,DDX60,DEK,D
GKZ,DHX9,DIAPH2,D
ICER1,DIO1,DIPK2A,
DIXDC1,DMD,DMTF1
,DNAJB1,DNAJC5,D
OCK4,DPP4,DPP9,D
SP,DSTN,DTYMK,DU
SP19,DVL1,E2F5,EC
HDC1,ECHDC3,EEP
D1,EFHD2,EGR1,EIF
1AX,EIF4EBP1,ELF1,
ENDOG,ENPP1,ERB
B3,ESRRA,EXOC6,E
XOSC2,EXTL2,F11,F
2R,F3,FADS2,FAM10
2A,FAM118B,FAM16
0B1,FAM172A,FAM7
6B,FAM89A,FBXO31,
FBXO9,FECH,FGA,F
GB,FGFR2,FGFRL1,
FGG,FH,FKBP4,FLC
N,FMO1,FMO5,FOXK
1,FOXO3,FPGS,FTSJ
3,G6PD,GAS2L3,GC
AT,GCLC,GCNT2,GD
A,GNA12,GNG12,GO
LGB1,GPD2,GPN1,G
RHPR,GSDMD,GSK3
A,GSS,GSTM2,GTF2
A2,GTF2F1,GTF3C2,
GYG1,HECA,HECTD
3,HERC4,HLF,HMG2
0B,HMGCR,HNRNPC
,HNRNPD,HOMER2,
HOOK1,HRAS,HSD1
7B2,HSD3B7,HSPB1,
ICK,ID2,ID4,IGFBP2,I
L18,ING4,IRF6,IRS1,I
TPA,ITPK1,JAK2,JMJ
D1C,KAT2B,KCMF1,
KDM6A,KEAP1,KHK,
KIAA0100,KITLG,KLF
12,KLF9,KLHDC2,KL
HL21,KLHL7,KPNB1,
KTN1,KYNU,L2HGD
H,LARS2,LGALS4,LG
R5,LIN7A,LIN7C,LITA
F,LMNA,LPIN1,LRIG1
,LRP12,LRRC28,LRR
C3,LSM14B,LSS,LTB
R,MACROH2A1,MAG

ED1,MAGI3,MAP1LC
3B,MAP2K3,MAP3K7
,MBNL2,MCOLN1,ME
F2A,MIA2,MKNK2,ML
LT10,MLX,MMD,MOC
OS,MON2,MPDZ,MP
P1,MPRIIP,MRNIP,M
RPL12,MRPL20,MRP
L24,MRPL44,MRPS2
2,MRPS25,MRPS27,
MRPS9,MT1F,MYO1
B,MYO5B,MYO6,N4B
P2,N4BP2L1,NAGK,N
CALD,NCOA1,NDUF
A12,NDUFA9,NDUFB
9,NEK7,NET1,NFKBI
A,NGEF,NHLRC2,NI
NJ1,NIPBL,NME1,NO
SIP,NPC1,NR1H4,NR
2F6,NR3C2,NR5A2,N
RIP1,NT5C,NUDT1,N
UDT19,NUDT7,NUP6
2,NUP88,NUS1,OAZ1
,OSBPL1A,OTUD6B,
OXR1,PALMD,PAN2,
PAN3,PAQR9,PCDH
1,PCGF5,PDCD2,PD
E2A,PDE9A,PDGFC,
PDGFRB,PDLIM1,PD
P2,PDPK1,PDRG1,P
ER1,PER3,PES1,PE
X26,PEX6,PFDN2,PF
KFB1,PGAP1,PHF20
L1,PHKA2,PIK3AP1,
PIK3CA,PKHD1,PLD
1,PLXNA2,PMPCA,P
NKD,PNRC1,POLE4,
POR,PPIF,PPM1A,P
POX,PPP1R12A,PPP
1R14B,PPP1R1B,PP
P1R3B,PPP1R9A,PP
P2R1A,PRDX6,PRPF
19,PRPF39,PRPF6,P
RPS1,PRPS2,PSEN2
,PSMA6,PSMD1,PSM
D11,PSMD2,PSMD8,
PSME2,PSMG1,PSP
C1,PSPH,PTBP1,PT
BP2,PXMP4,QDPR,R
AB11FIP2,RAB1B,RA
BEPK,RABGAP1L,RA
I14,RALGPS2,RAN,R
ASA3,RASSF3,RB1C
C1,RBBP5,RBBP7,R
BKS,RCAN1,RCL1,R
EPIN1,RGS2,RHBDD
1,RHOD,RICTOR,RN
F14,RNF144A,RNF16
7,ROCK1,RPA1,RPIA
,RUFY3,SAA4,SAR1
B,SARS1,SBF2,SCA
PER,SCARB2,SCYL1

Gastrointestinal
Disease,Organismal
Injury And
Abnormalities

Colorectal
Disorder

Colorectal
Disorder

3.45E-07

-1.159

,SDC4,SDR42E1,SE
C63,SECISBP2L,SEN
P6,SERPINA6,SERPI
NE2,SERPINH1,SES
N3,SETDB2,SFRP5,S
GK2,SGTB,SH3D19,
SHMT1,SHPRH,SIRT
5,SLC10A1,SLC16A5
,SLC1A4,SLC20A1,S
LC20A2,SLC25A32,S
LC27A2,SLC2A2,SLC
2A5,SLC2A9,SLC30A
10,SLC35A3,SLC35B
1,SLC35B3,SLC38A2
,SLC39A10,SLC39A8
,SLC6A12,SLC9A3R1
,SLK,SMAD7,SMAP1,
SNAPC2,SNRNP200,
SNTB1,SNX10,SNX5,
SNX9,SOAT2,SOD2,
SPARC,SPG21,SPO
N2,SPOP,SPTBN1,S
PTBN2,ST3GAL4,ST
ARD7,STIP1,STK24,
STK40,STOM,STT3B,
STX18,STX8,STXBP
3,SULF2,SUMF1,SYA
P1,SYNE1,SYT1,TBC
1D16,TBC1D20,TBC1
D24,TBRG4,TCIM,TC
P1,TEP1,TEX2,THAP
4,THRSP,TIFA,TIGD2
,TIMM10,TIMM44,TK
1,TLCD4,TLE1,TMBI
M1,TMEM126A,TME
M219,TMEM41A,TME
M41B,TMEM51,TME
M62,TMEM97,TNFAI
P2,TNFAIP8L1,TNRC
6A,TOP1MT,TPI1,TP
R,TPRG1L,TPRKB,T
RIB3,TRMT1,TSN,TS
PAN33,TSTA3,TTC1,
TTC19,TUBB,TUBB6,
TUBGCP2,TXN2,TXN
L1,UBAC1,UBE2F,UB
E2L3,UBR1,UBTF,UB
XN1,UBXN6,UCK1,U
GP2,UGT2B10,ULK1,
UNG,UPP2,UROC1,U
ROD,USP47,UTP14A
,UTRN,UXS1,VPS13
A,WDR18,WDR26,W
DR81,WIP1,WNT5B,
YPEL3,YWHAH,ZCC
HC24,ZFAND2B,ZKS
CAN1,ZNF23,ZNF32,
ZNF326,ZNF654
AASDH,ABCB1,ABC
G2,ABCG5,ACLY,AC
OX2,ACSL5,ACSS2,
ACTR6,AFG3L2,AGP

278

AT2,AHCY,AHNAK,A
KAP9,ALAS1,ALDH1
L1,ALG13,ANXA7,AR
HGAP21,ARL6IP4,AS
AP2,ASB13,ATG3,AT
G4D,ATP1B1,ATXN2
L,BAAT,BAP1,BID,C1
orf54,C9orf152,C9orf16,
CARS1,CCDC66,
CCT4,CCT5,CCT7,C
D2AP,CD47,CD9,CD
99L2,CDH1,CDH2,C
DO1,CEBPD,CES1,C
GN,CHCHD3,CHD6,
CHPT1,CHRA1,CL
DND1,CLK2,CLMN,C
LOCK,CMTM6,CNOT
4,CNP,COL27A1,CO
L5A3,CPEB4,CPT1A,
CS,CTDSP1,CTPS2,
CUL4B,CYLD,CYP4F
2,DCTN1,DDX60,DG
KZ,DHX9,DICER1,D
MD,DMTF1,DOCK4,D
STN,EGR1,EIF4EBP
1,ELF1,ERBB3,ESRR
A,F2R,F3,FAM160B1,
FECH,FGA,FGB,FGF
R2,FGG,FLCN,FMO1
,FMO5,FOXO3,FPGS
,G6PD,GAS2L3,GNA
12,GNG12,GSS,GTF
2F1,HECA,HECTD3,
HMGCR,HNRNPC,H
RAS,HSD17B2,HSPB
1,ICK,ID2,IGFBP2,IL1
8,ING4,IRF6,IRS1,JA
K2,JMJD1C,KAT2B,K
DM6A,KEAP1,KIAA0
100,KITLG,KLF12,KL
HL7,KPNB1,KTN1,LG
ALS4,LGR5,LIN7A,L
RIG1,LRP12,LRR3,
LTBR,MACROH2A1,
MAGED1,MAP3K7,M
EF2A,MIA2,MKNK2,
MLLT10,MLX,MON2,
MPDZ,MPRIIP,MRNIP
,MRPS9,MT1F,MYO5
B,MYO6,NCOA1,NEK
7,NET1,NFKBIA,NGE
F,NHLRC2,NIPBL,NM
E1,NOSIP,NR1H4,NR
3C2,NR5A2,NT5C,N
UDT19,NUDT7,NUP6
2,OAZ1,OSBPL1A,PA
QR9,PCDH1,PCGF5,
PDE9A,PDGFRB,PD
LIM1,PDP2,PDPK1,P
DRG1,PER1,PFDN2,
PGAP1,PHF20L1,PH
KA2,PIK3AP1,PIK3C

					A,PKHD1,PLD1,PLX NA2,PNKD,PNRC1,P OR,PPP1R14B,PPP1 R1B,PPP1R9A,PPP2 R1A,PRDX6,PRPF39, PRPF6,PSMD8,PTBP 1,QDPR,RABGAP1L, RASSF3,RB1CC1,RB BP5,RICTOR,ROCK1 ,RPA1,RUFY3,SAA4, SBF2,SCAPER,SCYL 1,SEC63,SECISBP2L ,SENP6,SERPINE2,S ESN3,SGK2,SHPRH, SLC1A4,SLC20A1,SL C20A2,SLC27A2,SLC 2A2,SLC2A5,SLC30A 10,SLC35B3,SLC38A 2,SLC39A10,SLC39A 8,SLC6A12,SMAD7,S MAP1,SNRNP200,SN X9,SOAT2,SOD2,SP ARC,SPOP,SPTBN1, SPTBN2,STIP1,STX8 ,SULF2,SYAP1,SYNE 1,SYT1,TBC1D16,TB C1D24,TBRG4,TCP1, TEP1,TIMM44,TK1,T MEM126A,TMEM41B ,TMEM97,TNRC6A,T OP1MT,TPI1,TPR,TR IB3,TSTA3,TTC1,TU BB,UBAC1,UBTF,UG P2,ULK1,UNG,UROC 1,UTRN,VPS13A,WD R18,WDR26,WDR81, WNT5B,ZCCHC24,Z NF23	
Cell-To-Cell Signaling And Interaction	Binding	Binding Of Tumor Cell Lines	5.02E-04	-1.215	ARHGAP21,CD47,CD 9,CDH1,CDH2,CXAD R,CYTH1,DPP4,DSP, EGR1,ERBB3,F2R,F3 ,FGA,FGFR2,HRAS,I L18,IRS1,JAK2,LGAL S4,LTBR,MYO6,NET 1,NFKBIA,NME1,NR1 H4,PLD1,RCAN1,TCI M,UTRN	30
Cancer,Organismal Injury And Abnormalities	Adenoma Formation	Adenoma	1.35E-05	-1.226	ABCB1,ABCG2,ATP1 A1,BHMT,BID,C9orf1 6,CDH1,CDH2,CEBP D,CLMN,EGR1,EIF4E BP1,ERBB3,FGFR2,F OXO3,GSK3A,HRAS, ICK,ID4,LRIG1,NR1H 4,NR3C2,NR5A2,NRI P1,NUDT1,OAZ1,OS BPL1A,PIK3CA,PRD X6,SLC30A10,SPOP, SPTBN1,TRIB3,UGP 2,UNG	35
Cancer,Organismal	Nonhematologi	Nonhematologi	1.38E-31	-1.303	AASDH,ABCB1,ABC	592

Injury And
Abnormalities

c Malignant
Neoplasm

c Malignant
Neoplasm

B4,ABCG2,ABCG5,A
BCG8,ABTB2,ACAD8
,ACAT2,ACLY,ACOX
2,ACSL3,ACSL4,ACS
L5,ACSM1,ACSM5,A
CSS2,ACTR6,ADH4,
AFG3L2,AGPAT2,AH
CY,AHNAK,AHSA1,A
KAP11,AKAP9,AKR1
D1,ALAS1,ALDH1L1,
ALG13,AMDHD1,AN
KRD12,ANP32A,ANX
A7,ARF3,ARGLU1,A
RHGAP18,ARHGAP2
1,ARHGAP6,ARIH2,A
RL15,ARL4A,ARL6IP
4,ARSG,ASAP2,ASB
13,ATG3,ATG4D,ATP
1A1,ATP1B1,ATP6V1
D,ATXN2L,AUH,BAA
T,BAP1,BDH1,BHMT,
BHMT2,BID,BIK,BLM
H,BRD8,BUD23,C11o
rf54,C9orf152,C9orf1
6,CA3,CAMKK2,CAP
N2,CARS1,CBLB,CC
BE1,CCDC66,CCT3,
CCT4,CCT5,CCT6A,
CCT7,CD2AP,CD47,
CD9,CD99L2,CDA,C
DC14B,CDH1,CDH2,
CDO1,CEBPD,CENP
V,CES1,CGN,CHCH
D3,CHCHD4,CHD6,C
HPT1,CHRA1,CIB3,
CITED2,CLDND1,CL
K2,CLMN,CLOCK,CL
TA,CMTM6,CMTM8,
CNN3,CNOT4,CNOT
6,CNP,COL27A1,CO
L5A3,CORO1B,CPEB
4,CPT1A,CRIP2,CRL
S1,CROT,CS,CSRNP
1,CTDSP1,CTPS2,CT
SH,CUL4B,CXADR,C
YB5B,CYLD,CYP2U1
,CYP39A1,CYP4F2,C
YP7A1,CYTH1,DAZA
P1,DCTN1,DDC,DDX
60,DEK,DGKZ,DHX9,
DIAPH2,DICER1,DIO
1,DIPK2A,DIXDC1,D
MD,DMTF1,DNAJB1,
DNAJC5,DOCK4,DP
P4,DPP9,DSP,DSTN,
DTYMK,DUSP19,DVL
1,E2F5,ECHDC1,EC
HDC3,EEPD1,EFHD2
,EGR1,EIF1AX,EIF4E
BP1,ELF1,ENDOG,E
NPP1,ERBB3,ESRRA
,EXOC6,EXOSC2,EX

TL2,F11,F2R,F3,FAD
S2,FAM102A,FAM11
8B,FAM160B1,FAM1
72A,FAM76B,FAM89
A,FBXO31,FBXO9,FE
CH,FGA,FGB,FGFR2
,FGFRL1,FGG,FH,FK
BP4,FLCN,FMO1,FM
O5,FOXK1,FOXO3,F
PGS,FTSJ3,G6PD,G
ABARAP,GAS2L3,GC
AT,GCLC,GCNT2,GD
A,GNA12,GNG12,GO
LGB1,GPD2,GPN1,G
RHPR,GSDMD,GSK3
A,GSS,GSTM2,GTF2
A2,GTF2F1,GTF3C2,
GYG1,HECA,HECTD
3,HERC4,HLF,HMG2
0B,HMGCR,HNRNPC
,HNRNPD,HOMER2,
HOOK1,HRAS,HSD1
7B2,HSD3B7,HSPB1,
ICK,ID2,ID4,IGFBP2,I
L18,ING4,IRF6,IRS1,I
TPA,ITPK1,JAK2,JMJ
D1C,KAT2B,KCMF1,
KDM6A,KEAP1,KHK,
KIAA0100,KITLG,KLF
12,KLF9,KLHDC2,KL
HL21,KLHL7,KPNB1,
KTN1,KYNU,L2HGD
H,LARS2,LGALS4,LG
R5,LIN7A,LIN7C,LITA
F,LMNA,LPIN1,LRIG1
,LRP12,LRRC28,LRR
C3,LSM14B,LSS,LTB
R,MACROH2A1,MAG
ED1,MAGI3,MAP1LC
3B,MAP2K3,MAP3K7
,MBNL2,MCOLN1,ME
F2A,MIA2,MKNK2,ML
LT10,MLX,MMD,MOC
OS,MON2,MPDZ,MP
P1,MPRIIP,MRNIP,M
RPL12,MRPL20,MRP
L24,MRPL44,MRPS2
2,MRPS25,MRPS27,
MRPS9,MT1F,MYO1
B,MYO5B,MYO6,N4B
P2,N4BP2L1,NAGK,N
CALD,NCOA1,NDUF
A12,NDUFA9,NDUFB
9,NEK7,NET1,NFKBI
A,NGEF,NHLRC2,NI
CN1,NINJ1,NIPBL,N
ME1,NOP10,NOSIP,
NPC1,NR1H4,NR2F6
,NR3C2,NR5A2,NRIP
1,NT5C,NUDT1,NUD
T19,NUDT7,NUP62,N
UP88,NUS1,OAZ1,O

SBPL1A,OTUD6B,OX
R1,PALMD,PAN2,PA
N3,PAQR9,PCDH1,P
CGF5,PDCD2,PDE2A
,PDE9A,PDGFC,PDG
FRB,PDLIM1,PDP2,P
DPK1,PDRG1,PER1,
PER3,PES1,PEX26,P
EX6,PFDN2,PFKFB1,
PGAP1,PHF20L1,PH
KA2,PIK3AP1,PIK3C
A,PKHD1,PLD1,PLX
NA2,PMPCA,PNKD,P
NRC1,POR,PPIF,PP
M1A,PPOX,PPP1R12
A,PPP1R14B,PPP1R
1B,PPP1R3B,PPP1R
9A,PPP2R1A,PRDX6,
PRPF19,PRPF39,PR
PF6,PRPS1,PRPS2,P
SEN2,PSMA6,PSMD
1,PSMD11,PSMD2,P
SMD8,PSME2,PSMG
1,PSPC1,PSPH,PTB
P1,PTBP2,PXMP4,Q
DPR,RAB11FIP2,RA
B1B,RABEPK,RABG
AP1L,RAI14,RALGPS
2,RAN,RASA3,RASS
F3,RB1CC1,RBBP5,
RBBP7,RBKS,RCAN
1,RCL1,REPIN1,RGS
2,RHBDD1,RHOD,RI
CTOR,RNF14,RNF14
4A,RNF167,ROCK1,
RPA1,RPIA,RUFY3,S
AA4,SAR1B,SARS1,
SBF2,SCAPER,SCA
RB2,SCGN,SCOC,S
CYL1,SDC4,SDR42E
1,SEC63,SECISBP2L
,SENP6,SERPINA6,S
ERPINE2,SERPINH1,
SESN3,SETDB2,SFR
P5,SGK2,SGTB,SH3
BGRL2,SH3D19,SHM
T1,SHPRH,SIRT5,SL
C10A1,SLC16A5,SLC
1A4,SLC20A1,SLC20
A2,SLC25A32,SLC27
A2,SLC2A2,SLC2A5,
SLC2A9,SLC30A10,S
LC35A3,SLC35B1,SL
C35B3,SLC38A2,SLC
39A10,SLC39A8,SLC
6A12,SLC9A3R1,SLK
,SMAD7,SMAP1,SNA
PC2,SNRNP200,SNT
B1,SNX10,SNX5,SNX
9,SOAT2,SOD2,SPA
RC,SPG21,SPON2,S
POP,SPTBN1,SPTBN

Cancer,Organismal Injury And Abnormalities	Pelvic Tumor	Pelvic Tumor	1.54E-09	-1.311	2,ST3GAL4,STARD4, STARD7,STIP1,STK2 4,STK40,STOM,STT3 B,STX18,STX8,STXB P3,SULF2,SUMF1,SY AP1,SYNE1,SYT1,TB C1D16,TBC1D20,TB C1D24,TBRG4,TCIM, TCP1,TEP1,TEX2,TH AP4,THRSP,TIFA,TI GD2,TIMM10,TIMM4 4,TK1,TLCD4,TLE1,T MBIM1,TMEM126A,T MEM219,TMEM41A,T MEM41B,TMEM51,T MEM62,TMEM97,TN FAIP2,TNFAIP8L1,TN RC6A,TOP1MT,TPI1, TPR,TPRG1L,TPRKB ,TRIB3,TRMT1,TSN,T SPAN33,TSTA3,TTC 1,TTC19,TUBB,TUBB 6,TUBGCP2,TXN2,T XNL1,UBAC1,UBE2F, UBE2L3,UBR1,UBTF, UBXN1,UBXN6,UCK1 ,UGP2,UGT2B10,UL K1,UNG,UPP2,UROC 1,UROD,USP47,UTP 14A,UTRN,UXS1,VP S13A,WDR18,WDR2 6,WDR81,WIP1,WNT 5B,YPEL3,YWHAH,Z CCHC24,ZFAND2B,Z KSCAN1,ZNF23,ZNF 32,ZNF326,ZNF654 ABCB1,ABCB4,ABC G2,ABCG5,ACAD8,A CLY,ACOX2,ACSL3, ACSL4,ACSM1,ACSS 2,AFG3L2,AGPAT2,A HNAK,AKAP11,AKAP 9,ALAS1,ALDH1L1,A LG13,ANKRD12,ARH GAP18,ARHGAP21,A RHGAP6,ARIH2,ARL 15,ASAP2,ATP1A1,A TP6V1D,ATXN2L,AU H,BAAT,BAP1,BDH1, BIK,BRD8,C11orf54, CA3,CAPN2,CARS1, CBLB,CCDC66,CCT5 ,CCT6A,CD2AP,CD4 7,CD99L2,CDA,CDH1 ,CDH2,CDO1,CES1, CGN,CHD6,CLDND1, CLK2,CLMN,CMTM8, CNOT4,CNOT6,CNP, COL5A3,CPEB4,CPT 1A,CROT,CS,CSRNP 1,CTSH,CXADR,CYP 4F2,CYP7A1,CYTH1,	348
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DAZAP1,DCTN1,DD
C,DDX60,DGKZ,DHX
9,DIAPH2,DICER1,DI
O1,DIPK2A,DIXDC1,
DMD,DOCK4,DPP4,D
PP9,DSP,DSTN,DVL
1,EFHD2,EGR1,EIF1
AX,EIF4EBP1,ELF1,E
NPP1,ERBB3,ESRRA
,EXOC6,F11,F2R,F3,
FAM160B1,FAM172A
,FAM89A,FECH,FGA,
FGFR2,FGFRL1,FGG
,FH,FKBP4,FLCN,FO
XK1,FOXO3,GDA,GN
A12,GOLGB1,GPD2,
GRHPR,GSDMD,GS
K3A,GSTM2,GTF2A2
,GTF2F1,GYG1,HEC
A,HECTD3,HLF,HMG
CR,HRAS,HSD3B7,H
SPB1,ICK,ID2,IGFBP
2,IL18,ING4,IRF6,IRS
1,ITPA,JAK2,JMJD1C
,KAT2B,KCMF1,KDM
6A,KEAP1,KIAA0100,
KLF9,KLHDC2,KTN1,
KYNU,L2HGDH,LAR
S2,LGALS4,LGR5,LI
N7C,LITAF,LMNA,LPI
N1,LRIG1,LRP12,LR
RC28,LSM14B,LSS,L
TBR,MACROH2A1,M
AGED1,MAGI3,MBNL
2,MCOLN1,MEF2A,M
IA2,MKNK2,MLLT10,
MLX,MMD,MOCOS,M
ON2,MPDZ,MPRIP,M
RPL44,MRPS22,MRP
S25,MRPS27,MYO1B
,MYO5B,MYO6,N4BP
2,NAGK,NCOA1,NDU
FA9,NEK7,NFKBIA,N
HLRC2,NINJ1,NIPBL,
NME1,NOSIP,NPC1,
NR2F6,NR3C2,NR5A
2,NRIP1,NUDT7,NUP
62,NUP88,OAZ1,OSB
PL1A,OTUD6B,OXR1
,PALMD,PAN3,PCDH
1,PCGF5,PDCD2,PD
E2A,PDE9A,PDGFRB
,PDLIM1,PDP2,PDPK
1,PDRG1,PER1,PER
3,PEX6,PGAP1,PHF2
0L1,PHKA2,PIK3CA,
PKHD1,PLD1,PLXNA
2,PNRC1,POR,PPIF,
PPP1R1B,PPP1R3B,
PPP1R9A,PPP2R1A,
PRPF6,PSEN2,PSMA
6,PSMD1,PSMD2,PT

					BP1,PTBP2,PXMP4, RAB11FIP2,RABEPK, RABGAP1L,RALGPS 2,RB1CC1,RBBP5,R BBP7,RCAN1,RCL1, REPIN1,RGS2,RHOD ,RICTOR,RNF144A,R OCK1,RPIA,SBF2,SC APER,SCARB2,SCYL 1,SDC4,SDR42E1,SE C63,SECISBP2L,SEN P6,SERPINA6,SERPI NE2,SESN3,SETDB2 ,SHPRH,SIRT5,SLC1 6A5,SLC1A4,SLC20A 1,SLC20A2,SLC25A3 2,SLC2A2,SLC2A5,S LC38A2,SLC39A10,S LC6A12,SLK,SMAP1, SNRNP200,SNX10,S OD2,SPARC,SPOP,S PTBN1,SPTBN2,ST3 GAL4,STARD7,STK2 4,STK40,STOM,STT3 B,STX8,STXBP3,SUL F2,SYNE1,TBC1D16, TBC1D20,TBC1D24, TEP1,TEX2,TIGD2,T K1,TLE1,TMEM126A, TNFAIP2,TNRC6A,T OP1MT,TPI1,TPR,TP RG1L,TRIB3,TRMT1, TSPAN33,TTC1,TUB B,TXNL1,UBAC1,UB E2F,UBR1,UGP2,UG T2B10,UROC1,URO D,USP47,UTRN,UXS 1,VPS13A,WIP12,WN T5B,YPEL3,ZCCHC2 4,ZFAND2B,ZKSCAN 1,ZNF23,ZNF32,ZNF 654	
Cancer,Cellular Development,Cellul ar Growth And Proliferation,Organis mal Injury And Abnormalities,Tumo r Morphology	Proliferation	Proliferation Of Cancer Cells	1.18E-03	-1.325	ABCG2,AHCY,BIK,C DH1,DICER1,DOCK4 ,EGR1,EIF4EBP1,ER BB3,F2R,FOXO3,HM GCR,HRAS,ID2,IL18,I RS1,KITLG,LITAF,PD PK1,PLD1,RB1CC1,R CAN1,TLE1,ULK1	24
Cell Cycle,Cell-To-Cell Signaling And Interaction,Cellular Growth And Proliferation	Contact Growth Inhibition	Contact Growth Inhibition	8.28E-04	-1.345	ABCG2,CDH1,EGR1, ERBB3,FOXO3,HRA S,ING4,JAK2,NME1, PER1,PRKAR2A,RH OD,SMAD7,TIFA	14
Cancer,Organismal Injury And Abnormalities	Development	Development Of Malignant Tumor	3.96E-11	-1.356	AASDH,ABCB1,ABC B4,ABCG5,ACAD8,A CLY,ACOX2,ACSL3, ACSL4,ACSM1,ACSS 2,ACTR6,AFG3L2,AG PAT2,AHNAK,AKAP1 1,AKAP9,ALAS1,ALD	386

H1L1,ALG13,ANKRD
12,ANP32A,ANXA7,A
RHGAP21,ARHGAP6
,ARIH2,ARL15,ARL6I
P4,ASAP2,ASB13,AT
G3,ATG4D,ATXN2L,
AUH,BAAT,BAP1,BD
H1,BHMT,BRD8,BUD
23,C11orf54,C9orf152
,CAPN2,CARS1,CBL
B,CCDC66,CCT3,CC
T5,CCT6A,CCT7,CD2
AP,CD47,CD9,CD99L
2,CDC14B,CDH1,CD
H2,CDO1,CES1,CGN
,CHCHD3,CHD6,CHP
T1,CHRA1,CLDND1
,CLK2,CLMN,CLOCK,
CMTM6,CMTM8,CNO
T4,CNOT6,CNP,COL
27A1,COL5A3,CPEB
4,CPT1A,CS,CTDSP
1,CTPS2,CUL4B,CXA
DR,CYLD,CYP4F2,C
YP7A1,DAZAP1,DCT
N1,DDX60,DEK,DGK
Z,DHX9,DIAPH2,DIC
ER1,DIO1,DIPK2A,DI
XDC1,DMD,DMTF1,D
OCK4,DPP4,DPP9,D
SP,DSTN,DUSP19,E
2F5,EGR1,EIF1AX,E
LF1,ERBB3,ESRRA,
EXOC6,EXTL2,F11,F
2R,F3,FAM102A,FAM
160B1,FAM172A,FEC
H,FGA,FGB,FGFR2,F
GG,FH,FLCN,FMO1,
FMO5,FOXO3,FTSJ3
,G6PD,GAS2L3,GNA
12,GNG12,GOLGB1,
GPD2,GRHPR,GSK3
A,GSS,GSTM2,GTF2
F1,GTF3C2,GYG1,H
ECA,HECTD3,HERC
4,HMGCR,HNRNPC,
HRAS,HSPB1,ICK,ID
2,IGFBP2,IL18,ING4,I
RF6,IRS1,ITPA,JAK2,
JMJD1C,KAT2B,KCM
F1,KDM6A,KEAP1,KI
AA0100,KITLG,KLF1
2,KLHL7,KPNB1,KTN
1,KYNU,L2HGDH,LG
R5,LIN7A,LMNA,LRI
G1,LRP12,LRRC28,L
RRC3,LSM14B,LTBR
,MAGED1,MAGI3,MA
P2K3,MAP3K7,MBNL
2,MCOLN1,MEF2A,M
IA2,MKNK2,MLLT10,
MLX,MOCOS,MON2,

MPDZ,MPP1,MPRI,
MRNIP,MRPL44,MRP
S22,MRPS27,MRPS9
,MYO1B,MYO5B,MY
O6,N4BP2L1,NCOA1,
NDUFA9,NEK7,NET1
,NFKBIA,NGEF,NHL
RC2,NINJ1,NIPBL,N
ME1,NOSIP,NPC1,N
R1H4,NR2F6,NR3C2,
NRIP1,NUDT1,NUDT
19,NUDT7,NUP62,N
UP88,OAZ1,OSBPL1
A,OXR1,PALMD,PAN
2,PAN3,PAQR9,PCD
H1,PCGF5,PDCD2,P
DE2A,PDE9A,PDGF
C,PDGFRB,PDLIM1,
PDP2,PDPK1,PER1,
PER3,PFDN2,PGAP1
,PHF20L1,PHKA2,PI
K3AP1,PIK3CA,PKH
D1,PLD1,PLXNA2,P
MPCA,PNKD,PNRC1,
POR,PPP1R14B,PPP
1R1B,PPP1R9A,PPP
2R1A,PRPF19,PRPF
39,PRPF6,PSMD1,P
SMD2,PSMD8,PTBP
1,PTBP2,QDPR,RAB
EPK,RABGAP1L,RAI
14,RALGPS2,RASSF
3,RB1CC1,RBBP5,R
BBP7,RCL1,RHBDD1
,RICTOR,ROCK1,RP
A1,RPIA,RUFY3,SAA
4,SARS1,SBF2,SCAP
ER,SCARB2,SCYL1,
SDC4,SEC63,SECIS
BP2L,SENP6,SERPI
NE2,SERPINH1,SES
N3,SETDB2,SGTB,S
HPRH,SLC1A4,SLC2
0A1,SLC20A2,SLC2A
2,SLC2A9,SLC35B3,
SLC38A2,SLC39A10,
SLC39A8,SLC6A12,S
LC9A3R1,SMAD7,SM
AP1,SNRNP200,SNT
B1,SNX10,SNX9,SO
AT2,SOD2,SPARC,S
PON2,SPOP,SPTBN
1,SPTBN2,STARD7,S
TIP1,STK24,STK40,S
TOM,STT3B,STX8,S
TXBP3,SULF2,SYAP
1,SYNE1,SYT1,TBC1
D16,TBC1D20,TBC1
D24,TBRG4,TCP1,TE
P1,TEX2,TIGD2,TIM
M44,TK1,TLCD4,TLE
1,TMEM126A,TMEM4

					1B,TMEM51,TMEM97,TNFAIP2,TNRC6A,TOP1MT,TPI1,TPR,TPRG1L,TRIB3,TTC1,TUBB,TUBB6,TXNL1,UBAC1,UBE2F,UBTF,UGP2,UGT2B10,ULK1,UNG,UROC1,UTP14A,UTRN,UXS1,VP S13A,WDR18,WDR26,WDR81,WIP1,WNT5B,ZCCHC24,ZFAND2B,ZKSCAN1,ZNF32	
Carbohydrate Metabolism,Molecular Transport	Transport	Transport Of Carbohydrate	1.45E-07	-1.357	ABCB1,ABCB4,DGKZ,ENPP1,ERBB3,GSK3A,IRS1,MAP2K3,MEF2A,NPC1,OGA,PDGFRB,PDPK1,PGAP1,PIK3CA,PPP1R3B,REPIN1,ROCK1,SLC2A2,SLC2A5,SLC2A9,SLC35A3,STXBP3,T	24
Lipid Metabolism,Small Molecule Biochemistry,Vitamin And Mineral Metabolism	Metabolism	Steroid Metabolism	1.56E-05	-1.362	RIB3 ABCG5,ABCG8,ACAT2,ACLY,AKR1D1,BAT,CES1,CYP39A1,CYP7A1,ELOVL6,FECHE,G6PD,HMGCR,HS	25
Cancer,Organismal Injury And Abnormalities,Reproductive System Disease	Genital Tumor	Genital Tumor	9.74E-10	-1.363	D17B2,HSD3B7,KPNB1,LSS,NPC1,NR1H4,NR5A2,POR,RAN,SERPINA6,SOAT2,YWHAH ABCB1,ABCB4,ABCG2,ABCG5,ACAD8,ACLY,ACOX2,ACSL3,ACSL4,ACSM1,ACSS2,AGPAT2,AHNAK,AKAP11,AKAP9,ALAS1,ALDH1L1,ALG13,ANKRD12,ARHGAP18,ARHGAP21,ARHGAP6,ARIH2,ARL15,ASP2,ATP1A1,ATP6V1D,ATXN2L,AUH,BAA	331
					T,BAP1,BDH1,BIK,BLMH,BRD8,CA3,CAPN2,CBLB,CCT5,CCT6A,CD2AP,CD47,CD99L2,CDA,CDH1,CDH2,CDO1,CES1,CGN,CHD6,CLDND1,CLMN,CLTM8,CNOT4,CNOT6,CNP,COL5A3,CPEB4,CPT1A,CS,CSRNP1,CTSH,CXADR,CYP4F2,CYP7A1,CYTH1,DAZAP1,DCTN1,DDX60,DGKZ,DHX9,DIA	
					APH2,DICER1,DIO1,DIPK2A,DIXDC1,DM	
					D,DOCK4,DPP4,DPP	

9,DSP,DSTN,DVL1,E
FHD2,EGR1,EIF1AX,
EIF4EBP1,ELF1,ENP
P1,ERBB3,EXOC6,F1
1,F2R,F3,FAM160B1,
FAM172A,FAM89A,F
ECH,FGA,FGFR2,FG
FRL1,FGG,FH,FKBP
4,FLCN,FOXK1,FOX
O3,GDA,GNA12,GOL
GB1,GPD2,GRHPR,
GSDMD,GSK3A,GST
M2,GTF2A2,GYG1,H
ECA,HECTD3,HLF,H
MGCR,HRAS,HSD3B
7,HSPB1,ICK,ID2,IGF
BP2,IL18,ING4,IRF6,I
RS1,ITPA,JAK2,JMJ
D1C,KAT2B,KCMF1,
KDM6A,KEAP1,KIAA
0100,KITLG,KLF9,KT
N1,L2HGDH,LARS2,L
GALS4,LGR5,LIN7C,
LITAF,LMNA,LRIG1,L
RP12,LRRC28,LSM1
4B,LSS,LTBR,MACR
OH2A1,MAGED1,MA
GI3,MBNL2,MCOLN1
,MEF2A,MIA2,MKNK
2,MLLT10,MLX,MMD,
MOCOS,MON2,MPD
Z,MPRIP,MRPL44,M
RPS22,MRPS25,MR
PS27,MYO1B,MYO5
B,MYO6,N4BP2,NCO
A1,NDUFA9,NEK7,N
FKBIA,NHLRC2,NIPB
L,NME1,NOSIP,NPC
1,NR2F6,NR3C2,NR5
A2,NRIP1,NUDT7,NU
P62,NUP88,OAZ1,OS
BPL1A,OTUD6B,OXR
1,PALMD,PAN3,PCD
H1,PCGF5,PDCD2,P
DE2A,PDGFRB,PDLI
M1,PDP2,PDPK1,PE
R1,PER3,PEX6,PGA
P1,PHF20L1,PHKA2,
PIK3CA,PKHD1,PLD
1,PLXNA2,PNRC1,P
OR,PPIF,PPP1R1B,P
PP1R3B,PPP1R9A,P
PP2R1A,PRPF6,PSE
N2,PSMA6,PSMD1,P
SMD2,PTBP1,PTBP2
,PXMP4,RAB11FIP2,
RABEPK,RABGAP1L,
RALGPS2,RB1CC1,R
BBP5,RBBP7,RCAN1
,RCL1,REPIN1,RGS2
,RHOD,RICTOR,RNF
144A,ROCK1,RPIA,S

					BF2,SCAPER,SCAR B2,SCYL1,SDC4,SD R42E1,SECISBP2L,S ERPINA6,SERPINE2, SESN3,SETDB2,SIR T5,SLC16A5,SLC1A4 ,SLC20A1,SLC20A2, SLC25A32,SLC2A2,S LC2A5,SLC38A2,SLC 39A10,SLC6A12,SLK, SMAP1,SNRNP200,S NX10,SOD2,SPARC, SPOP,SPTBN1,SPTB N2,ST3GAL4,STARD 7,STK24,STK40,STO M,STT3B,STX8,STXB P3,SULF2,SYNE1,TB C1D16,TBC1D20,TB C1D24,TEP1,TEX2,TI FA,TIGD2,TK1,TLE1, TMEM126A,TNFAIP2 ,TNRC6A,TOP1MT,T PI1,TPR,TPRG1L,TRI B3,TRMT1,TSPAN33, TTC1,TUBB,TXNL1,U BAC1,UBE2F,UBR1, UGP2,UGT2B10,UR OC1,UROD,USP47,U TRN,UXS1,VPS13A, WNT5B,YPEL3,ZCC HC24,ZFAND2B,ZKS CAN1,ZNF23,ZNF32, ZNF654	
Cancer,Organismal Injury And Abnormalities	Tumorigenesis	Tumorigenesis Of Epithelial Neoplasm	4,60E-13	-1,377	AASDH,ABCB1,ABC B4,ABCG2,ABCG5,A CAD8,ACLY,ACOX2, ACSL3,ACSL4,ACSM 1,ACSS2,ACTR6,AF G3L2,AGPAT2,AHNA K,AKAP11,AKAP9,AL AS1,ALDH1L1,ALG13 ,ANKRD12,ANP32A, ANXA7,ARHGAP21,A RHGAP6,ARIH2,ARL 15,ARL6IP4,ASAP2,A SB13,ATG3,ATG4D,A TP1A1,ATXN2L,AUH, BAAT,BAP1,BDH1,B HMT,BID,BRD8,BUD 23,C11orf54,C9orf152 ,C9orf16,CAPN2,CAR S1,CBLB,CCDC66,C CT3,CCT5,CCT6A,C CT7,CD2AP,CD47,C D9,CD99L2,CDC14B, CDH1,CDH2,CDO1,C EBPD,CES1,CGN,CH CHD3,CHD6,CHPT1, CHRAC1,CLDND1,C LK2,CLMN,CLOCK,C MTM6,CMTM8,CNOT 4,CNOT6,CNP,COL2	394

7A1, COL5A3, CPEB4,
CPT1A, CS, CTDSP1,
CTPS2, CUL4B, CXAD
R, CYLD, CYP4F2, CY
P7A1, DAZAP1, DCTN
1, DDX60, DEK, DGKZ,
DHX9, DIAPH2, DICE
R1, DIO1, DIPK2A, DIX
DC1, DMD, DMTF1, D
OCK4, DPP4, DPP9, D
SP, DSTN, DUSP19, E
2F5, EGR1, EIF1AX, EI
F4EBP1, ELF1, ERBB
3, ESRRA, EXOC6, EX
TL2, F11, F2R, F3, FAM
102A, FAM160B1, FA
M172A, FECH, FGA, F
GB, FGFR2, FGG, FH,
FLCN, FMO1, FMO5, F
OXO3, FTSJ3, G6PD,
GAS2L3, GNA12, GNG
12, GOLGB1, GPD2, G
RHRP, GSK3A, GSS, G
STM2, GTF2F1, GTF3
C2, GYG1, HECA, HEC
TD3, HERC4, HMGCR,
HNRNPC, HRAS, HSP
B1, ICK, ID4, IGFBP2, I
L18, ING4, IRF6, IRS1, I
TPA, JAK2, JMJD1C, K
AT2B, KCMF1, KDM6A
, KEAP1, KIAA0100, KI
TLG, KLF12, KLHL7, K
PNB1, KTN1, KYNU, L2
HGDH, LGR5, LIN7A, L
MNA, LRIG1, LRP12, L
RRC28, LRRC3, LSM1
4B, LTBR, MAGED1, M
AGI3, MAP2K3, MAP3
K7, MBNL2, MCOLN1,
MEF2A, MIA2, MKNK2
, MLLT10, MLX, MOCO
S, MON2, MPDZ, MPP
1, MPRIIP, MRNIP, MR
PL44, MRPS22, MRPS
27, MRPS9, MYO1B, M
YO5B, MYO6, N4BP2L
1, NCOA1, NDUFA9, N
EK7, NET1, NFKBIA, N
GEF, NHLRC2, NIPBL,
NME1, NOSIP, NPC1,
NR1H4, NR2F6, NR3C
2, NR5A2, NRIP1, NUD
T1, NUDT19, NUDT7,
NUP62, NUP88, OAZ1,
OSBPL1A, OXR1, PAL
MD, PAN2, PAN3, PAQ
R9, PCDH1, PCGF5, P
DCD2, PDE2A, PDE9A
, PDGFC, PDGFRB, PD
LIM1, PDP2, PDPK1, P
ER1, PER3, PFDN2, P

Lipid Metabolism,Molecular Transport,Small Molecule Biochemistry	Quantity	Quantity Of Steroid	1.05E-03	-1.391	GAP1,PHF20L1,PHK A2,PIK3AP1,PIK3CA, PKHD1,PLD1,PLXNA 2,PMPCA,PNKD,PNR C1,POR,PPP1R14B, PPP1R1B,PPP1R9A, PPP2R1A,PRDX6,PR PF19,PRPF39,PRPF 6,PSMD1,PSMD2,PS MD8,PTBP1,PTBP2, QDPR,RABEPK,RAB GAP1L,RAI14,RALG PS2,RASSF3,RB1CC 1,RBBP5,RBBP7,RC L1,RHBDD1,RICTOR, ROCK1,RPA1,RPIA, RUFY3,SAA4,SARS1 ,SBF2,SCAPER,SCA RB2,SCYL1,SDC4,S EC63,SECISBP2L,SE NP6,SERPINE2,SER PINH1,SESN3,SETD B2,SGTB,SHPRH,SL C1A4,SLC20A1,SLC2 0A2,SLC2A2,SLC2A9 ,SLC30A10,SLC35B3 ,SLC38A2,SLC39A10 ,SLC39A8,SLC6A12, SLC9A3R1,SMAD7,S MAP1,SNRNP200,SN TB1,SNX10,SNX9,SO AT2,SOD2,SPARC,S PON2,SPOP,SPTBN 1,SPTBN2,STARD7,S TIP1,STK24,STK40,S TOM,STT3B,STX8,S TXBP3,SULF2,SYAP 1,SYNE1,SYT1,TBC1 D16,TBC1D20,TBC1 D24,TBRG4,TCP1,TE P1,TEX2,TIGD2,TIM M44,TK1,TLCD4,TLE 1,TMEM126A,TMEM4 1B,TMEM51,TMEM97 ,TNFAIP2,TNRC6A,T OP1MT,TPI1,TPR,TP RG1L,TRIB3,TTC1,T UBB,TUBB6,TXNL1, UBAC1,UBE2F,UBTF ,UGP2,UGT2B10,UL K1,UNG,UROC1,UTP 14A,UTRN,UXS1,VP S13A,WDR18,WDR2 6,WDR81,WIPI2,WNT 5B,ZCCHC24,ZFAND 2B,ZKSCAN1,ZNF32 ABCB1,ABCB4,ABC G5,ABCG8,ACAT2,A GPAT2,ATP1A1,BHM T,CES1,CLOCK,CYP 7A1,DICER1,DIO1,E GR1,FKBP4,FMO5,F	33
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Cancer, Organismal Injury And Abnormalities	Frequency	Frequency Of Tumor	1.38E-12	-1.393	OXO3, GPD2, GSK3A, HMGCR, IL18, IRS1, LGR5, NCOA1, NPC1, NR1H4, NR5A2, POR, PSEN2, SERPINA6, SLCO3A3R1, SOAT2, STAR, RD4 AASDH, ABCB1, ABCB4, ABCG2, ABCG5, ABCAD8, ACLY, ACOX2, ACSL3, ACSL4, ACSM1, ACSS2, ACTR6, AFG3L2, AGPAT2, AHNAK, AKAP11, AKAP9, ALAS1, ALDH1L1, ALG13, ANKRD12, ANP32A, ANXA7, ARHGAP21, ARHGAP6, ARIH2, ARL15, ARL6IP4, ASAP2, ASB13, ATG3, ATG4D, ATP1A1, ATXN2L, AUH, BAAT, BAP1, BDH1, BHMT, BID, BRD8, BUD23, C11orf54, C9orf152, C9orf16, CAPN2, CARP1, CBLB, CCDC66, CCT3, CCT5, CCT6A, CCT7, CD2AP, CD47, CD9, CD99L2, CDC14B, CDH1, CDH2, CDO1, CEBPD, CES1, CGN, CHCHD3, CHD6, CHPT1, CHRA1, CLDN1, CLK2, CLMN, CLOCK, CMTM6, CMTM8, CNOT4, CNOT6, CNP, COL27A1, COL5A3, CPEB4, CPT1A, CS, CTDSP1, CTPS2, CUL4B, CXADR, CYLD, CYP4F2, CYP7A1, DAZAP1, DCTN1, DDX60, DEK, DGKZ, DHX9, DIAPH2, DICK1, DIO1, DIPK2A, DIXDC1, DMD, DMTF1, DOK4, DPP4, DPP9, DSP, DSTN, DUSP19, EIF2F5, EGR1, EIF1AX, EIF4EBP1, ELF1, ERBB3, ESRRA, EXOC6, EXT2, F11, F2R, F3, FAM102A, FAM160B1, FAM172A, FECH, FGA, FGB, FGFR2, FGG, FH, FLCN, FMO1, FMO5, FOXO3, FTSJ3, G6PD, GAS2L3, GNA12, GNG12, GOLGB1, GPD2, GRHPR, GSK3A, GSS, GSTM2, GTF2F1, GTF3C2, GYG1, HECA, HECTD3, HERC4, HMGCR,	397
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HNRNPC,HRAS,HSP
B1,ICK,ID2,ID4,IGFB
P2,IL18,ING4,IRF6,IR
S1,ITPA,JAK2,JMJD1
C,KAT2B,KCMF1,KD
M6A,KEAP1,KIAA010
0,KITLG,KLF12,KLHL
7,KPNB1,KTN1,KYN
U,L2HGDH,LGR5,LIN
7A,LMNA,LRIG1,LRP
12,LRRC28,LRRC3,L
SM14B,LTBR,MAGE
D1,MAGI3,MAP2K3,
MAP3K7,MBNL2,MC
OLN1,MEF2A,MIA2,
MKNK2,MLLT10,MLX
,MOCOS,MON2,MPD
Z,MPP1,MPRIIP,MRNI
P,MRPL44,MRPS22,
MRPS27,MRPS9,MY
O1B,MYO5B,MYO6,N
4BP2L1,NCOA1,NDU
FA9,NEK7,NET1,NFK
BIA,NGEF,NHLRC2,
NINJ1,NIPBL,NME1,
NOSIP,NPC1,NR1H4,
NR2F6,NR3C2,NR5A
2,NRIP1,NUDT1,NUD
T19,NUDT7,NUP62,N
UP88,OAZ1,OSBPL1
A,OXR1,PALMD,PAN
2,PAN3,PAQR9,PCD
H1,PCGF5,PDCD2,P
DE2A,PDE9A,PDGF
C,PDGFRB,PDLIM1,
PDP2,PDPK1,PER1,
PER3,PFDN2,PGAP1
,PHF20L1,PHKA2,PI
K3AP1,PIK3CA,PKH
D1,PLD1,PLXNA2,P
MPCA,PNKD,PNRC1,
POR,PPP1R12A,PPP
1R14B,PPP1R1B,PP
P1R9A,PPP2R1A,PR
DX6,PRPF19,PRPF3
9,PRPF6,PSMD1,PS
MD2,PSMD8,PTBP1,
PTBP2,QDPR,RABE
PK,RABGAP1L,RAI1
4,RALGPS2,RASSF3,
RB1CC1,RBBP5,RBB
P7,RCL1,RHBDD1,RI
CTOR,ROCK1,RPA1,
RPIA,RUFY3,SAA4,S
ARS1,SBF2,SCAPER
,SCARB2,SCYL1,SD
C4,SEC63,SECISBP2
L,SEN6,SERPINE2,
SERPINH1,SESN3,S
ETDB2,SGTB,SHPR
H,SLC1A4,SLC20A1,
SLC20A2,SLC2A2,SL

					C2A9,SLC30A10,SLC35B3,SLC38A2,SLC39A10,SLC39A8,SLC6A12,SLC9A3R1,SMA D7,SMAP1,SNRNP200,SNTB1,SNX10,SNX9,SOAT2,SOD2,SPARC,SPON2,SPOP,SP TBN1,SPTBN2,STAR D7,STIP1,STK24,STK40,STOM,STT3B,STX8,STXBP3,SULF2,SYAP1,SYNE1,SYT1,TB C1D16,TBC1D20,TB C1D24,TBRG4,TCP1,TEP1,TEX2,TIGD2,TI MM44,TK1,TLCD4,TL E1,TMEM126A,TME M41B,TMEM51,TME M97,TNFAIP2,TNRC 6A,TP1MT,TPI1,TP R,TPRG1L,TRIB3,TT C1,TUBB,TUBB6,TX NL1,UBAC1,UBE2F,UBTF,UGP2,UGT2B10,ULK1,UNG,UROC1,UTP14A,UTRN,UXS1,VPS13A,WDR18,WDR26,WDR81,WIP1,WNT5B,ZCCHC24,ZFAND2B,ZKSCAN1,ZNF32	
Cancer,Organismal Injury And Abnormalities	Carcinoma	Carcinoma	2.49E-28	-1.432	AASDH,ABCB1,ABCB4,ABCG2,ABCG5,ABCG8,ABTB2,ACAD8,ACAT2,ACLY,ACOX2,ACSL3,ACSL4,ACSL5,ACSM1,ACSM5,ACSS2,ACTR6,ADH4,AFG3L2,AGPAT2,AHCY,AHNAK,AHSA1,AKAP11,AKAP9,AKR1D1,ALAS1,ALDH1L1,ALG13,AMDHD1,ANKRD12,ANP32A,ANXA7,ARF3,ARGLU1,ARRHGAP18,ARRHGAP21,ARRHGAP6,ARRIH2,ARRL15,ARRL4A,ARRL6IP4,ARSG,ASAP2,ASB13,ATG3,ATG4D,ATP1A1,ATP1B1,ATP6V1D,ATXN2L,AUH,BAA T,BAP1,BDH1,BHMT,BHMT2,BID,BIK,BLMH,BRD8,BUD23,C11orf54,C9orf152,C9orf16,CA3,CAMKK2,CAPN2,CARS1,CBLB,CCEBE1,CCDC66,CCT3,CCT4,CCT5,CCT6A,CCT7,CD2AP,CD47,	582

CD9,CD99L2,CDA,C
DC14B,CDH1,CDH2,
CDO1,CEBPD,CENP
V,CES1,CGN,CHCH
D3,CHCHD4,CHD6,C
HPT1,CHRA1,CIB3,
CITED2,CLDND1,CL
K2,CLMN,CLOCK,CM
TM6,CMTM8,CNN3,C
NOT4,CNOT6,CNP,C
OL27A1,COL5A3,CO
RO1B,CPEB4,CPT1A
,CRIP2,CRLS1,CROT
,CS,CSRNP1,CTDSP
1,CTPS2,CTSH,CUL4
B,CXADR,CYB5B,CY
LD,CYP2U1,CYP39A
1,CYP4F2,CYP7A1,C
YTH1,DAZAP1,DCTN
1,DDC,DDX60,DEK,D
GKZ,DHX9,DIAPH2,D
ICER1,DIO1,DIPK2A,
DIXDC1,DMD,DMTF1
,DNAJB1,DNAJC5,D
OCK4,DPP4,DPP9,D
SP,DSTN,DTYMK,DU
SP19,DVL1,E2F5,EC
HDC1,EEPD1,EFHD2
,EGR1,EIF1AX,EIF4E
BP1,ELF1,ENDOG,E
NPP1,ERBB3,ESRRA
,EXOC6,EXOSC2,EX
TL2,F11,F2R,F3,FAD
S2,FAM102A,FAM11
8B,FAM160B1,FAM1
72A,FAM76B,FAM89
A,FBXO31,FBXO9,FE
CH,FGA,FGB,FGFR2
,FGFRL1,FGG,FH,FK
BP4,FLCN,FMO1,FM
O5,FOXK1,FOXO3,F
PGS,FTSJ3,G6PD,G
AS2L3,GCAT,GCLC,
GCNT2,GDA,GNA12,
GNG12,GOLGB1,GP
D2,GPN1,GRHPR,GS
DMD,GSK3A,GSS,G
STM2,GTF2A2,GTF2
F1,GTF3C2,GYG1,H
ECA,HECTD3,HERC
4,HLF,HMG20B,HMG
CR,HNRNPC,HNRNP
D,HOMER2,HOK1,
HRAS,HSD17B2,HSD
3B7,HSPB1,ICK,ID2,I
D4,IGFBP2,IL18,ING
4,IRF6,IRS1,ITPA,ITP
K1,JAK2,JMJD1C,KA
T2B,KCMF1,KDM6A,
KEAP1,KHK,KIAA010
0,KITLG,KLF12,KLF9,
KLHDC2,KLHL21,KL

HL7,KPNB1,KTN1,KY
NU,L2HGDH,LARS2,
LGALS4,LGR5,LIN7A
,LIN7C,LITAF,LMNA,
LPIN1,LRIG1,LRP12,
LRRC28,LRRC3,LSM
14B,LSS,LTBR,MAC
ROH2A1,MAGED1,M
AGI3,MAP1LC3B,MA
P2K3,MAP3K7,MBNL
2,MCOLN1,MEF2A,M
IA2,MKNK2,MLLT10,
MLX,MMD,MOCOS,M
ON2,MPDZ,MPP1,M
PRIP,MRNIP,MRPL1
2,MRPL20,MRPL24,
MRPL44,MRPS22,M
RPS25,MRPS27,MR
PS9,MT1F,MYO1B,M
YO5B,MYO6,N4BP2,
N4BP2L1,NAGK,NCA
LD,NCOA1,NDUFA12
,NDUFA9,NDUFB9,N
EK7,NET1,NFKBIA,N
GEF,NHLRC2,NINJ1,
NIPBL,NME1,NOSIP,
NPC1,NR1H4,NR2F6
,NR3C2,NR5A2,NRIP
1,NT5C,NUDT1,NUD
T19,NUDT7,NUP62,N
UP88,NUS1,OAZ1,O
SBPL1A,OTUD6B,OX
R1,PALMD,PAN2,PA
N3,PAQR9,PCDH1,P
CGF5,PDCD2,PDE2A
,PDE9A,PDGFC,PDG
FRB,PDLIM1,PDP2,P
DPK1,PDRG1,PER1,
PER3,PES1,PEX26,P
EX6,PFDN2,PFKFB1,
PGAP1,PHF20L1,PH
KA2,PIK3AP1,PIK3C
A,PKHD1,PLD1,PLX
NA2,PMPCA,PNKD,P
NRC1,POR,PPIF,PP
M1A,PPOX,PPP1R12
A,PPP1R14B,PPP1R
1B,PPP1R3B,PPP1R
9A,PPP2R1A,PRDX6,
PRPF19,PRPF39,PR
PF6,PRPS1,PRPS2,P
SEN2,PSMA6,PSMD
1,PSMD11,PSMD2,P
SMD8,PSME2,PSMG
1,PSPC1,PSPH,PTB
P1,PTBP2,PXMP4,Q
DPR,RAB11FIP2,RA
B1B,RABEPK,RABG
AP1L,RAI14,RALGPS
2,RAN,RASA3,RASS
F3,RB1CC1,RBBP5,
RBBP7,RBKS,RCAN

1,RCL1,REPIN1,RGS
2,RHBDD1,RHOD,RI
CTOR,RNF14,RNF14
4A,RNF167,ROCK1,
RPA1,RPIA,RUFY3,S
AA4,SAR1B,SARS1,
SBF2,SCAPER,SCA
RB2,SCYL1,SDC4,S
DR42E1,SEC63,SECI
SBP2L,SENP6,SERP
INA6,SERPINE2,SER
PINH1,SESN3,SETD
B2,SFRP5,SGK2,SG
TB,SH3D19,SHMT1,
SHPRH,SIRT5,SLC1
0A1,SLC16A5,SLC1A
4,SLC20A1,SLC20A2
,SLC25A32,SLC27A2
,SLC2A2,SLC2A5,SL
C2A9,SLC35A3,SLC3
5B1,SLC35B3,SLC38
A2,SLC39A10,SLC39
A8,SLC6A12,SLC9A3
R1,SLK,SMAD7,SMA
P1,SNAPC2,SNRNP2
00,SNTB1,SNX10,SN
X5,SNX9,SOAT2,SO
D2,SPARC,SPG21,S
PON2,SPOP,SPTBN
1,SPTBN2,ST3GAL4,
STARD7,STIP1,STK2
4,STK40,STOM,STT3
B,STX18,STX8,STXB
P3,SULF2,SUMF1,SY
AP1,SYNE1,SYT1,TB
C1D16,TBC1D20,TB
C1D24,TBRG4,TCIM,
TCP1,TEP1,TEX2,TH
AP4,THRSP,TIFA,TI
GD2,TIMM10,TIMM4
4,TK1,TLCD4,TLE1,T
MBIM1,TMEM126A,T
MEM219,TMEM41A,T
MEM41B,TMEM51,T
MEM62,TMEM97,TN
FAIP2,TNFAIP8L1,TN
RC6A,TOP1MT,TPI1,
TPR,TPRG1L,TPRKB
,TRIB3,TRMT1,TSN,T
SPAN33,TSTA3,TTC
1,TTC19,TUBB,TUBB
6,TUBGCP2,TXN2,T
XNL1,UBAC1,UBE2F,
UBE2L3,UBR1,UBTF,
UBXN1,UBXN6,UCK1
,UGP2,UGT2B10,UL
K1,UNG,UPP2,UROC
1,UROD,USP47,UTP
14A,UTRN,UXS1,VP
S13A,WDR18,WDR2
6,WDR81,WIP1,WNT
5B,YPEL3,YWHAH,Z

Cancer,Organismal Injury And Abnormalities,Reproductive System Disease	Male Genital Neoplasm	Male Genital Neoplasm	1.13E-06	-1.432	CCHC24,ZFAND2B,Z KSCAN1,ZNF23,ZNF 32,ZNF326,ZNF654 ABCB1,ABCB4,ABC G2,ACAD8,ACLY,AC OX2,ACSL3,ACSL4,A CSM1,ACSS2,AGPA T2,AHNAK,AKAP11,A LDH1L1,ALG13,ANK RD12,ARHGAP18,AR HGAP6,ARIH2,ASAP 2,ATP1A1,ATP6V1D, ATXN2L,BAAT,BAP1, BDH1,BLMH,BRD8,C A3,CBLB,CD2AP,CD H1,CDH2,CDO1,CES 1,CGN,CHD6,CLDND 1,CNOT4,CNOT6,CN P,COL5A3,CPT1A,C SRNP1,CYP7A1,CYT H1,DCTN1,DDX60,D GKZ,DICER1,DMD,D OCK4,DSP,EFHD2,E GR1,EIF1AX,EIF4EB P1,ERBB3,F11,FAM1 60B1,FAM89A,FGA,F GFR2,FGFRL1,FH,F KBP4,FLCN,FOXK1,F OXO3,GDA,GNA12,G OLGB1,GPD2,GSDM D,GTF2A2,HLF,HMG CR,HRAS,HSD3B7,H SPB1,ID2,IGFBP2,IN G4,IRS1,JAK2,JMJD1 C,KDM6A,KIAA0100, KITLG,KTN1,LARS2, LGALS4,LGR5,LIN7C ,LITAF,LRIG1,LRP12, LRRC28,LSS,LTBR, MACROH2A1,MAGI3, MBNL2,MIA2,MKNK2 ,MLLT10,MMD,MOC OS,MON2,MPDZ,MP RIP,MRPS25,MYO5B ,MYO6,N4BP2,NCOA 1,NFKBIA,NIPBL,NM E1,NRIP1,NUDT7,NU P88,OAZ1,OTUD6B, PAN3,PCDH1,PDGF RB,PDP2,PDPK1,PE R1,PEX6,PIK3CA,PK HD1,PLD1,PLXNA2,P OR,PPIF,PPP1R1B,P PP1R3B,PPP1R9A,P PP2R1A,PRPF6,PSE N2,PSMD1,PSMD2,P XMP4,RAB11FIP2,R ALGPS2,RCAN1,RCL 1,REPIN1,RHOD,RN F144A,ROCK1,SBF2, SCAPER,SCARB2,S CYL1,SDC4,SDR42E	203
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					1,SECISBP2L,SERPI NA6,SERPINE2,SES N3,SIRT5,SLC16A5,S LC1A4,SLC25A32,SL C39A10,SLC6A12,SL K,SMAP1,SNRNP200 ,SPARC,SPOP,SPTB N1,SPTBN2,ST3GAL 4,STOM,STX8,STXB P3,SULF2,SYNE1,TB C1D16,TBC1D24,TIF A,TK1,TNFAIP2,TNR C6A,TOP1MT,TPR,T RMT1,TSPAN33,UBA C1,UBE2F,UBR1,UR OC1,USP47,UTRN,V PS13A,YPEL3,ZKSC AN1,ZNF654	
Cancer,Organismal Injury And Abnormalities	Breast Or Colorectal Cancer	Breast Or Colorectal Cancer	4.25E-06	-1.434	AASDH,ABCB1,ABC G2,ABCG5,ACLY,AC OX2,ACSL5,ACSS2, ACTR6,AFG3L2,AGP AT2,AHCY,AKAP9,AL AS1,ALDH1L1,ALG13 ,ANKRD12,ANXA7,A RHGAP21,ARL6IP4,A SAP2,ASB13,ATG3,A TG4D,ATP1A1,ATXN 2L,BAAT,BAP1,C11or f54,C9orf152,CAPN2, CARS1,CCDC66,CC T3,CCT4,CCT5,CCT7 ,CD2AP,CD9,CD99L2 ,CDH1,CDH2,CDO1, CEBPD,CES1,CGN,C HCHD3,CHD6,CHPT 1,CHRA1,CLDND1, CLK2,CLMN,CLOCK, CMTM6,CNOT4,CNP, COL27A1,COL5A3,C PEB4,CPT1A,CS,CT DSP1,CTPS2,CUL4B, CYLD,CYP2U1,CYP4 F2,DAZAP1,DCTN1, DDX60,DGKZ,DHX9, DICER1,DIXDC1,DM D,DMTF1,DOCK4,DP P4,DSP,DSTN,E2F5, EGR1,EIF1AX,EIF4E BP1,ELF1,ELOVL6,E RBB3,ESRRA,EXOC 6,EXOSC2,F2R,F3,F ADS2,FAM160B1,FE CH,FGA,FGB,FGFR2 ,FLCN,FMO1,FMO5,F OXO3,FPGS,FTSJ3, G6PD,GAS2L3,GNA1 2,GNG12,GSS,GSTM 2,GTF2F1,HECA,HE CTD3,HMGCR,HNRN PC,HRAS,HSD17B2, HSPB1,ICK,ID2,IGFB	302

P2,IL18,ING4,IRF6,IRS1,JAK2,JMJD1C,KAT2B,KDM6A,KEAP1,KIAA0100,KITLG,KLF12,KLHL7,KPNB1,KTN1,LGALS4,LGR5,LIN7A,LMNA,LRIG1,LRP12,LRRC3,LTBR,MACROH2A1,MAGED1,MAP1LC3B,MAP2K3,MAP3K7,MEF2A,MIA2,MKNK2,MLLT10,MLX,MON2,MPDZ,MPRI,MRNIP,MRPL24,MRPL34,MRPS9,MT1F,MYO5B,MYO6,NCOA1,NDUFB9,NEK7,NET1,NGEF,NHLRC2,NIPBL,NME1,NOSIP,NPC1,NR3C2,NRIP1,NT5C,NUDT19,NUDT7,NUP62,NUS1,OSBPL1A,PAQR9,PCDH1,PCGF5,PDE9A,PDGFRB,PDLIM1,PDP2,PPDK1,PDRG1,PER1,PFDN2,PGAP1,PHF20L1,PHKA2,PIK3AP1,PIK3CA,PKHD1,PLD1,PLXNA2,PNKD,PNRC1,POR,PPP1R14B,PPP1R1B,PPP1R9A,PPP2R1A,PRPF39,PRPF6,PSMD8,PTBP1,QDPR,RABGAP1L,RASA3,RASSF3,RB1CC1,RBBP5,RGS2,RICTOR,RNF14,ROCK1,RPA1,RUFY3,SAA4,SBF2,SCAPER,SCYL1,SEC63,SECISBP2L,SENP6,SERPINE2,SESN3,SFRP5,SGK2,SHPRH,SLC1A4,SLC20A1,SLC20A2,SLC25A32,SLC27A2,SLC2A2,SLC35B3,SLC38A2,SLC39A10,SLC39A8,SLC6A12,SLC9A3R1,SMAD7,SMAP1,SNRNP200,SNTB1,SNX9,SOAT2,SOD2,SPARC,SPG21,SPOP,SPBN1,SPTBN2,STAR,STIP1,STX8,SULF2,SYAP1,SYNE1,SYT1,TBC1D16,TBC1D24,TBRG4,TCP1,TEP1,THRSP,TIMM44,TK1,TMEM126A,TMEM41B,TMEM97,TNRC6A,TOP1MT,TPI1,TPR,T

Cancer,Organismal Injury And Abnormalities	Incidence	Incidence Of Tumor	9.38E-14	-1.437	RIB3,TTC1,TUBB,TU BB6,UBAC1,UBTF,U LK1,UNG,UROC1,US P47,UTRN,VPS13A, WDR18,WDR26,WD R81,WNT5B,YWHAH, ZCCHC24,ZNF23 AASDH,ABCB1,ABC B4,ABCG2,ABCG5,A CAD8,ACLY,ACOX2, ACSL3,ACSL4,ACSM 1,ACSS2,ACTR6,AF G3L2,AGPAT2,AHNA K,AKAP11,AKAP9,AL AS1,ALDH1L1,ALG13 ,ANKRD12,ANP32A, ANXA7,ARHGAP21,A RHGAP6,ARIH2,ARL 15,ARL6IP4,ASAP2,A SB13,ATG3,ATG4D,A TP1A1,ATXN2L,AUH, BAAT,BAP1,BDH1,B HMT,BID,BIK,BRD8,B UD23,C11orf54,C9orf 152,C9orf16,CAPN2, CARS1,CBLB,CCDC 66,CCT3,CCT5,CCT6 A,CCT7,CD2AP,CD4 7,CD9,CD99L2,CDA, CDC14B,CDH1,CDH 2,CDO1,CEBPD,CES 1,CGN,CHCHD3,CH D6,CHPT1,CHRA1, CLDND1,CLK2,CLMN ,CLOCK,CMTM6,CM TM8,CNOT4,CNOT6, CNP,COL27A1,COL5 A3,CPEB4,CPT1A,C S,CTDSP1,CTPS2,C TSH,CUL4B,CXADR, CYLD,CYP4F2,CYP7 A1,DAZAP1,DCTN1, DDX60,DEK,DGKZ,D HX9,DIAPH2,DICER1 ,DIO1,DIPK2A,DIXDC 1,DMD,DMTF1,DOCK 4,DPP4,DPP9,DSP,D STN,DUSP19,DVL1,E 2F5,EGR1,EIF1AX,EI F4EBP1,ELF1,ENPP 1,ERBB3,ESRRA,EX OC6,EXTL2,F11,F2R, F3,FAM102A,FAM16 0B1,FAM172A,FECH, FGA,FGB,FGFR2,FG G,FH,FLCN,FMO1,F MO5,FOXO3,FTSJ3, G6PD,GAS2L3,GNA1 2,GNG12,GOLGB1,G PD2,GRHPR,GSK3A, GSS,GSTM2,GTF2F1 ,GTF3C2,GYG1,HEC	411
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A,HECTD3,HERC4,H
LF,HMGCR,HNRNPC
,HRAS,HSPB1,ICK,ID
2,ID4,IGFBP2,IL18,IN
G4,IRF6,IRS1,ITPA,J
AK2,JMJD1C,KAT2B,
KCMF1,KDM6A,KEA
P1,KIAA0100,KITLG,
KLF12,KLF9,KLHL7,K
PNB1,KTN1,KYNU,L2
HGDH,LGR5,LIN7A,L
MNA,LRIG1,LRP12,L
RRC28,LRRC3,LSM1
4B,LTBR,MACROH2
A1,MAGED1,MAGI3,
MAP2K3,MAP3K7,M
BNL2,MCOLN1,MEF2
A,MIA2,MKNK2,MLLT
10,MLX,MOCOS,MO
N2,MPDZ,MPP1,MPR
IP,MRNIP,MRPL44,M
RPS22,MRPS27,MR
PS9,MYO1B,MYO5B,
MYO6,N4BP2L1,NCO
A1,NDUFA9,NEK7,N
ET1,NFKBIA,NGEF,N
HLRC2,NINJ1,NIPBL,
NME1,NOSIP,NPC1,
NR1H4,NR2F6,NR3C
2,NR5A2,NRIP1,NUD
T1,NUDT19,NUDT7,
NUP62,NUP88,OAZ1,
OSBPL1A,OXR1,PAL
MD,PAN2,PAN3,PAQ
R9,PCDH1,PCGF5,P
DCD2,PDE2A,PDE9A
,PDGFC,PDGFRB,PD
LIM1,PDP2,PDPK1,P
ER1,PER3,PFDN2,P
GAP1,PHF20L1,PHK
A2,PIK3AP1,PIK3CA,
PKHD1,PLD1,PLXNA
2,PMPCA,PNKD,PNR
C1,POR,PPIF,PPP1R
12A,PPP1R14B,PPP
1R1B,PPP1R9A,PPP
2R1A,PRDX6,PRPF1
9,PRPF39,PRPF6,PS
EN2,PSMA6,PSMD1,
PSMD2,PSMD8,PTB
P1,PTBP2,QDPR,RA
BEPK,RABGAP1L,RA
I14,RALGPS2,RASSF
3,RB1CC1,RBBP5,R
BBP7,RCL1,RGS2,R
HBDD1,RICTOR,RO
CK1,RPA1,RPIA,RUF
Y3,SAA4,SARS1,SBF
2,SCAPER,SCARB2,
SCYL1,SDC4,SEC63,
SECISBP2L,SEN6,
SERPINE2,SERPINH

					1, SESN3, SETDB2, SGTB, SHPRH, SLC1A4, SLC20A1, SLC20A2, SLC2A2, SLC2A5, SLC2A9, SLC30A10, SLC35B3, SLC38A2, SLC39A10, SLC39A8, SLC6A12, SLC9A3R1, SMAD7, SMAP1, SNRNP200, SNTB1, SNX10, SNX9, SOAT2, SOD2, SPARC, SPON2, SPOP, SPTBN1, SPTBN2, STAR, STIP1, STK24, STK40, STOM, STT3B, STX8, STXBP3, SULF2, SYAP1, SYNE1, SYT1, TBC1D16, TBC1D20, TBC1D24, TBRG4, TCP1, TEP1, TEX2, TIGD2, TMEM44, TK1, TLCD4, TLE1, TMEM126A, TME41B, TMEM51, TME41B, TNFAIP2, TNRC6A, TOP1MT, TPI1, TPR, TPRG1L, TRIB3, TPAN33, TTC1, TUBB, TUBB6, TXNL1, UBAC1, UBE2F, UBTF, UGP2, UGT2B10, ULK1, UNG, UROC1, UTP14A, UTRN, UXS1, VPS13A, WDR18, WDR26, WDR81, WIPI2, WNT5B, ZCHC24, ZFAND2B, ZKSCAN1, ZNF32	
Cancer, Organismal Injury And Abnormalities, Reproductive System Disease	Mammary Tumor	Mammary Tumor	7,31E-04	-1,489	ABC1, ABCG2, ACS2, AGPAT2, AKAP9, ALDH1L1, ANKRD12, ATP1A1, BAP1, CAPN2, CCT3, CD9, CDH1, CDH2, CEBPD, CES1, CLK2, COL27A1, CPT1A, CYLD, CYP2U1, DAZAP1, DGKZ, DICER1, DXDC1, DMD, DMTF1, DOCK4, DPP4, DSP, E2F5, EGR1, EIF1AX, EIF4EBP1, ELOVL6, ERBB3, ESRRB, EXOC6, EXOSC2, F2R, FADS2, FGA, FGFR2, FOXO3, FTSJ3, GNA12, GSTM2, HMGCR, HRAS, HSPB1, IGFBP2, IL18, ING4, IRS1, JAK2, JMJD1C, KDM6A, KEAP1, KIAA0100, LGALS4, LMNA, MACROH2A1, MAP1LC3B, MAP2K3, MKNK2, MPDZ, MRPL24, MRPL34, MT1F, MYO5B	130

						,MYO6,NDUFB9,NEK7,NFKBIA,NIPBL,NME1,NPC1,NR3C2,NRIP1,NUS1,PDGFRB,PPDK1,PGAP1,PHF20L1,PHKA2,PIK3CA,PKHD1,PNRC1,POR,PP1R1B,PPP2R1A,PRPF39,PTBP1,RASA3,RB1CC1,RGS2,RICTOR,RNF14,ROCK1,SBF2,SECISBP2L,SFRP5,SLC20A1,SLC25A32,SLC9A3R1,SNTB1,SOD2,SPARC,SPG21,SPOP,SPTBN2,STARD7,STIP1,SYNE1,TCP1,TEP1,THRSPTIMM44,TK1,TLE1,TMEM97,TNRC6A,TOP1MT,TPI1,TUBB,TUBB6,USP47,UTRN,WNT5B,YWHAH	
Cancer,Gastrointestinal Disease,Organismal Injury And Abnormalities	Development	Development Of Digestive Organ Tumor	1.16E-05	-1.492		AASDH,ABCB1,ABCB4,ABCG5,ACLY,ACSS2,ACTR6,AFG3L2,AGPAT2,AHNAK,AKAP9,ALDH1L1,ALG13,ANXA7,ARHGAP21,ARL6IP4,ASAP2,ASB13,ATG3,ATG4D,ATXN2L,BAAT,BAP1,BHMT,BRD8,C11orf54,C9orf152,CARS1,CBLB,CCDC66,CCT7,CD2AP,CD99L2,CDH1,CDH2,CDO1,CES1,CGN,CHCHD3,CHD6,CHPT1,CHRA1,CLDN1,CLK2,CLMN,CLOCK,CMTM6,CNOT4,CNP,COL27A1,COL5A3,CPEB4,CPT1A,CS,CTDSP1,CTPS2,CUL4B,CYLD,CYP4F2,DAZAP1,DCTN1,DDX60,DGKZ,DHX9,DICER1,DMD,DMTF1,DOCK4,DSP,DSTN,EGR1,ELF1,ERBB3,ESRRA,F3,FAM102A,FAM160B1,FGB,FGFR2,FLCN,FMO1,FMO5,G6PD,GAS2L3,GNG12,GPD2,GSS,GTF2F1,HECA,HECTD3,HMGCR,HNRNPC,HRAS,HSPB1,ICK,IGFBP2,IL18,ING4,IRF6,IRS1,JAK2,JMD1C,KAT2B,KDM6A,KEAP1,KIAA0100,KITLG,KLF12,KLHL7,K	257

Cancer,Organismal
Injury And
Abnormalities

Neoplasia

Lymphatic
System Tumor

9.85E-05

-1.493

PNB1,KTN1,KYNU,L
GR5,LIN7A,LRIG1,LR
P12,LRRC3,LTBR,M
AGED1,MAP3K7,MB
NL2,MEF2A,MIA2,MK
NK2,MLLT10,MLX,M
ON2,MPDZ,MPRIIP,M
RNIP,MRPS9,MYO5B
,MYO6,NCOA1,NEK7
,NET1,NGEF,NHLRC
2,NIPBL,NOSIP,NR1
H4,NR3C2,NRIP1,NU
DT1,NUDT19,NUDT7
,NUP62,OSBPL1A,P
AN2,PAN3,PAQR9,P
CDH1,PCGF5,PDE2A
,PDE9A,PDGFC,PDG
FRB,PDP2,PDPK1,P
ER1,PER3,PFDN2,P
GAP1,PHF20L1,PHK
A2,PIK3AP1,PIK3CA,
PKHD1,PLXNA2,PMP
CA,PNKD,PNRC1,PO
R,PPP1R12A,PPP1R
14B,PPP1R9A,PPP2
R1A,PRPF39,PRPF6,
PSMD8,PTBP1,QDP
R,RABGAP1L,RASSF
3,RB1CC1,RBBP5,RI
CTOR,ROCK1,RPA1,
RUFY3,SAA4,SARS1
,SBF2,SCAPER,SCY
L1,SDC4,SEC63,SEC
ISBP2L,SENP6,SER
PINE2,SERPINH1,SE
SN3,SETDB2,SGTB,
SHPRH,SLC1A4,SLC
20A1,SLC20A2,SLC2
A2,SLC38A2,SLC39A
10,SLC39A8,SLC6A1
2,SMAD7,SMAP1,SN
RNP200,SNTB1,SNX
9,SOAT2,SPOP,SPT
BN1,SPTBN2,STIP1,
STX8,SULF2,SYAP1,
SYNE1,SYT1,TBC1D
16,TBC1D24,TBRG4,
TCP1,TEP1,TIMM44,
TK1,TMEM126A,TME
M41B,TMEM97,TNR
C6A,TOP1MT,TPR,T
TC1,TUBB,UBAC1,U
BTF,ULK1,UNG,URO
C1,UTRN,VPS13A,W
DR18,WDR26,WDR8
1,WIPI2,WNT5B,ZCC
HC24,ZNF32
ABCB1,ABCG2,AHN
AK,AKAP11,ANXA7,A
SAP2,ATP1B1,BAP1,
BID,CBLB,CCT3,CCT
7,CD47,CDH1,CDO1,

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					CEBPD,CHD6,CITED2,CNP,COL27A1,CTSH,CUL4B,DDC,DEK,DGKZ,DICER1,DIO1,DMD,DMTF1,DPP4,DSP,EGR1,EIF4EBP1,ENPP1,ERBB3,EXTL2,F2R,F3,FAM102A,FBXO31,FBXO9,FGFR2,FOXO3,FPGS,GNA12,GPD2,GRHPR,HECA,HMGCR,HRAS,HSPB1,ICK,ID2,IL18,AK2,JMJD1C,KDM6A,KIAA0100,KITLG,KPNB1,LPIN1,LRIG1,LTBR,MAGED1,MAP2K3,MEF2A,MIA2,MKNK2,MLLT10,MPDZ,MRPL20,MYO5B,NFKBIA,NINJ1,NIPBL,NME1,PALMD,PDE9A,PDGFC,PDGFRB,PDPK1,PER1,PIK3CA,PLXNA2,PNKD,PNRC1,POLE4,POR,PRPF19,PRPS1,PSMD1,PSMD2,RAN,RICTOR,RP A1,SARS1,SERPINH1,SHMT1,SLC25A32,SMAD7,SOD2,SPARC,SPTBN1,STIP1,STK24,SYT1,TBC1D16,TPR,TUBB6,TUT4,UBE2F,UBR1,UNG,VP S13A	
Developmental Disorder	Growth Failure	Growth Failure	3.12E-04	-1.498	AQP11,BAP1,CD2AP,CDH2,CUL4B,CYP7A1,DMTF1,DNAJC5,EGR1,F11,F2R,F3,FGFR2,FGFRL1,FKBP4,GCLC,GPD2,HNRNPD,HSD17B2,HSD3B7,ID2,IRS1,ITPA,KAT2B,KDM6A,LMNA,MACROH2A1,MAP3K7,MCOLN1,NEK7,NFKBIA,NINJ1,PDCCD2,P GAP1,POR,PSEN2,SCYL1,SFRP5,SLC20A1,SOD2,SULF2,SYNE1	42
Cancer, Organismal Injury And Abnormalities	Extraadrenal Retroperitoneal Tumor	Extraadrenal Retroperitoneal Tumor	3.97E-06	-1.526	AASDH,ABCB1,ABCB4,ABCG2,ABTB2,ACAT2,ACLY,ACOX2,ACSM5,ADH4,AHNK,AKAP11,AKAP9,ALAS1,ALG13,ANKRD12,ANP32A,ARHGAP21,ATXN2L,BAP1,BRD8,C9orf152,CAMKK2,CAPN2,CBLB,CCDC	188

66,CCT3,CD9,CDC14
 B,CDH1,CDH2,CHD6
 ,COL5A3,CUL4B,CYL
 D,CYP4F2,DCTN1,D
 HX9,DIAPH2,DICER1
 ,DIO1,DMD,DOCK4,D
 PP4,DUSP19,E2F5,E
 CHDC3,EGR1,EIF1A
 X,ERBB3,ESRRA,EX
 OC6,EXTL2,F11,F3,F
 GA,FGFR2,FH,FLCN,
 FMO1,FOXO3,FTSJ3
 ,G6PD,GABARAP,GA
 S2L3,GCLC,GOLGB1
 ,GRHPR,GTF3C2,HE
 RC4,HMGCR,HNRNP
 C,HRAS,ID2,IL18,IRF
 6,IRS1,JAK2,KDM6A,
 KEAP1,KIAA0100,KL
 F12,KLF9,KLHL7,LG
 R5,LIN7A,LMNA,LRI
 G1,LSM14B,LSS,MA
 GI3,MAP2K3,MIA2,M
 KNK2,MLLT10,MOC
 OS,MPDZ,MPP1,MR
 PL24,MRPS27,MYO1
 B,MYO5B,N4BP2L1,
 NAGK,NCOA1,NFKBI
 A,NGEF,NINJ1,NIPB
 L,NME1,NPC1,NR5A
 2,NRIP1,NUP62,PAN
 2,PAQR9,PCDH1,PD
 E2A,PDGFRB,PHKA2
 ,PIK3CA,PKHD1,PLX
 NA2,PNKD,POR,PPP
 1R1B,PPP1R9A,PPP
 2R1A,PRPF6,PRPS1,
 PSMD1,PSMD11,PS
 MD2,PSMF1,PXMP4,
 RAB11FIP2,RAI14,R
 B1CC1,RBBP5,RCL1,
 RHOD,RPA1,SBF2,S
 CAPER,SEC63,SENP
 6,SERPINE2,SERPIN
 H1,SETDB2,SHMT1,
 SHPRH,SLC1A4,SLC
 20A2,SLC2A5,SLC2A
 9,SLC35B1,SLC39A8
 ,SLC9A3R1,SMAD7,
 SNRNP200,SNX10,S
 OD2,SPARC,SPTBN
 1,ST3GAL4,STARD7,
 STXBP3,SYNE1,TEP
 1,TEX2,TMEM126A,T
 MEM51,TNRC6A,TO
 P1MT,TRIB3,TUBB,T
 UBB6,TUBGCP2,TXN
 L1,UBE2F,UGP2,UR
 OD,UTP14A,UTRN,V
 PS13A,WNT5B,ZFAN
 D2B,ZNF654

Cancer,Gastrointesti	Hepatobiliary	Hepatobiliary	1.24E-07	-1.542	ABCB4,ABCG8,ACLY	252
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nal Disease,Hepatic
System
Disease,Organismal
Injury And
Abnormalities

System
Cancer

System Cancer

,ACOX2,ACSS2,ADH
4,AHNAK,AKAP11,A
KAP9,AKR1D1,AMD
HD1,ANKRD12,ANXA
7,ARGLU1,ARHGAP2
1,ARHGAP6,ASAP2,
ASB13,ATP1A1,ATP1
B1,ATXN2L,BAAT,BA
P1,BDH1,BHMT,BHM
T2,BUD23,CARS1,C
BLB,CCT6A,CD47,C
DH1,CDH2,CES1,CH
D6,CIB3,CLK2,CLMN
,CMTM6,CNOT4,COL
27A1,COL5A3,CPEB
4,CRIP2,CROT,CS,C
TPS2,CUL4B,CXADR
,CYP39A1,CYP7A1,C
YTH1,DDC,DEK,DIA
PH2,DICER1,DIPK2A
,DMD,DOCK4,DPP4,
DPP9,E2F5,EIF1AX,
EIF4EBP1,ENPP1,ER
BB3,ESRRA,EXTL2,F
3,FAM160B1,FBXO9,
FGA,FGB,FGFR2,FG
FRL1,FGG,FLCN,FO
XK1,FPGS,G6PD,GA
S2L3,GCLC,GNA12,
GOLGB1,GPD2,GRH
PR,GSDMD,GTF3C2,
HECA,HLF,HMGCR,
HRAS,ID2,ID4,IGFBP
2,IL18,ING4,IRS1,JM
JD1C,KDM6A,KEAP1
,KIAA0100,KLHDC2,
KPNB1,KTN1,KYNU,
LARS2,LGR5,LIN7A,
LMNA,LTBR,MACRO
H2A1,MAGI3,MAP1L
C3B,MAP2K3,MAP3K
7,MEF2A,MON2,MPD
Z,MPRIIP,MRNIP,MR
PL24,MRPS22,MYO6
,NCALD,NCOA1,NET
1,NGEF,NIPBL,NME1
,NPC1,NR1H4,NR2F
6,NR3C2,NR5A2,NRI
P1,NT5C,OSBPL1A,
OXR1,PAN2,PAN3,P
AQR9,PCDH1,PDE2
A,PDGFC,PDGFRB,P
DLIM1,PER1,PEX26,
PGAP1,PHF20L1,PIK
3AP1,PIK3CA,PKHD1
,PLD1,PLXNA2,PMP
CA,PNRC1,POR,PP
M1A,PPOX,PPP1R1B
,PPP1R9A,PPP2R1A,
PRPF6,PSMD1,PSM
D11,PSMD2,PSPH,P
TBP2,RABGAP1L,RA

						LGPS2,RAN,RASA3, RB1CC1,RBBP5,RCL 1,RICTOR,RNF167,R OCK1,RUFY3,SAA4, SARS1,SCAPER,SD C4,SECISBP2L,SEN P6,SERPINA6,SESN 3,SFRP5,SGK2,SGT B,SIRT5,SLC10A1,SL C1A4,SLC20A1,SLC2 0A2,SLC2A2,SLC2A5 ,SLC35B3,SLC38A2, SLC39A10,SLC39A8, SLC6A12,SLK,SNRN P200,SNTB1,SNX9,S OAT2,SOD2,SPARC, SPTBN1,SPTBN2,ST K24,STK40,SULF2,S UMF1,SYNE1,TBC1D 16,TCIM,TEP1,TEX2, THAP4,TIGD2,TIMM4 4,TLE1,TMEM219,TM EM41A,TMEM62,TNF AIP8L1,TNRC6A,TO P1MT,TPI1,TPR,TSN,T SPAN33,TTC1,TUBB, TUBGCP2,TXNL1,UB AC1,UBXN1,UBXN6, UCK1,UGP2,UGT2B1 0,UPP2,UROC1,USP 47,UTRN,YWHAH,ZC CHC24	
Cancer,Gastrointesti nal Disease,Hepatic System Disease,Organismal Injury And Abnormalities	Cancer	Liver Cancer	1.68E-07	-1.542	ABCB4,ABCG8,ACLY ,ACOX2,ACSS2,ADH 4,AHNAK,AKAP9,AK R1D1,AMDHD1,ANK RD12,ANXA7,ARGLU 1,ARHGAP21,ARHG AP6,ASAP2,ASB13,A TP1A1,ATP1B1,ATX N2L,BAP1,BDH1,BH MT,BHMT2,BUD23,C ARS1,CBLB,CCT6A, CD47,CDH1,CDH2,C ES1,CHD6,CIB3,CLK 2,CLMN,CMTM6,CN OT4,COL27A1,CPEB 4,CRIP2,CROT,CXA DR,CYP39A1,CYP7A 1,CYTH1,DDC,DIAPH 2,DICER1,DIPK2A,D MD,DOCK4,DPP4,DP P9,E2F5,EIF1AX,EIF 4EBP1,ENPP1,ERBB 3,ESRRA,EXTL2,F3, FAM160B1,FBXO9,F GA,FGB,FGFR2,FGG ,FLCN,FOXK1,FPGS, G6PD,GAS2L3,GCLC ,GNA12,GOLGB1,GP D2,GRHPR,GSDMD, GTF3C2,HECA,HLF,	240	

HMGC,HRAS,ID2,I
 D4,IGFBP2,IL18,ING
 4,IRS1,JMJD1C,KDM
 6A,KEAP1,KIAA0100,
 KLHDC2,KPNB1,KTN
 1,KYNU,LARS2,LGR
 5,LMNA,LTBR,MACR
 OH2A1,MAGI3,MAP1
 LC3B,MAP2K3,MAP3
 K7,MEF2A,MON2,MP
 DZ,MPRIIP,MRNIP,M
 RPL24,MRPS22,MYO
 6,NCALD,NCOA1,NE
 T1,NGEF,NIPBL,NME
 1,NPC1,NR1H4,NR2
 F6,NR3C2,NR5A2,N
 RIP1,NT5C,OSBPL1
 A,OXR1,PAN2,PAN3,
 PAQR9,PCDH1,PDE
 2A,PDGFC,PDGFRB,
 PDLIM1,PER1,PEX26
 ,PGAP1,PHF20L1,PI
 K3AP1,PIK3CA,PKH
 D1,PLD1,PLXNA2,P
 MPCA,PNRC1,POR,
 PPM1A,PPOX,PPP1
 R1B,PPP1R9A,PPP2
 R1A,PRPF6,PSMD1,
 PSMD11,PSMD2,PS
 PH,PTBP2,RABGAP1
 L,RALGPS2,RAN,RA
 SA3,RB1CC1,RBBP5
 ,RCL1,RICTOR,RNF1
 67,ROCK1,RUFY3,S
 AA4,SARS1,SCAPER
 ,SDC4,SECISBP2L,S
 ENP6,SESN3,SFRP5
 ,SGK2,SGTB,SIRT5,
 SLC10A1,SLC1A4,SL
 C20A2,SLC2A2,SLC2
 A5,SLC35B3,SLC38A
 2,SLC39A10,SLC39A
 8,SLC6A12,SLK,SNR
 NP200,SNX9,SOAT2,
 SOD2,SPARC,SPTB
 N1,SPTBN2,STK24,S
 TK40,SULF2,SUMF1,
 SYNE1,TBC1D16,TCI
 M,TEP1,TEX2,THAP4
 ,TIGD2,TIMM44,TLE1
 ,TMEM219,TMEM41A
 ,TMEM62,TNFAIP8L1
 ,TNRC6A,TOP1MT,T
 PI1,TPR,TSN,TSPAN
 33,TTC1,TUBB,TUBG
 CP2,TXNL1,UBAC1,
 UBXN1,UBXN6,UCK1
 ,UGP2,UGT2B10,UP
 P2,UROC1,USP47,U
 TRN,YWHAH,ZCCHC
 24

Cell-To-Cell

Adhesion

Adhesion Of

4.44E-04

-1.562

ARHGAP21,CD47,CD 25

Signaling And Interaction		Tumor Cell Lines			9,CDH1,CDH2,CYTH1,DSP,EGR1,ERBB3,F2R,FGA,FGFR2,HRAS,IL18,IRS1,LGALS4,LTBR,MYO6,NET1,NFKBIA,NME1,PLD1,RCAN1,TCIM,UTRN	
Cancer,Organismal Injury And Abnormalities	Non-Melanoma Solid Tumor	Non-Melanoma Solid Tumor	5.36E-28	-1.591	AASDH,ABCB1,ABC B4,ABCG2,ABCG5,A BCG8,ABTB2,ACAD8 ,ACAT2,ACLY,ACOX 2,ACSL3,ACSL4,ACS L5,ACSM1,ACSM5,A CSS2,ACTR6,ADH4, AFG3L2,AGPAT2,AH CY,AHNAK,AHSA1,A KAP11,AKAP9,AKR1 D1,ALAS1,ALDH1L1, ALG13,AMDHD1,AN KRD12,ANP32A,ANX A7,ARF3,ARGLU1,A RHGAP18,ARHGAP2 1,ARHGAP6,ARIH2,A RL15,ARL4A,ARL6IP 4,ARSG,ASAP2,ASB 13,ATG3,ATG4D,ATP 1A1,ATP1B1,ATP6V1 D,ATXN2L,AUH,BAA T,BAP1,BDH1,BHMT, BHMT2,BID,BIK,BLM H,BRD8,BUD23,C11o rf54,C9orf152,C9orf1 6,CA3,CAMKK2,CAP N2,CARS1,CBLB,CC BE1,CCDC66,CCT3, CCT4,CCT5,CCT6A, CCT7,CD2AP,CD47, CD9,CD99L2,CDA,C DC14B,CDH1,CDH2, CDO1,CEBPD,CENP V,CES1,CGN,CHCH D3,CHCHD4,CHD6,C HPT1,CHRAC1,CIB3, CITED2,CLDND1,CL K2,CLMN,CLOCK,CM TM6,CMTM8,CNN3,C NOT4,CNOT6,CNP,C OL27A1,COL5A3,CO RO1B,CPEB4,CPT1A ,CRIP2,CRLS1,CROT ,CS,CSRNP1,CTDSP 1,CTPS2,CTSH,CUL4 B,CXADR,CYB5B,CY LD,CYP2U1,CYP39A 1,CYP4F2,CYP7A1,C YTH1,DAZAP1,DCTN 1,DDC,DDX60,DEK,D GKZ,DHX9,DIAPH2,D ICER1,DIO1,DIPK2A, DIXDC1,DMD,DMTF1 ,DNAJB1,DNAJC5,D OCK4,DPP4,DPP9,D	585

SP,DSTN,DTYMK,DU
SP19,DVL1,E2F5,EC
HDC1,EEPD1,EFHD2
,EGR1,EIF1AX,EIF4E
BP1,ELF1,ENDOG,E
NPP1,ERBB3,ESRRA
,EXOC6,EXOSC2,EX
TL2,F11,F2R,F3,FAD
S2,FAM102A,FAM11
8B,FAM160B1,FAM1
72A,FAM76B,FAM89
A,FBXO31,FBXO9,FE
CH,FGA,FGB,FGFR2
,FGFRL1,FGG,FH,FK
BP4,FLCN,FMO1,FM
O5,FOXK1,FOXO3,F
PGS,FTSJ3,G6PD,G
AS2L3,GCAT,GCLC,
GCNT2,GDA,GNA12,
GNG12,GOLGB1,GP
D2,GPN1,GRHPR,GS
DMD,GSK3A,GSS,G
STM2,GTF2A2,GTF2
F1,GTF3C2,GYG1,H
ECA,HECTD3,HERC
4,HLF,HMG20B,HMG
CR,HNRNPC,HNRNP
D,HOMER2,HOOKE1,
HRAS,HSD17B2,HSD
3B7,HSPB1,ICK,ID2,I
D4,IGFBP2,IL18,ING
4,IRF6,IRS1,ITPA,ITP
K1,JAK2,JMJD1C,KA
T2B,KCMF1,KDM6A,
KEAP1,KHK,KIAA010
0,KITLG,KLF12,KLF9,
KLHDC2,KLHL21,KL
HL7,KPNB1,KTN1,KY
NU,L2HGDH,LARS2,
LGALS4,LGR5,LIN7A
,LIN7C,LITAF,LMNA,
LPIN1,LRIG1,LRP12,
LRRC28,LRRC3,LSM
14B,LSS,LTBR,MAC
ROH2A1,MAGED1,M
AGI3,MAP1LC3B,MA
P2K3,MAP3K7,MBNL
2,MCOLN1,MEF2A,M
IA2,MKNK2,MLLT10,
MLX,MMD,MOCOS,M
ON2,MPDZ,MPP1,M
PRIP,MRNIP,MRPL1
2,MRPL20,MRPL24,
MRPL44,MRPS22,M
RPS25,MRPS27,MR
PS9,MT1F,MYO1B,M
YO5B,MYO6,N4BP2,
N4BP2L1,NAGK,NCA
LD,NCOA1,NDUFA12
,NDUFA9,NDUFB9,N
EK7,NET1,NFKBIA,N
GEF,NHLRC2,NINJ1,

NIPBL,NME1,NOSIP,
NPC1,NR1H4,NR2F6
,NR3C2,NR5A2,NRIP
1,NT5C,NUDT1,NUD
T19,NUDT7,NUP62,N
UP88,NUS1,OAZ1,O
SBPL1A,OTUD6B,OX
R1,PALMD,PAN2,PA
N3,PAQR9,PCDH1,P
CGF5,PDCD2,PDE2A
,PDE9A,PDGFC,PDG
FRB,PDLIM1,PDP2,P
DPK1,PDRG1,PER1,
PER3,PES1,PEX26,P
EX6,PFDN2,PFKFB1,
PGAP1,PHF20L1,PH
KA2,PIK3AP1,PIK3C
A,PKHD1,PLD1,PLX
NA2,PMPCA,PNKD,P
NRC1,POLE4,POR,P
PIF,PPM1A,PPOX,PP
P1R12A,PPP1R14B,
PPP1R1B,PPP1R3B,
PPP1R9A,PPP2R1A,
PRDX6,PRPF19,PRP
F39,PRPF6,PRPS1,P
RPS2,PSEN2,PSMA6
,PSMD1,PSMD11,PS
MD2,PSMD8,PSME2,
PSMG1,PSPC1,PSP
H,PTBP1,PTBP2,PX
MP4,QDPR,RAB11FI
P2,RAB1B,RABEPK,
RABGAP1L,RAI14,R
ALGPS2,RAN,RASA3
,RASSF3,RB1CC1,R
BBP5,RBBP7,RBKS,
RCAN1,RCL1,REPIN
1,RGS2,RHBDD1,RH
OD,RICTOR,RNF14,
RNF144A,RNF167,R
OCK1,RPA1,RPIA,R
UFY3,SAA4,SAR1B,S
ARS1,SBF2,SCAPER
,SCARB2,SCYL1,SD
C4,SDR42E1,SEC63,
SECISBP2L,SENP6,
SERPINA6,SERPINE
2,SERPINH1,SESN3,
SETDB2,SFRP5,SGK
2,SGTB,SH3D19,SH
MT1,SHPRH,SIRT5,S
LC10A1,SLC16A5,SL
C1A4,SLC20A1,SLC2
0A2,SLC25A32,SLC2
7A2,SLC2A2,SLC2A5
,SLC2A9,SLC30A10,
SLC35A3,SLC35B1,S
LC35B3,SLC38A2,SL
C39A10,SLC39A8,SL
C6A12,SLC9A3R1,SL
K,SMAD7,SMAP1,SN

					APC2,SNRNP200,SN TB1,SNX10,SNX5,SN X9,SOAT2,SOD2,SP ARC,SPG21,SPON2, SPOP,SPTBN1,SPTB N2,ST3GAL4,STARD 7,STIP1,STK24,STK4 0,STOM,STT3B,STX1 8,STX8,STXBP3,SUL F2,SUMF1,SYAP1,S YNE1,SYT1,TBC1D1 6,TBC1D20,TBC1D24 ,TBRG4,TCIM,TCP1, TEP1,TEX2,THAP4,T HRSP,TIFA,TIGD2,TI MM10,TIMM44,TK1,T LCD4,TLE1,TMBIM1, TMEM126A,TMEM21 9,TMEM41A,TMEM41 B,TMEM51,TMEM62, TMEM97,TNFAIP2,T NFAIP8L1,TNRC6A,T OP1MT,TPI1,TPR,TP RG1L,TPRKB,TRIB3, TRMT1,TSN,TSPAN3 3,TSTA3,TTC1,TTC1 9,TUBB,TUBB6,TUB GCP2,TUT4,TXN2,TX NL1,UBAC1,UBE2F, UBE2L3,UBR1,UBTF, UBXN1,UBXN6,UCK1 ,UGP2,UGT2B10,UL K1,UNG,UPP2,UROC 1,UROD,USP47,UTP 14A,UTRN,UXS1,VP S13A,WDR18,WDR2 6,WDR81,WIP1,WNT 5B,YPEL3,YWHAH,Z CCHC24,ZFAND2B,Z KSCAN1,ZNF23,ZNF 32,ZNF326,ZNF654 ANXA7,CD47,CDH2, F11,F2R,F3,KITLG,L GALS4,LTBR,NFKBI A,RCAN1,RICTOR,S PARC	13
Cardiovascular System Development And Function,Cell-To- Cell Signaling And Interaction	Binding	Binding Of Vascular Endothelial Cells	3.54E-04	-1.642		
Dermatological Diseases And Conditions,Inflamma tory Disease,Inflammator y Response,Organism al Injury And Abnormalities	Dermatitis	Dermatitis	8.53E-04	-1.663	AHCY,AHNAK,AKR1 D1,ARIH2,ATP1A1,B LMH,CD47,CDH1,CN N3,DPP4,DSP,FADS 2,FKBP4,FOXO3,FP GS,IL18,JAK2,MAP2 K3,NAGK,NFKBIA,N R1H4,PER1,POR,PS EN2,PSMD1,PSMD2, SLC25A32,SMAD7,S TARD7,TPI1	30
Lipid Metabolism,Small Molecule Biochemistry,Vitami	Metabolism	Metabolism Of Terpenoid	1.58E-05	-1.666	ABCG5,ABCG8,ACA T2,ACLY,ADH4,AKR1 D1,BAAT,CES1,CYP 39A1,CYP4F2,CYP7	29

n And Mineral
Metabolism

Cancer,Organismal
Injury And
Abnormalities

Lymphohemat
opoietic
Cancer

Lymphohemato
poietic Cancer

1.11E-05

-1.676

A1,ELOVL6,FECH,G6
PD,HMGCR,HSD17B
2,HSD3B7,KPNB1,LS
S,NPC1,NR1H4,NR5
A2,NUS1,POR,RAN,
SDC4,SERPINA6,SO
AT2,YWHAH
ABCB1,ABCB4,ABC
G2,ABCG5,ABCG8,A
CSL4,AHNAK,AKAP1
1,ALAS1,ANXA7,ASA
P2,ATG4D,ATP1A1,A
TP1B1,BAAT,BAP1,B
HMT,CAPN2,CBLB,C
CT3,CCT7,CD47,CD
A,CDH1,CDO1,CEBP
D,CHD6,CITED2,CN
P,COL27A1,CPT1A,C
TPS2,CTSH,CUL4B,
DAZAP1,DDC,DDX60
,DEK,DGKZ,DHX9,DI
CER1,DIO1,DIPK2A,
DMD,DMTF1,DNAJC
5,DPP4,DSP,ECHDC
3,EGR1,EIF4EBP1,E
NPP1,ERBB3,EXTL2,
F2R,F3,FAM102A,FB
XO31,FBXO9,FGFR2
,FGG,FOXO3,FPGS,
GNA12,GPD2,GRHP
R,GYG1,HECA,HECT
D3,HMG20B,HMGCR
,HNRNPD,HOK1,H
RAS,HSPB1,ICK,ID2,
ID4,IL18,IRS1,JAK2,J
MJD1C,KDM6A,KIAA
0100,KITLG,KPNB1,L
ARS2,LGALS4,LMNA
,LPIN1,LRIG1,LRRC3
,LTBR,MAGED1,MAP
2K3,MEF2A,MIA2,MK
NK2,MLLT10,MPDZ,
MRPL20,MRPL44,MY
O5B,NET1,NFKBIA,N
INJ1,NIPBL,NME1,N
RIP1,NT5C,NUP88,O
SBPL1A,PALMD,PAN
3,PAQR9,PDE9A,PD
GFC,PDGFRB,PDPK
1,PER1,PER3,PES1,
PEX6,PIK3AP1,PIK3
CA,PKHD1,PLXNA2,
PNKD,PNRC1,POLE
4,POR,PPM1A,PPP1
R14B,PPP1R1B,PPP
1R3B,PRPF19,PRPS
1,PSEN2,PSMD1,PS
MD2,PSME2,RAN,RH
OD,RICTOR,RPA1,S
ARS1,SCARB2,SERP
INH1,SGK2,SHMT1,S
HPRH,SLC25A32,SM

176

					AD7,SOAT2,SOD2,S PARC,SPTBN1,STIP 1,STK24,STK40,SYN E1,SYT1,TBC1D16,T CIM,TEP1,TPI1,TPR, TUBB6,TUT4,UBE2F, UBR1,UBXN1,UGT2B 10,UNG,UROC1,VPS 13A	
Carbohydrate Metabolism	Uptake	Uptake Of Carbohydrate	7.87E-04	-1.68	ABCB4,COL5A3,CPT 1A,CYLD,DPP4,EGR 1,ERBB3,ESRRA,FG FR2,G6PD,GSK3A,IR S1,NCOA1,NR1H4,N RIP1,PDPK1,PIK3CA, PLD1,PPM1A,SLC10 A1,SLC2A2,SLC2A5, TRIB3	23
Cancer,Gastrointesti nal Disease,Organismal Injury And Abnormalities	Colon Tumor	Colon Tumor	2.01E-05	-1.698	AASDH,ABCB1,ABC G5,ACLY,ACTR6,AF G3L2,AGPAT2,AHCY ,AKAP9,ALDH1L1,AL G13,ARHGAP21,ARL 6IP4,ASAP2,ASB13,A TG3,ATG4D,ATXN2L, BAAT,BAP1,C11orf54 ,C9orf152,CARS1,CC DC66,CCT4,CCT5,C CT7,CD2AP,CD99L2, CDH1,CDH2,CDO1,C ES1,CGN,CHCHD3,C HD6,CHPT1,CHRA C1,CLDND1,CLK2,CL MN,CLOCK,CMTM6, CNOT4,CNP,COL27A 1,COL5A3,CPEB4,CP T1A,CS,CTDSP1,CT PS2,CUL4B,CYLD,C YP4F2,DCTN1,DDX6 0,DHX9,DICER1,DM D,DMTF1,DOCK4,DS TN,EGR1,ELF1,ERB B3,ESRRA,F3,FAM16 0B1,FGA,FGF,FGFR 2,FLCN,FMO1,FMO5, G6PD,GAS2L3,GNA1 2,GNG12,GSS,HECA ,HECTD3,HMGCR,H NRNPC,HSD17B2,H SPB1,ICK,IGFBP2,IL 18,IRF6,IRS1,JAK2,J MJD1C,KDM6A,KEA P1,KIAA0100,KITLG, KLF12,KLHL7,KPNB1 ,KTN1,LGR5,LIN7A,L RIG1,LRP12,LRR3, MACROH2A1,MAGE D1,MAP3K7,MIA2,MK NK2,MLLT10,MLX,M ON2,MPRIIP,MRNIP, MRPS9,MT1F,MYO5 B,MYO6,NCOA1,NEK	230

					7,NET1,NGEF,NHLR C2,NIPBL,NOSIP,NR 1H4,NR3C2,NUDT19, NUDT7,NUP62,OAZ1 ,OSBPL1A,PAQR9,P CDH1,PCGF5,PDE9A ,PDGFRB,PDP2,PDP K1,PER1,PFDN2,PG AP1,PHF20L1,PHKA 2,PIK3AP1,PIK3CA,P KHD1,PLD1,PLXNA2, PNKD,PNRC1,PPP1 R14B,PPP1R1B,PPP 2R1A,PRPF39,PRPF 6,PSMD8,PTBP1,QD PR,RABGAP1L,RAS SF3,RB1CC1,RBBP5, RICTOR,ROCK1,RPA 1,RUFY3,SAA4,SBF2 ,SCAPER,SCYL1,SE C63,SECISBP2L,SEN P6,SESN3,SGK2,SH PRH,SLC1A4,SLC20 A1,SLC20A2,SLC27A 2,SLC2A2,SLC35B3, SLC38A2,SLC39A10, SLC39A8,SLC6A12,S MAD7,SMAP1,SNRN P200,SNX9,SOAT2,S POP,SPTBN1,SPTBN 2,STIP1,STX8,SULF2 ,SYAP1,SYNE1,SYT1 ,TBC1D16,TBC1D24, TBRG4,TCP1,TEP1,T IMM44,TK1,TMEM12 6A,TMEM41B,TMEM 97,TNRC6A,TOP1MT ,TPR,TTC1,TUBB,UB AC1,UBTF,ULK1,UN G,UROC1,UTRN,VPS 13A,WDR18,WDR26, WDR81,WNT5B,ZCC HC24	
Lipid Metabolism,Small Molecule Biochemistry,Vitami n And Mineral Metabolism	Synthesis	Synthesis Of Steroid	1.13E-09	-1.709	ABCG5,ABCG8,ACA T2,ACLY,ACOX2,AK R1D1,ATP1A1,BAAT, CES1,CYP39A1,CYP 7A1,ELOVL6,ESRRA, G6PD,HMGCR,HSD1 7B2,HSD3B7,IGFBP2 ,IL18,JAK2,KITLG,KP NB1,LSS,NPC1,NR1 H4,NR5A2,OSBPL1A, POR,RAN,SERPINE2 ,SLC27A2,SLC9A3R1 ,SOAT2,STARD4	34
Organismal Survival	Morbidity Or Mortality	Morbidity Or Mortality	8.62E-11	-1.712	ABCB1,ABCB4,ACLY ,ADH4,AGPAT2,AKA P9,ANXA7,AQP11,A RIH2,ATG3,ATP1A1, ATP1B1,BAP1,BID,BI K,BLMH,CAPN2,CBL	171

					B,CCBE1,CD2AP,CD 47,CDA,CDH1,CDH2, CDO1,CEBPD,CITED 2,CNN3,CNP,CPT1A, CSRNP1,CUL4B,CXA DR,CYLD,CYP7A1,D CTN1,DHX9,DICER1, DMD,DMTF1,DNAJB 1,DNAJC5,DSP,DVL1 ,E2F5,ENDOG,ERBB 3,F11,F2R,F3,FADS2 ,FECH,FGA,FGFR2,F GFRL1,FGG,FH,FKB P4,FLCN,FOXO3,G6 PD,GABARAP,GAS2 L3,GCLC,GNA12,GP D2,GSS,HECTD3,HM GCR,HNRNPC,HNR NPD,HRAS,HSD17B2 ,HSD3B7,HSPB1,ID2, IGFBP2,IL18,ING4,IT PA,JAK2,KAT2B,KD M6A,KEAP1,KITLG,K LF9,LGR5,LIN7A,LIN 7C,LMNA,LTBR,MAC ROH2A1,MAP1LC3B, MAP2K3,MAP3K7,M BNL2,MCOLN1,MEF2 A,NCOA1,NEK7,NFK BIA,NINJ1,NIPBL,NP C1,NR1H4,NR3C2,N R5A2,NUDT1,NUP62, NUS1,OGA,PDCD2,P DGFC,PDGFRB,PDLI M1,PDPK1,PES1,PG AP1,PIK3CA,POR,PP IF,PPP1R12A,PPP1R 9A,PPP2R1A,PRPF1 9,PSEN2,PSMG1,PT BP1,PTBP2,QDPR,R ASA3,RB1CC1,RCAN 1,RICTOR,RNF14,RU FY3,SCARB2,SCYL1, SDC4,SEC63,SERPI NA6,SERPINH1,SFR P5,SLC20A1,SLC2A2 ,SLC2A9,SLC30A10, SLC39A10,SLC9A3R 1,SMAD7,SOD2,SPO P,SPTBN1,STIP1,ST K40,STXBP3,SULF2, SYNE1,SYT1,TK1,TN FAIP8L1,TSTA3,UBE 2L3,UBR1,UBTF,ULK 1,UNG,UROD,UTRN, UXS1,WNT5B AASDH,ABCB1,ABC B4,ABCG2,ABCG5,A BCG8,ABTB2,ACAD8 ,ACAT2,ACLY,ACOX 2,ACSL3,ACSL4,ACS L5,ACSM1,ACSM5,A	
Cancer,Organismal Injury And Abnormalities	Cancer	Cancer Of Secretory Structure	4.67E-26	-1.715	516	

CSS2,ACTR6,ADH4,
AFG3L2,AGPAT2,AH
CY,AHNAK,AKAP11,
AKAP9,AKR1D1,ALA
S1,ALDH1L1,ALG13,
AMDHD1,ANKRD12,
ANP32A,ANXA7,ARG
LU1,ARHGAP18,ARH
GAP21,ARHGAP6,A
RIH2,ARL15,ARL4A,
ARL6IP4,ASAP2,ASB
13,ATG4D,ATP1A1,A
TP1B1,ATP6V1D,AT
XN2L,AUH,BAAT,BA
P1,BDH1,BHMT,BHM
T2,BID,BIK,BLMH,BR
D8,C11orf54,C9orf15
2,C9orf16,CA3,CAMK
K2,CAPN2,CARS1,C
BLB,CCBE1,CCDC66
,CCT4,CCT5,CCT6A,
CCT7,CD2AP,CD47,
CD99L2,CDA,CDC14
B,CDH1,CDH2,CDO1
,CEBPD,CENPV,CES
1,CGN,CHD6,CHPT1,
CITED2,CLDND1,CL
K2,CLMN,CLOCK,CM
TM6,CMTM8,CNN3,C
NOT4,CNOT6,CNP,C
OL27A1,COL5A3,CO
RO1B,CPT1A,CRIP2,
CRLS1,CROT,CSRN
P1,CTDSP1,CTPS2,
CTSH,CUL4B,CXAD
R,CYB5B,CYLD,CYP
2U1,CYP39A1,CYP4
F2,CYP7A1,CYTH1,D
AZAP1,DCTN1,DDC,
DDX60,DGKZ,DHX9,
DIAPH2,DICER1,DIO
1,DIPK2A,DIXDC1,D
MD,DMTF1,DNAJB1,
DOCK4,DPP4,DPP9,
DSP,DSTN,DTYMK,D
USP19,DVL1,E2F5,E
FHD2,EGR1,EIF1AX,
EIF4EBP1,ELF1,END
OG,ENPP1,ERBB3,E
SRRA,EXOC6,EXOS
C2,F11,F3,FADS2,FA
M102A,FAM118B,FA
M160B1,FAM76B,FA
M89A,FBXO31,FBXO
9,FECH,FGA,FGB,FG
FR2,FGFRL1,FGG,F
H,FKBP4,FLCN,FMO
1,FOXK1,FOXO3,FP
GS,FTSJ3,G6PD,GA
S2L3,GCAT,GCLC,G
CNT2,GDA,GNA12,G
OLGB1,GPD2,GPN1,

GRHPR,GSDMD,GS
K3A,GSS,GSTM2,GT
F2A2,GTF2F1,GTF3
C2,GYG1,HECA,HEC
TD3,HERC4,HLF,HM
G20B,HMGCR,HNRN
PC,HNRNPD,HOME
R2,HOOK1,HRAS,HS
D17B2,HSD3B7,HSP
B1,ICK,ID2,ID4,IGFB
P2,ING4,IRF6,IRS1,I
TPK1,JAK2,JMJD1C,
KAT2B,KCMF1,KDM6
A,KEAP1,KHK,KIAA0
100,KITLG,KLF12,KL
F9,KLHDC2,KLHL21,
KLHL7,KTN1,KYNU,L
2HGDH,LARS2,LGAL
S4,LGR5,LIN7A,LIN7
C,LITAF,LMNA,LPIN1
,LRIG1,LRP12,LRRC
28,LRRC3,LSM14B,L
SS,LTBR,MAGED1,M
AGI3,MAP3K7,MBNL
2,MCOLN1,MEF2A,M
IA2,MKNK2,MLLT10,
MLX,MMD,MOCOS,M
ON2,MPDZ,MPP1,M
PRIP,MRPL12,MRPL
20,MRPS22,MRPS25
,MRPS27,MRPS9,MT
1F,MYO1B,MYO5B,M
YO6,N4BP2,NAGK,N
COA1,NDUFA12,ND
UFA9,NEK7,NET1,NF
KBIA,NGEF,NHLRC2,
NINJ1,NIPBL,NME1,
NOSIP,NPC1,NR1H4,
NR2F6,NR5A2,NRIP1
,NT5C,NUDT19,NUD
T7,NUP62,NUP88,NU
S1,OAZ1,OSBPL1A,
OTUD6B,OXR1,PAL
MD,PAN2,PAN3,PAQ
R9,PCDH1,PCGF5,P
DCD2,PDE2A,PDE9A
,PDGFRB,PDLIM1,P
DP2,PDPK1,PDRG1,
PER1,PER3,PES1,P
EX26,PEX6,PFKFB1,
PGAP1,PHF20L1,PH
KA2,PIK3AP1,PIK3C
A,PKHD1,PLD1,PLX
NA2,PMPCA,PNKD,P
NRC1,POR,PPIF,PP
OX,PPP1R12A,PPP1
R1B,PPP1R3B,PPP1
R9A,PPP2R1A,PRDX
6,PRPF19,PRPF39,P
RPF6,PRPS1,PRPS2
,PSEN2,PSMA6,PSM
D1,PSMD11,PSMD2,

PSME2,PSMF1,PSMG1,PSPC1,PSPH,PTBP1,PTBP2,PXMP4,QDPR,RAB11FIP2,RAB1B,RABGAP1L,RALI4,RALGPS2,RASA3,RASSF3,RB1CC1,RBBP5,RBBP7,RBKS,RCAN1,RCL1,REPIN1,RHBDD1,RHOD,RICTOR,RNF14,RNF14A,ROCK1,RPA1,RPIA,RUFY3,SAA4,SBF2,SCAPER,SCARB2,SCYL1,SDC4,SDR42E1,SEC63,SECISBP2L,SENP6,SERPINA6,SERPINE2,SERPINH1,SESN3,SETDB2,SFRP5,SGK2,SGTB,SH3D19,SHMT1,SHPRH,SIRT5,SLC10A1,SLC16A5,SLC1A4,SLC20A2,SLC25A32,SLC27A2,SLC2A5,SLC2A9,SLC35A3,SLC35B1,SLC35B3,SLC39A10,SLC39A8,SLC6A12,SLC9A3R1,SLK,SMAD7,SMAP1,SNAPC2,SNRNP200,SNTB1,SNX5,SNX9,SOAT2,SOD2,SPARC,SPON2,SPOP,SPTBN1,SPTBN2,ST3GAL4,STARD7,STIP1,STK40,STOM,STT3B,STX18,STX8,STXBP3,SULF2,SUMF1,SYAP1,SYNE1,SYT1,TBC1D16,TBC1D20,TBC1D24,TBRG4,TCP1,TEP1,TEX2,THAP4,TIFA,TIMM10,TIMM44,TK1,TLCD4,TLE1,TMEM126A,TMEM41A,TMEM51,TMEM62,TNFAIP2,TNFAIP8L1,TNRC6A,TOP1MT,TPR,TPRG1L,TPRKB,TRIB3,TRMT1,TSPAN33,TSTA3,TTC1,TTC19,TUBB,TUBB6,TUBGCP2,TXN2,TXNL1,UBAC1,UBE2F,UBE2L3,UBR1,UBTF,UBXN6,UCK1,UGP2,ULK1,UNG,UPP2,UROC1,UROD,USP47,UTP14A,UTRN,VPS13A,WDR18,WDR26,WDR81,WIP1,WNT5B,YPEL3,ZCCHC24,ZFAND

Cancer,Hematologic al Disease,Organismal Injury And Abnormalities	Hematologic Cancer	Hematologic Cancer	1.18E-05	-1.722	2B,ZKSCAN1,ZNF23, ZNF326,ZNF654 ABCB1,ABCB4,ABC G2,ABCG5,ABCG8,A CSL4,AHNAK,AKAP1 1,ALAS1,ANXA7,ASA P2,ATG4D,ATP1A1,A TP1B1,BAAT,BAP1,B HMT,CAPN2,CBLB,C CT3,CCT7,CD47,CD A,CDH1,CDO1,CEBP D,CHD6,CITED2,CN P,COL27A1,CPT1A,C TPS2,CTSH,CUL4B, DAZAP1,DDC,DDX60 ,DEK,DGKZ,DHX9,DI CER1,DIO1,DIPK2A, DMD,DMTF1,DNAJC 5,DPP4,DSP,ECHDC 3,EGR1,EIF4EBP1,E NPP1,ERBB3,EXTL2, F2R,F3,FAM102A,FB XO31,FBXO9,FGFR2 ,FGG,FOXO3,FPGS, GNA12,GPD2,GRHP R,GYG1,HECA,HECT D3,HMG20B,HMGCR ,HNRNPD,HOOK1,H RAS,HSPB1,ICK,ID2, ID4,IL18,IRS1,JAK2,J MJD1C,KDM6A,KIAA 0100,KITLG,KPNB1,L ARS2,LGALS4,LMNA ,LPIN1,LRIG1,LRRC3 ,LTBR,MAGED1,MAP 2K3,MEF2A,MIA2,MK NK2,MLLT10,MPDZ, MRPL20,MRPL44,MY O5B,NET1,NFKBIA,N INJ1,NIPBL,NME1,N RIP1,NT5C,NUP88,O SBPL1A,PALMD,PAN 3,PAQR9,PDE9A,PD GFC,PDGFRB,PDPK 1,PER1,PER3,PES1, PEX6,PIK3AP1,PIK3 CA,PKHD1,PLXNA2, PNKD,PNRC1,POLE 4,POR,PPM1A,PPP1 R14B,PPP1R1B,PPP 1R3B,PRPF19,PRPS 1,PSEN2,PSMD1,PS MD2,PSME2,RAN,RH OD,RICTOR,RPA1,S ARS1,SCARB2,SERP INH1,SGK2,SHMT1,S HPRH,SLC25A32,SM AD7,SOAT2,SOD2,S PARC,SPTBN1,STIP 1,STK24,STK40,SYN E1,SYT1,TCIM,TEP1, TPI1,TPR,TUBB6,TU	175
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Cancer,Organismal Injury And Abnormalities,Reproductive System Disease	Breast Or Gynecological Cancer	Breast Or Gynecological Cancer	3.24E-06	-1.731	T4,UBE2F,UBR1,UBXN1,UGT2B10,UNG,UROC1,VPS13A ABCB1,ABCB4,ABCG2,ABCG5,ACAD8,ACOX2,ACSL3,ACSL4,ACSM1,ACSS2,AGPAT2,AHNAK,AKAP11,AKAP9,ALAS1,ALDH1L1,ALG13,ANKRD12,ARHGAP21,ARHGAP6,ARIH2,ARL15,ATP1A1,AUH,BAP1,BDH1,BIK,BRD8,CAPN2,CCT3,CCT5,CCT6A,CD2AP,CD47,CD9,CD99L2,CDA,CDH1,CDH2,CDO1,CEBPD,CEES1,CGN,CLK2,CLMN,CMTM8,CNOT4,CNOT6,COL27A1,CPEB4,CPT1A,CS,CTSH,CXADR,CYLD,CYP2U1,CYP4F2,CYP7A1,DAZAP1,DCTN1,DDX60,DGKZ,DHX9,DIAPH2,DICER1,DIO1,DIPK2A,DIXDC1,DMD,DOCK4,DPP4,DPP9,DSP,DSTN,E2F5,EGR1,EIF1AX,EIF4EBP1,ELF1,ELOVL6,ENPP1,ERBB3,ESRRA,EXOC6,EXOSC2,F11,F2R,F3,FADS2,FAM160B1,FAM172A,FECH,FGA,FGFR2,FGG,FOXO3,FTSJ3,GNA12,GOLGB1,GRHPR,GSK3A,GSTM2,GYG1,HECA,HECTD3,HLF,HMGCR,HRAS,HSPB1,ICK,IGFBP2,IL18,ING4,IRF6,IRS1,ITPA,JK2,JMJD1C,KAT2B,KCMF1,KDM6A,KEAP1,KIAA0100,KLF9,KTN1,L2HGDH,LGALS4,LGR5,LMNA,LRIG1,LSM14B,MACROH2A1,MAGED1,MAGI3,MAP1LC3B,MAP2K3,MCOLN1,MEF2A,MKNK2,MON2,MPDZ,MPRIP,MRPL24,MRPL34,MRPL44,MRPS22,MRPS27,MT1F,MYO1B,MYO5B,MYO6,NCOA1,NDUFA9,NDUFB9,NEK7,NHLRC2,NIPBL,NME1,NOSIP,NPC1,NR2F6,NR3C2,	274
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Cancer, Organismal Injury And Abnormalities	Lymphoid Cancer	Lymphoid Cancer	8.05E-05	-1.757	NR5A2, NRIP1, NUP62, NUS1, OSBPL1A, OXR1, PALMD, PAN3, PCDH1, PCGF5, PDCD2, PDE2A, PDGFRB, PDLIM1, PDP2, PER3, PGAP1, PHF20L1, PHKA2, PIK3CA, PKHD1, PLD1, PLXNA2, PNRC1, POR, PPIF, PPP1R1B, PPP1R9A, PPP2R1A, PRPF39, PRPF6, PSM D2, PTBP1, PTBP2, RABEPK, RABGAP1L, RALGPS2, RASA3, RB1C C1, RBBP5, RBBP7, RGS2, RICTOR, RNF14, ROCK1, RPIA, SBF2, SCAPER, SCARB2, SECISBP2L, SESN3, SETDB2, SFRP5, SLC20A1, SLC20A2, SLC25A32, SLC2A2, SLC38A2, SLC39A10, SLC9A3R1, SNRNP200, SNTB1, SNX10, SOD2, SPARC, SPG21, SPOP, SPTBN1, SPTBN2, STARD7, STK24, STK40, STOM, STT3B, STX8, SYNE1, TBC1D20, TCP1, TEP1, TEX2, THRSP, TIGD2, TIMM44, TK1, TLE1, TMEM126A, TMEM97, TNFAIP2, TNRC6A, TOP1MT, TPI1, TPR, TPRG1L, TRIB3, TTC1, TUBB, TUBB6, TXNL1, UGP2, UGT2B10, UROD, USP47, UTRN, UXS1, VPS13A, WNT5B, YWHAH, ZCCHC24, ZFAND2B, ZKSCAN1, ZNF23, ZNF32 ABCB1, ABCG2, AHNAK, AKAP11, ANXA7, ASAP2, ATP1B1, BAP1, CBLB, CCT3, CCT7, CD47, CDH1, CDO1, CBPD, CHD6, CITED2, CNP, COL27A1, CTSH, CUL4B, DDC, DEK, DGKZ, DICER1, DIO1, DM D, DMTF1, DPP4, DSP, EGR1, EIF4EBP1, ENPP1, ERBB3, EXTL2, F2R, F3, FAM102A, FBXO31, FBXO9, FGFR2, FOXO3, FPGS, GNA12, GPD2, GRHPR, HECA, HMGCR, HRAS, HSPB1, ICK, ID2, IL18, JAK2	113
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					, JMJD1C, KDM6A, KIAA0100, KITLG, KPNB1, LPIN1, LRIG1, LTBR, MAGED1, MAP2K3, MEF2A, MIA2, MKNK2, MLT10, MPDZ, MRPL20, MYO5B, NFKBIA, NINJ1, NIPBL, NME1, PALMD, PDE9A, PDGFC, PDGFRB, PDPK1, PER1, PIK3CA, PLXNA2, PNKD, PNRC1, POLE4, POR, PRPF19, PRPS1, PSMD1, PSMD2, RAN, RICTOR, RPA1, SARS1, SERPINH1, SHMT1, SLC25A32, SMAD7, SOD2, SPARC, SPTBN1, STIP1, STK24, SYT1, TBC1D16, TPR, TUBB6, TUT4, UBE2F, UBR1, UNG, VPS13A	
Cancer, Organismal Injury And Abnormalities	Breast Or Pancreatic Cancer	Breast Or Pancreatic Cancer	7.45E-04	-1.762	AASDH, ABCB1, ABCB4, ABCG2, ABTB2, ACAT2, ACLY, ACSM5, ACSS2, ADH4, AGPAT2, AHNK, AKAP11, AKAP9, ALDH1L1, ALG13, ANKRD12, ANP32A, ATP1A1, AUH, BAP1, BDH1, BRD8, C9orf152, CAMKK2, CAPN2, CBLB, CCDC66, CCT3, CCT5, CCT6A, CD47, CD9, CDH1, CDH2, CDO1, CEBPD, CES1, CHD6, CLK2, CMTM8, CNOT4, CNOT6, COL27A1, COL5A3, CPEB4, CPT1A, CS, CUL4B, CXADR, CYLD, CYP2U1, DAZAP1, DCTN1, DGKZ, DHX9, DIAPH2, DICE1, DIXDC1, DMD, DOCK4, DPP4, DSP, DSTN, E2F5, EGR1, EIF1AX, EIF4EBP1, ELOVL6, ERBB3, ESRRA, EXOC6, EXOSC2, F11, F2R, F3, FADS2, FGA, FGF2, FOXO3, FTSJ3, GAS2L3, GCLC, GNA12, GOLGB1, GRHR, GSTM2, GYG1, HERC4, HMGCR, HRAS, HSPB1, IGFBP2, IL18, ING4, IRS1, ITPA, JAK2, JMJD1C, KAT2B, KDM6A, KEAP1, KIAA0100, KLF12, KLF9, LGALS4, LGR5, LMNA, LRIG1, LSM14B, LSS, MACR	232

Cancer,Organismal
Injury And
Abnormalities

Genitourinary
Tumor

Genitourinary
Tumor

1.88E-12

-1.806

OH2A1,MAGI3,MAP1
LC3B,MAP2K3,MEF2
A,MIA2,MKNK2,MPD
Z,MRPL24,MRPL34,
MRPS27,MT1F,MYO
1B,MYO5B,MYO6,NA
GK,NDUFB9,NEK7,N
GEF,NINJ1,NIPBL,N
ME1,NPC1,NR3C2,N
R5A2,NRIP1,NUS1,O
SBPL1A,PAN2,PAQR
9,PCDH1,PDGFRB,P
GAP1,PHF20L1,PHK
A2,PIK3CA,PKHD1,P
LXNA2,PNRC1,POR,
PPP1R1B,PPP1R9A,
PPP2R1A,PRPF39,P
RPF6,PRPS1,PSMD1
,PSMD11,PSMF1,PT
BP1,PXMP4,RABEPK
,RABGAP1L,RASA3,
RB1CC1,RBBP5,RG
S2,RICTOR,RNF14,R
OCK1,RPA1,SBF2,S
CAPER,SEC63,SECI
SBP2L,SERPINE2,S
ERPINH1,SETDB2,S
FRP5,SHPRH,SLC20
A1,SLC20A2,SLC25A
32,SLC2A5,SLC2A9,
SLC9A3R1,SNRNP20
0,SNTB1,SOD2,SPA
RC,SPG21,SPOP,SP
TBN1,SPTBN2,ST3G
AL4,STARD7,STK40,
STOM,STT3B,STX8,
SYNE1,TCP1,TEP1,T
EX2,THRSP,TIMM44,
TK1,TMEM126A,TME
M97,TNRC6A,TP1
MT,TPI1,TPR,TRIB3,
TTC1,TUBB,TUBB6,T
UBGCP2,TXNL1,UG
P2,UROD,USP47,UT
RN,UXS1,VPS13A,W
NT5B,YWHAH,ZFAN
D2B,ZNF23,ZNF654
ABCB1,ABCB4,ABC
G2,ABCG5,ACAD8,A
CLY,ACOX2,ACSL3,
ACSL4,ACSM1,ACSS
2,AFG3L2,AGPAT2,A
HNAK,AKAP11,AKAP
9,ALAS1,ALDH1L1,A
LG13,ANKRD12,ARH
GAP18,ARHGAP21,A
RHGAP6,ARIH2,ARL
15,ASAP2,ATP1A1,A
TP1B1,ATP6V1D,AT
XN2L,AUH,BAAT,BA
P1,BDH1,BIK,BLMH,
BRD8,CA3,CAPN2,C

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ARS1,CBLB,CCT3,CCT5,CCT6A,CD2AP,CD47,CD9,CD99L2,CDA,CDC14B,CDH1,CDH2,CDO1,CEBPD,CES1,CGN,CHD6,CLDND1,CLK2,CLMN,CMTM8,CNOT4,CNOT6,CNP,COL27A1,COL5A3,CPEB4,CPT1A,CROT,CS,CSRNP1,CSSH,CXADR,CYLD,CYP2U1,CYP4F2,CYP7A1,CYTH1,DAZAP1,DCTN1,DDC,DDX60,DGKZ,DHX9,DIAPH2,DICER1,DIO1,DIPK2A,DIXDC1,DMD,DMTF1,DOCK4,DPP4,DUPP9,DSP,DSTN,DUSP19,DVL1,E2F5,EFHD2,EGR1,EIF1AX,EIF4EBP1,ELF1,ELOVL6,ENPP1,ERBB3,ESRRA,EXOC6,EXOSC2,EXTL2,F11,F2R,F3,FADS2,FAM160B1,FAM172A,FAM89A,FECH,FGA,FGFR2,FGFRL1,FGG,FH,FKBP4,FLCN,FOXK1,FOXO3,FTSJ3,G6PD,GABARAP,GDA,GNA12,GOLGB1,GPD2,GRHPR,GSDMD,GSK3A,GSTM2,GTF2A2,GTF3C2,GYG1,HECA,HECTD3,HLF,HMGCR,HRAS,HSDB3B7,HSPB1,ICK,IDS2,IGFBP2,IL18,ING4,IRF6,IRS1,ITPA,IAK2,JMJD1C,KAT2B,KCMF1,KDM6A,KEAP1,KIAA0100,KITLG,KLF9,KLHDC2,KLHL7,KTN1,KYNU,L2HGDH,LARS2,LGALS4,LGR5,LIN7C,LITAF,LMNA,LPIN1,LRIG1,LRP12,LRRC28,LSM14B,LSS,LTBR,MACROH2A1,MAGED1,MAGI3,MAP1LC3B,MAP2K3,MBNL2,MCOLN1,METF2A,MIA2,MKNK2,MLLT10,MLX,MMD,MOCOS,MON2,MPDZ,MPPI1,MPRIP,MRPL24,MRPL34,MRPL44,MRPS22,MRPS25,MRPS27,MT1F,MYO1B,MYO5B,MYO6,N4BP2,N

4BP2L1,NAGK,NCOA
1,NDUFA9,NDUFB9,
NEK7,NFKBIA,NGEF,
NHLRC2,NINJ1,NIPB
L,NME1,NOSIP,NPC
1,NR2F6,NR3C2,NR5
A2,NRIP1,NUDT7,NU
P62,NUP88,NUS1,O
AZ1,OSBPL1A,OTUD
6B,OXR1,PALMD,PA
N3,PCDH1,PCGF5,P
DCD2,PDE2A,PDGF
RB,PDLIM1,PDP2,PD
PK1,PDRG1,PER1,P
ER3,PEX6,PGAP1,P
HF20L1,PHKA2,PIK3
CA,PKHD1,PLD1,PL
XNA2,PNKD,PNRC1,
POR,PIIF,PPP1R1B,
PPP1R3B,PPP1R9A,
PPP2R1A,PRPF39,P
RPF6,PSEN2,PSMA6
,PSMD1,PSMD2,PTB
P1,PTBP2,PXMP4,R
AB11FIP2,RABEPK,R
ABGAP1L,RAI14,RAL
GPS2,RASA3,RB1CC
1,RBBP5,RBBP7,RC
AN1,RCL1,REPIN1,R
GS2,RHOD,RICTOR,
RNF14,RNF144A,RO
CK1,RPIA,SBF2,SCA
PER,SCARB2,SCYL1
,SDC4,SDR42E1,SE
C63,SECISBP2L,SEN
P6,SERPINA6,SERPI
NE2,SESN3,SETDB2
,SFRP5,SHPRH,SIRT
5,SLC16A5,SLC1A4,
SLC20A1,SLC20A2,S
LC25A32,SLC2A2,SL
C2A5,SLC2A9,SLC38
A2,SLC39A10,SLC39
A8,SLC6A12,SLC9A3
R1,SLK,SMAD7,SMA
P1,SNRNP200,SNTB
1,SNX10,SOD2,SPA
RC,SPG21,SPOP,SP
TBN1,SPTBN2,ST3G
AL4,STARD7,STIP1,
STK24,STK40,STOM,
STT3B,STX8,STXBP
3,SULF2,SYNE1,TBC
1D16,TBC1D20,TBC1
D24,TCP1,TEP1,TEX
2,THRSP,TIFA,TIGD2
,TIMM44,TK1,TLE1,T
MEM126A,TMEM51,T
MEM97,TNFAIP2,TN
RC6A,TOP1MT,TPI1,
TPR,TPRG1L,TRIB3,
TRMT1,TSPAN33,TT

						C1,TUBB,TUBB6,TX NL1,UBAC1,UBE2F, UBR1,UGP2,UGT2B1 0,UROC1,UROD,USP 47,UTP14A,UTRN,UX S1,VPS13A,WIPI2,W NT5B,YPEL3,YWHA H,ZCCHC24,ZFAND2 B,ZKSCAN1,ZNF23,Z NF32,ZNF654	
Cancer,Hematologic al Disease,Immunologi cal Disease,Organismal Injury And Abnormalities	Lymphocytic Cancer	Lymphocytic Cancer	7.99E-05	-1.815	112	ABCB1,ABCG2,AHN AK,AKAP11,ANXA7,A SAP2,ATP1B1,BAP1, CBLB,CCT3,CCT7,C D47,CDH1,CDO1,CE BPD,CHD6,CITED2,C NP,COL27A1,CTSH, CUL4B,DDC,DEK,DG KZ,DICER1,DIO1,DM D,DMTF1,DPP4,DSP, EGR1,EIF4EBP1,EN PP1,ERBB3,EXTL2,F 2R,F3,FAM102A,FBX O31,FBXO9,FGFR2,F OXO3,FPGS,GNA12, GPD2,GRHPR,HECA ,HMGCR,HRAS,HSP B1,ICK,ID2,IL18,JAK2 ,JMJD1C,KDM6A,KIA A0100,KITLG,KPNB1, LPIN1,LRIG1,LTBR,M AGED1,MAP2K3,ME F2A,MIA2,MKNK2,ML LT10,MPDZ,MRPL20, MYO5B,NFKBIA,NINJ 1,NIPBL,NME1,PALM D,PDE9A,PDGFC,PD GFRB,PDPK1,PER1, PIK3CA,PLXNA2,PN KD,PNRC1,POLE4,P OR,PRPF19,PRPS1, PSMD1,PSMD2,RAN, RICTOR,RPA1,SARS 1,SERPINH1,SHMT1, SLC25A32,SMAD7,S OD2,SPARC,SPTBN 1,STIP1,STK24,SYT1 ,TPR,TUBB6,TUT4,U BE2F,UBR1,UNG,VP S13A	
Cancer,Hematologic al Disease,Organismal Injury And Abnormalities	Lymphocytic Neoplasm	Lymphocytic Neoplasm	8,46E-05	-1,815	112	ABCB1,ABCG2,AHN AK,AKAP11,ANXA7,A SAP2,ATP1B1,BAP1, CBLB,CCT3,CCT7,C D47,CDH1,CDO1,CE BPD,CHD6,CITED2,C NP,COL27A1,CTSH, CUL4B,DDC,DEK,DG KZ,DICER1,DIO1,DM D,DMTF1,DPP4,DSP, EGR1,EIF4EBP1,EN PP1,ERBB3,EXTL2,F	

					2R,F3,FAM102A,FBX O31,FBXO9,FGFR2,F OXO3,FPGS,GNA12, GPD2,GRHPR,HECA ,HMGCR,HRAS,HSP B1,ICK,ID2,IL18,JAK2 ,JMJD1C,KDM6A,KIA A0100,KITLG,KPNB1, LPIN1,LRIG1,LTBR,M AGED1,MAP2K3,ME F2A,MIA2,MKNK2,ML LT10,MPDZ,MRPL20, MYO5B,NFKBIA,NINJ 1,NIPBL,NME1,PALM D,PDE9A,PDGFC,PD GFRB,PDPK1,PER1, PIK3CA,PLXNA2,PN KD,PNRC1,POLE4,P OR,PRPF19,PRPS1, PSMD1,PSMD2,RAN, RICTOR,RPA1,SARS 1,SERPINH1,SHMT1, SLC25A32,SMAD7,S OD2,SPARC,SPTBN 1,STIP1,STK24,SYT1 ,TPR,TUBB6,TUT4,U BE2F,UBR1,UNG,VP S13A	
Organismal Survival	Organismal Death	Organismal Death	5.50E-11	-1.818	ABCB1,ABCB4,ACLY ,ADH4,AGPAT2,AKA P9,ANXA7,AQP11,A RIH2,ATG3,ATP1A1, ATP1B1,BAP1,BID,BI K,BLMH,CAPN2,CBL B,CCBE1,CD2AP,CD 47,CDA,CDH1,CDH2, CDO1,CEBPD,CITED 2,CNN3,CNP,CPT1A, CSRNP1,CUL4B,CXA DR,CYLD,CYP7A1,D CTN1,DHX9,DICER1, DMD,DMTF1,DNAJB 1,DNAJC5,DSP,DVL1 ,E2F5,ENDOG,ERBB 3,F11,F2R,F3,FADS2 ,FECH,FGA,FGFR2,F GFRL1,FGG,FH,FKB P4,FLCN,FOXO3,G6 PD,GABARAP,GAS2 L3,GCLC,GNA12,GP D2,GSS,HMGCR,HN RNP,HNRPD,HRA S,HSD17B2,HSD3B7, HSPB1,ID2,IGFBP2,I L18,ING4,ITPA,JAK2, KAT2B,KDM6A,KEAP 1,KITLG,KLF9,LGR5, LIN7A,LIN7C,LMNA,L TBR,MACROH2A1,M AP1LC3B,MAP2K3,M AP3K7,MBNL2,MCOL N1,MEF2A,NCOA1,N	170

					EK7,NFKBIA,NINJ1,NIPBL,NPC1,NR1H4,NR3C2,NR5A2,NUDT1,NUP62,NUS1,OGA,PDGCD2,PDGFC,PDGFRB,PDLIM1,PDPK1,PES1,PGAP1,PIK3CA,POR,PPIF,PPP1R12A,PPP1R9A,PPP2R1A,PRPF19,PSEN2,PSMG1,PTBP1,PTBP2,QDPR,RASA3,RB1CC1,RCAN1,RICTOR,RNF14,RUFY3,SCARB2,SCYL1,SDC4,SEC63,SERPINA6,SERPINH1,SFRP5,SLC20A1,SLC2A2,SLC2A9,SLC30A10,SLC39A10,SLC9A3R1,SMAD7,SOD2,SPOP,SPTBN1,STIP1,STK40,STXBP3,SULF2,SYNE1,SYT1,TK1,TNFAIP8L1,STA3,UBE2L3,UBR1,UBTF,ULK1,UNG,UROD,UTRN,UXS1,WN T5B	
Carbohydrate Metabolism, Cellular Function And Maintenance, Molecular Transport, Small Molecule Biochemistry	Transport	Transport Of D-Glucose	5.20E-07	-1.867	DGKZ,ENPP1,ERBB3, GSK3A,IRS1,MAP2K3,MEF2A,OGA,PDGFRB,PDPK1,PIK3CA,PP1R3B,REPIN1,ROCK1,SLC2A2,SLC2A5,SLC2A9,STXBP3,T RIB3	19
Cancer, Gastrointestinal Disease, Organismal Injury And Abnormalities	Hepatobiliary Carcinoma	Hepatobiliary Carcinoma	8.30E-06	-1.885	ABCB4,ABCG8,ACLY, ACOX2,ACSS2,AHNAK,AKAP11,AKAP9,AKR1D1,AMDHD1,ANKRD12,ANXA7,ARGLU1,ARHGAP21,ARHGAP6,ASAP2,ASB13,ATP1A1,ATP1B1,ATXN2L,BAAT,BAP1,BDH1,BHMT,BUD23,CARS1,CBLB,CCT6A,CD47,CDH1,CDH2,CHD6,CIB3,CLK2,CLMN,CMTM6,CNOT4,COL27A1,COL5A3,CPEB4,CRIP2,CROT,CS,CTPS2,CUL4B,CXADR,CYP39A1,CYP7A1,CYTH1,DDC,DEK,DIA PH2,DICER1,DIPK2A,DMD,DOCK4,DPP4,DPP9,E2F5,ENPP1,ERBB3,ESRRA,EXTL2,F3,FAM160B1,FBXO9,FGA,FGB,FGFR2,FGFRL1,FGG,FLCN,F	235

OXK1,G6PD,GAS2L3
,GCLC,GNA12,GOLG
B1,GPD2,GRHPR,GS
DMD,GTf3C2,HECA,
HLF,HMGCR,HRAS,I
D4,IL18,IRS1,JMJD1
C,KDM6A,KEAP1,KIA
A0100,KLHDC2,KPN
B1,KTN1,KYNU,LAR
S2,LGR5,LIN7A,LMN
A,LTBR,MACROH2A
1,MAGI3,MAP1LC3B,
MAP2K3,MAP3K7,M
EF2A,MON2,MPDZ,M
PRIP,MRNIP,MRPL2
4,MRPS22,MYO6,NC
ALD,NET1,NGEF,NIP
BL,NME1,NPC1,NR1
H4,NR2F6,NR3C2,N
RIP1,NT5C,OSBPL1
A,OXR1,PAN2,PAN3,
PAQR9,PCDH1,PDE
2A,PDGFC,PDGFRB,
PER1,PEX26,PGAP1,
PHF20L1,PIK3AP1,PI
K3CA,PKHD1,PLD1,
PLXNA2,PMPCA,PO
R,PPM1A,PPOX,PPP
1R1B,PPP1R9A,PPP
2R1A,PRPF6,PSMD1
,PSMD11,PSMD2,PS
PH,PTBP2,RABGAP1
L,RALGPS2,RASA3,
RB1CC1,RBBP5,RCL
1,RICTOR,RNF167,R
OCK1,RUFY3,SAA4,
SARS1,SCAPER,SD
C4,SECISBP2L,SEN
P6,SERPINA6,SESN
3,SFRP5,SGK2,SGT
B,SIRT5,SLC10A1,SL
C1A4,SLC20A1,SLC2
0A2,SLC2A2,SLC2A5
,SLC35B3,SLC38A2,
SLC39A10,SLC39A8,
SLC6A12,SLK,SNRN
P200,SNTB1,SNX9,S
OAT2,SPTBN1,SPTB
N2,STK24,STK40,SU
LF2,SUMF1,SYNE1,T
BC1D16,TCIM,TEP1,
TEX2,THAP4,TIGD2,
TIMM44,TLE1,TMEM
219,TMEM41A,TMEM
62,TNFAIP8L1,TNRC
6A,TOP1MT,TPI1,TP
R,TSN,TSPAN33,TT
C1,TUBB,TUBGCP2,
TXNL1,UBAC1,UBXN
1,UBXN6,UCK1,UGP
2,UGT2B10,UPP2,UR
OC1,USP47,YWHAH,

Cancer,Gastrointestinal Disease,Hepatic System Disease,Organismal Injury And Abnormalities	Liver Carcinoma	Liver Carcinoma	1.04E-05	-1.885	ZCCHC24 ABCB4,ABCG8,ACLY,ACOX2,ACSS2,AHN AK,AKAP9,AKR1D1, AMDHD1,ANKRD12, ANXA7,ARGLU1,AR HGAP21,ARHGAP6, ASAP2,ASB13,ATP1 A1,ATP1B1,ATXN2L, BAP1,BDH1,BHMT,B UD23,CARS1,CBLB, CCT6A,CD47,CDH1, CDH2,CHD6,CIB3,CL K2,CLMN,CMTM6,CN OT4,COL27A1,CPEB 4,CRIP2,CROT,CXA DR,CYP39A1,CYP7A 1,CYTH1,DDC,DIAPH 2,DICER1,DIPK2A,D MD,DOCK4,DPP4,DP P9,E2F5,ENPP1,ERB B3,ESRR,EXTL2,F3 ,FAM160B1,FBXO9,F GA,FGB,FGFR2,FGG ,FLCN,FOXK1,G6PD, GAS2L3,GCLC,GNA1 2,GOLGB1,GPD2,GR HPR,GSDMD,GTFC3 2,HECA,HLF,HMGCR ,HRAS,ID4,IL18,IRS1, JMJD1C,KDM6A,KEA P1,KIAA0100,KLHDC 2,KPNB1,KTN1,KYN U,LARS2,LGR5,LMN A,LTBR,MACROH2A 1,MAGI3,MAP1LC3B, MAP2K3,MAP3K7,M EF2A,MON2,MPDZ,M PRIP,MRNIP,MRPL2 4,MRPS22,MYO6,NC ALD,NET1,NGEF,NIP BL,NME1,NPC1,NR1 H4,NR2F6,NR3C2,N RIP1,NT5C,OSBPL1 A,OXR1,PAN2,PAN3, PAQR9,PCDH1,PDE 2A,PDGFC,PDGFRB, PER1,PEX26,PGAP1, PHF20L1,PIK3AP1,PI K3CA,PKHD1,PLD1, PLXNA2,PMPCA,PO R,PPM1A,PPOX,PPP 1R1B,PPP1R9A,PPP 2R1A,PRPF6,PSMD1 ,PSMD11,PSMD2,PS PH,PTBP2,RABGAP1 L,RALGPS2,RASA3, RB1CC1,RBBP5,RCL 1,RICTOR,RNF167,R OCK1,RUFY3,SAA4, SARS1,SCAPER,SD C4,SECISBP2L,SEN	223
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					P6,SESN3,SFRP5,SGK2,SGTB,SIRT5,SLC10A1,SLC1A4,SLC20A2,SLC2A2,SLC2A5,SLC35B3,SLC38A2,SLC39A10,SLC39A8,SLC6A12,SLK,SNRN,P200,SNX9,SOAT2,SPTBN1,SPTBN2,STK24,STK40,SULF2,SUMF1,SYNE1,TBC1D16,TCIM,TEP1,TEX2,THAP4,TIGD2,TIMM44,TLE1,TMEM219,TMEM41A,TMEM62,TNF AIP8L1,TNRC6A,TP1MT,TPI1,TPR,TSN,TPAN33,TTC1,TUBB,TUBGCP2,TXNL1,UBAC1,UBXN1,UBXN6,UCK1,UGP2,UGT2B10,UPP2,UROC1,USP47,YWHAH,ZCCHC24	
Cancer,Gastrointestinal Disease,Hepatic System Disease,Organismal Injury And Abnormalities	Hepatocellular Carcinoma	Hepatocellular Carcinoma	5.12E-05	-1.885	ABCB4,ACOX2,ACS S2,AKR1D1,ANXA7,ATP1A1,ATP1B1,BHMT,BUD23,CDH1,CYP39A1,E2F5,ERBB3,F3,FAM160B1,FGA,FGFB,FGFR2,FGG,GRHPR,HMGCR,HRAS,IL18,IRS1,KDM6A,KEAP1,LGR5,LTBR,MACROH2A1,MYO6,NME1,NR1H4,NRIP1,OXR1,PDGFC,PDGFRB,PIK3CA,POR,PRPF6,SA A4,SCAPER,SENP6,SFRP5,SIRT5,SLC10A1,SLC1A4,SOAT2,SPTBN1,SULF2,SYNE1,TCIM,TIGD2,TLE1,TMEM41A,TMEM62,TNFAIP8L1,TP1MT,TPI1,TUBB,UROC1	60
Lipid Metabolism,Small Molecule Biochemistry	Synthesis	Synthesis Of Lipid	1.95E-09	-1.892	ABCB1,ABCG5,ABCG8,ACAT2,ACLY,ACOX2,ACSL3,ACSL4,ACSL5,ACSM1,ACSS2,ADH4,AGPAT2,AKR1D1,ALG13,ARF3,ATP1A1,BAAT,BHMT,CAMKK2,CD9,CES1,CHPT1,CRLS1,CYP39A1,CYP4F2,CYP7A1,DGKZ,DPP4,EGR1,EIF4EBP1,ELOVL6,ESRRA,F2R,FADS2,FOXO3,G6PD,HMGCR,HOMER2,HSD17B2,HSD3B7,IGFBP2,IL1	71

					8,JAK2,KITLG,KPNB 1,LPIN1,LSS,NFKBIA ,NPC1,NR1H4,NR5A 2,NUS1,OSBPL1A,P DGFRB,PGAP1,PIK3 CA,PLD1,POR,PRPF 19,RAN,RGS2,SERPI NE2,SLC27A2,SLC9 A3R1,SOAT2,ST3GA L4,STARD4,STARD7, THRSP,TRIB3	
Cancer,Organismal Injury And Abnormalities	Development	Development Of Carcinoma	1.39E-11	-1.893	AASDH,ABCB1,ABC B4,ABCG5,ACAD8,A CLY,ACOX2,ACSL3, ACSL4,ACSM1,ACSS 2,ACTR6,AFG3L2,AG PAT2,AHNAK,AKAP1 1,AKAP9,ALAS1,ALD H1L1,ALG13,ANKRD 12,ANP32A,ANXA7,A RHGAP21,ARHGAP6 ,ARIH2,ARL15,ARL6I P4,ASAP2,ASB13,AT G3,ATG4D,ATXN2L, AUH,BAAT,BAP1,BD H1,BHMT,BRD8,BUD 23,C11orf54,C9orf152 ,CAPN2,CARS1,CBL B,CCDC66,CCT3,CC T5,CCT6A,CCT7,CD2 AP,CD47,CD9,CD99L 2,CDC14B,CDH1,CD H2,CDO1,CES1,CGN ,CHCHD3,CHD6,CHP T1,CHRA1,CLDND1 ,CLK2,CLMN,CLOCK, CMTM6,CMTM8,CNO T4,CNOT6,CNP,COL 27A1,COL5A3,CPEB 4,CPT1A,CS,CTDSP 1,CTPS2,CUL4B,CXA DR,CYLD,CYP4F2,C YP7A1,DAZAP1,DCT N1,DDX60,DEK,DGK Z,DHX9,DIAPH2,DIC ER1,DIO1,DIPK2A,DI XDC1,DMD,DMTF1,D OCK4,DPP4,DPP9,D SP,DSTN,DUSP19,E 2F5,EGR1,EIF1AX,E LF1,ERBB3,ESRRA, EXOC6,EXTL2,F11,F 2R,F3,FAM102A,FAM 160B1,FAM172A,FEC H,FGA,FGB,FGFR2,F GG,FH,FLCN,FMO1, FMO5,FOXO3,FTSJ3 ,G6PD,GAS2L3,GNA 12,GNG12,GOLGB1, GPD2,GRHPR,GSK3 A,GSS,GSTM2,GTF2 F1,GTF3C2,GYG1,H	384

ECA,HECTD3,HERC
4,HMGCR,HNRNPC,
HRAS,HSPB1,ICK,IG
FBP2,IL18,ING4,IRF6
,IRS1,ITPA,JAK2,JMJ
D1C,KAT2B,KCMF1,
KDM6A,KEAP1,KIAA
0100,KITLG,KLF12,K
LHL7,KPNB1,KTN1,K
YNU,L2HGDH,LGR5,
LIN7A,LMNA,LRIG1,L
RP12,LRRC28,LRRC
3,LSM14B,LTBR,MA
GED1,MAGI3,MAP2K
3,MAP3K7,MBNL2,M
COLN1,MEF2A,MIA2,
MKNK2,MLLT10,MLX
,MOCOS,MON2,MPD
Z,MPP1,MPRIIP,MRNI
P,MRPL44,MRPS22,
MRPS27,MRPS9,MY
O1B,MYO5B,MYO6,N
4BP2L1,NCOA1,NDU
FA9,NEK7,NET1,NFK
BIA,NGEF,NHLRC2,
NIPBL,NME1,NOSIP,
NPC1,NR1H4,NR2F6
,NR3C2,NRIP1,NUDT
1,NUDT19,NUDT7,N
UP62,NUP88,OAZ1,
OSBPL1A,OXR1,PAL
MD,PAN2,PAN3,PAQ
R9,PCDH1,PCGF5,P
DCD2,PDE2A,PDE9A
,PDGFC,PDGFRB,PD
LIM1,PDP2,PDPK1,P
ER1,PER3,PFDN2,P
GAP1,PHF20L1,PHK
A2,PIK3AP1,PIK3CA,
PKHD1,PLD1,PLXNA
2,PMPCA,PNKD,PNR
C1,POR,PPP1R14B,
PPP1R1B,PPP1R9A,
PPP2R1A,PRPF19,P
RPF39,PRPF6,PSMD
1,PSMD2,PSMD8,PT
BP1,PTBP2,QDPR,R
ABEPC,RABGAP1L,R
AI14,RALGPS2,RAS
SF3,RB1CC1,RBBP5,
RBBP7,RCL1,RHBD
D1,RICTOR,ROCK1,
RPA1,RPIA,RUFY3,S
AA4,SARS1,SBF2,SC
APER,SCARB2,SCYL
1,SDC4,SEC63,SECI
SBP2L,SEN6,SERP
INE2,SERPINH1,SES
N3,SETDB2,SGTB,S
HPRH,SLC1A4,SLC2
0A1,SLC20A2,SLC2A
2,SLC2A9,SLC35B3,

					SLC38A2,SLC39A10,SLC39A8,SLC6A12,SLC9A3R1,SMAD7,SMAP1,SNRNP200,SNTB1,SNX10,SNX9,SOAT2,SOD2,SPARC,SPON2,SPOP,SPTBN1,SPTBN2,STARD7,STIP1,STK24,STK40,STOM,STT3B,STX8,STXBP3,SULF2,SYAP1,SYNE1,SYT1,TBC1D16,TBC1D20,TBC1D24,TBRG4,TCP1,TEP1,TEX2,TIGD2,TIMM44,TK1,TLCD4,TLE1,TMEM126A,TMEM41B,TMEM51,TMEM97,TNFAIP2,TNRC6A,TOP1MT,TPI1,TPR,TPRG1L,TRIB3, TTC1, TUBB, TUBB6, TXNL1, UBAC1, UBE2F, UBTF, UGP2, UGT2B10, ULK1, UNG, UROC1, UTP14A, UTRN, UXS1, VP S13A, WDR18, WDR26, WDR81, WIPI2, WNT5B, ZCCHC24, ZFAND2B, ZKSCAN1, ZNF32	
Lipid Metabolism, Small Molecule Biochemistry, Vitamin And Mineral Metabolism	Synthesis	Synthesis Of Terpenoid	2.90E-10	-1.915	ABC G5, ABC G8, ACAT2, ACLY, ACOX2, ADH4, AKR1D1, ALG13, ATP1A1, BAAT, CES1, CYP39A1, CYP7A1, EL OVL6, ESRRA, G6PD, HMGCR, HSD17B2, HSD3B7, IGFBP2, IL18, JAK2, KITLG, KPNB1, LSS, NPC1, NR1H4, NR5A2, NUS1, OSBP1A, POR, RAN, SERPIN E2, SLC27A2, SLC9A3R1, SOAT2, STARD4	37
Cancer, Gastrointestinal Disease, Hepatic System Disease, Organismal Injury And Abnormalities	Liver Tumor	Liver Tumor	2.32E-06	-1.915	ABCB4, ABCG8, ACLY, ACOX2, ACSS2, ADH4, AHNAK, AKAP11, AKAP9, AKR1D1, ALG13, AMDHD1, ANKRD12, ANXA7, ARGLU1, ARHGAP21, ARHGAP6, ASAP2, ASB13, ATP1A1, ATP1B1, ATXN2L, BAP1, BDH1, BHMT, BHMT2, BID, BUD23, CARS1, CBLB, CCT6A, CD47, CDC14B, CDH1, CDH2, CES1, CHD6, CIB3, CLK2, CLMN, CMTM6, CNOT4, COL27A1, CPEB4, CRIP2, CROT, CXADR, CYP39A1, C	266

YP7A1,CYTH1,DCTN
1,DDC,DHX9,DIAPH2
,DICER1,DIPK2A,DM
D,DOCK4,DPP4,DPP
9,E2F5,EIF1AX,EIF4
EBP1,ENPP1,ERBB3
,ESRRA,EXTL2,F3,F
AM160B1,FBXO9,FG
A,FGB,FGFR2,FGG,F
LCN,FOXK1,FPGS,G
6PD,GABARAP,GAS
2L3,GCLC,GNA12,G
OLGB1,GPD2,GRHP
R,GSDMD,GTF3C2,H
ECA,HLF,HMGCR,H
NRNPC,HOMER2,HR
AS,HSD17B2,ID2,ID4
,IGFBP2,IL18,ING4,I
RS1,JMJD1C,KDM6A
,KEAP1,KIAA0100,KL
HDC2,KPNB1,KTN1,
KYNULARS2,LGR5,
LMNA,LTBR,MACRO
H2A1,MAGI3,MAP1L
C3B,MAP2K3,MAP3K
7,MEF2A,MON2,MPD
Z,MPRIIP,MRNIP,MR
PL24,MRPS22,MYO6
,NCALD,NCOA1,NET
1,NGEF,NIPBL,NME1
,NPC1,NR1H4,NR2F
6,NR3C2,NR5A2,NRI
P1,NT5C,NUDT1,NU
P62,OSBPL1A,OXR1,
PAN2,PAN3,PAQR9,
PCDH1,PDE2A,PDG
FC,PDGFRB,PDLIM1
,PDPK1,PER1,PEX26
,PGAP1,PHF20L1,PI
K3AP1,PIK3CA,PKH
D1,PLD1,PLXNA2,P
MPCA,PNRC1,POR,
PPM1A,PPOX,PPP1
R12A,PPP1R1B,PPP
1R9A,PPP2R1A,PRP
F6,PSMD1,PSMD11,
PSMD2,PSPC1,PSP
H,PTBP2,RABGAP1L
,RALGPS2,RAN,RAS
A3,RB1CC1,RBBP5,
RBBP7,RCL1,RHBD
D1,RICTOR,RNF167,
ROCK1,RPIA,RUFY3,
SAA4,SARS1,SCAPE
R,SCYL1,SDC4,SEC
63,SECISBP2L,SENP
6,SERPINE2,SESN3,
SFRP5,SGK2,SGTB,
SIRT5,SLC10A1,SLC
1A4,SLC20A2,SLC2A
2,SLC2A5,SLC35B3,
SLC38A2,SLC39A10,

					SLC39A8,SLC6A12,S LK,SNRNP200,SNX9, SOAT2,SOD2,SPAR C,SPTBN1,SPTBN2, STK24,STK40,STXB P3,SULF2,SUMF1,SY NE1,TBC1D16,TCIM, TEP1,TEX2,THAP4,T IGD2,TIMM44,TLCD4 ,TLE1,TMEM219,TM EM41A,TMEM62,TNF AIP8L1,TNRC6A,TO P1MT,TPI1,TPR,TSN,T SPAN33,TTC1,TUBB, TUBGCP2,TXNL1,UB AC1,UBE2F,UBXN1, UBXN6,UCK1,UGP2, UGT2B10,UPP2,URO C1,USP47,UTRN,WI PI2,WNT5B,YWHAH, ZCCHC24	
Cancer,Organismal Injury And Abnormalities	Abdominal Carcinoma	Abdominal Carcinoma	2.84E-24	-1.93	AASDH,ABCB1,ABC B4,ABCG2,ABCG5,A BCG8,ABTB2,ACAD8 ,ACAT2,ACLY,ACOX 2,ACSL3,ACSL4,ACS M1,ACSM5,ACSS2,A CTR6,ADH4,AFG3L2, AGPAT2,AHCY,AHN AK,AHSA1,AKAP11,A KAP9,AKR1D1,ALAS 1,ALDH1L1,ALG13,A MDHD1,ANKRD12,A NP32A,ANXA7,ARF3, ARGLU1,ARHGAP18, ARHGAP21,ARHGAP 6,ARIH2,ARL15,ARL6 IP4,ARSG,ASAP2,AS B13,ATG3,ATG4D,AT P1A1,ATP1B1,ATP6V 1D,ATXN2L,AUH,BA AT,BAP1,BDH1,BHM T,BHMT2,BID,BIK,BL MH,BRD8,BUD23,C1 orf54,C9orf152,CA3, CAMKK2,CAPN2,CA RS1,CBLB,CCBE1,C CDC66,CCT3,CCT4, CCT5,CCT6A,CCT7, CD2AP,CD47,CD9,C D99L2,CDA,CDC14B, CDH1,CDH2,CDO1,C EBPD,CENPV,CES1, CGN,CHCHD3,CHCH D4,CHD6,CHPT1,CH RAC1,CIB3,CITED2, CLDND1,CLK2,CLMN ,CLOCK,CMTM6,CM TM8,CNOT4,CNOT6, CNP,COL27A1,COL5 A3,CORO1B,CPEB4, CPT1A,CRIP2,CROT,	540

CS,CSRNP1,CTDSP
1,CTPS2,CTSH,CUL4
B,CXADR,CYLD,CYP
2U1,CYP39A1,CYP4
F2,CYP7A1,CYTH1,D
AZAP1,DCTN1,DDC,
DDX60,DEK,DGKZ,D
HX9,DIAPH2,DICER1
,DIO1,DIPK2A,DIXDC
1,DMD,DMTF1,DNAJ
C5,DOCK4,DPP4,DP
P9,DSP,DSTN,DUSP
19,DVL1,E2F5,ECHD
C1,EEPD1,EFHD2,E
GR1,EIF1AX,ELF1,E
NPP1,ERBB3,ESRRA
,EXOC6,EXOSC2,EX
TL2,F11,F2R,F3,FAD
S2,FAM102A,FAM16
0B1,FAM172A,FAM8
9A,FBXO9,FECH,FG
A,FGB,FGFR2,FGFR
L1,FGG,FH,FKBP4,F
LCN,FMO1,FMO5,FO
XK1,FOXO3,FPGS,F
TSJ3,G6PD,GAS2L3,
GCAT,GCLC,GCNT2,
GDA,GNA12,GNG12,
GOLGB1,GPD2,GPN
1,GRHPR,GSDMD,G
SK3A,GSS,GSTM2,G
TF2A2,GTf2F1,GTf3
C2,GYG1,HECA,HEC
TD3,HERC4,HLF,HM
G20B,HMGCR,HNRN
PC,HNRNPD,HOME
R2,HOOK1,HRAS,HS
D17B2,HSD3B7,HSP
B1,ICK,ID2,ID4,IGFB
P2,IL18,ING4,IRF6,IR
S1,ITPA,ITPK1,JAK2,
JMJD1C,KAT2B,KCM
F1,KDM6A,KEAP1,KI
AA0100,KITLG,KLF1
2,KLF9,KLHDC2,KLH
L21,KLHL7,KPNB1,K
TN1,KYNU,L2HGDH,
LARS2,LGR5,LIN7A,
LIN7C,LITAF,LMNA,L
PIN1,LRIG1,LRP12,L
RRC28,LRRC3,LSM1
4B,LSS,LTBR,MACR
OH2A1,MAGED1,MA
GI3,MAP1LC3B,MAP
2K3,MAP3K7,MBNL2,
MCOLN1,MEF2A,MIA
2,MKNK2,MLLT10,ML
X,MMD,MOCOS,MO
N2,MPDZ,MPP1,MPR
IP,MRNIP,MRPL12,M
RPL20,MRPL24,MRP
L44,MRPS22,MRPS2

5,MRPS27,MRPS9,M
YO1B,MYO5B,MYO6,
N4BP2,N4BP2L1,NA
GK,NCALD,NCOA1,N
DUFA12,NDUFA9,NE
K7,NET1,NFKBIA,NG
EF,NHLRC2,NINJ1,NI
PBL,NME1,NOSIP,N
PC1,NR1H4,NR2F6,
NR3C2,NR5A2,NRIP
1,NT5C,NUDT1,NUD
T19,NUDT7,NUP62,N
UP88,OSBPL1A,OTU
D6B,OXR1,PALMD,P
AN2,PAN3,PAQR9,P
CDH1,PCGF5,PDCD
2,PDE2A,PDE9A,PD
GFC,PDGFRB,PDLIM
1,PDP2,PDPK1,PDR
G1,PER1,PER3,PEX
26,PEX6,PFDN2,PGA
P1,PHF20L1,PHKA2,
PIK3AP1,PIK3CA,PK
HD1,PLD1,PLXNA2,P
MPCA,PNKD,PNRC1,
POR,PPIF,PPM1A,P
POX,PPP1R12A,PPP
1R14B,PPP1R1B,PP
P1R3B,PPP1R9A,PP
P2R1A,PRPF39,PRP
F6,PRPS1,PSEN2,PS
MD1,PSMD11,PSMD
2,PSMD8,SPSC1,PS
PH,PTBP1,PTBP2,PX
MP4,QDPR,RAB11FI
P2,RABEPK,RABGA
P1L,RAI14,RALGPS2
,RAN,RASA3,RASSF
3,RB1CC1,RBBP5,R
BBP7,RCAN1,RCL1,
REPIN1,RGS2,RHBD
D1,RHOD,RICTOR,R
NF167,ROCK1,RPA1,
RPIA,RUFY3,SAA4,S
AR1B,SARS1,SBF2,S
CAPER,SCARB2,SC
YL1,SDC4,SDR42E1,
SEC63,SECISBP2L,S
ENP6,SERPINA6,SE
RPINE2,SERPINH1,S
ESN3,SETDB2,SFRP
5,SGK2,SGTB,SH3D
19,SHMT1,SHPRH,SI
RT5,SLC10A1,SLC1A
4,SLC20A1,SLC20A2
,SLC25A32,SLC27A2
,SLC2A2,SLC2A5,SL
C2A9,SLC35B3,SLC3
8A2,SLC39A10,SLC3
9A8,SLC6A12,SLC9A
3R1,SLK,SMAD7,SM
AP1,SNAPC2,SNRN

					P200, SNTB1, SNX10, SNX9, SOAT2, SOD2, SPARC, SPG21, SPO P, SPTBN1, SPTBN2, ST3GAL4, STARD7, S TIP1, STK24, STK40, S TOM, STT3B, STX8, S TXBP3, SULF2, SUMF 1, SYAP1, SYNE1, SYT 1, TBC1D16, TBC1D20 , TBC1D24, TBRG4, TC IM, TCP1, TEP1, TEX2, THAP4, THRSP, TIGD 2, TIMM44, TK1, TLE1, TMBIM1, TMEM126A, TMEM219, TMEM41A, TMEM41B, TMEM51, TMEM62, TMEM97, T NFAIP2, TNFAIP8L1, T NRC6A, TOP1MT, TPI 1, TPR, TPRG1L, TPR KB, TRIB3, TRMT1, TS N, TSPAN33, TTC1, TT C19, TUBB, TUBB6, TU BGCP2, TXNL1, UBAC 1, UBE2F, UBE2L3, UB R1, UBTF, UBXN1, UB XN6, UCK1, UGP2, UG T2B10, ULK1, UNG, UP P2, UROC1, UROD, US P47, UTP14A, UTRN, U XS1, VPS13A, WDR18 , WDR26, WDR81, WIP I2, WNT5B, YPEL3, YW HAH, ZCCHC24, ZFAN D2B, ZKSCAN1, ZNF2 3, ZNF32, ZNF326, ZN F654	
Cancer, Gastrointestinal Disease, Organismal Injury And Abnormalities	Digestive Organ Tumor	Digestive Organ Tumor	6.58E-16	-1.933	AASDH, ABCB1, ABC B4, ABCG2, ABCG5, A BCG8, ABTB2, ACAD8 , ACAT2, ACLY, ACOX 2, ACSL4, ACSL5, ACS M5, ACSS2, ACTR6, A DH4, AFG3L2, AGPAT 2, AHCY, AHNAK, AHS A1, AKAP11, AKAP9, A KR1D1, ALAS1, ALDH 1L1, ALG13, AMDHD1, ANKRD12, ANP32A, A NXA7, ARF3, ARGLU1 , ARHGAP18, ARHGA P21, ARHGAP6, ARIH 2, ARL6IP4, ARSG, AS AP2, ASB13, ATG3, AT G4D, ATP1A1, ATP1B 1, ATP6V1D, ATXN2L, BAAT, BAP1, BDH1, B HMT, BHMT2, BID, BL MH, BRD8, BUD23, C1 orf54, C9orf152, C9orf16, CAMKK2, CAPN2,	517

CARS1,CBLB,CCBE1
,CCDC66,CCT4,CCT
5,CCT6A,CCT7,CD2
AP,CD47,CD9,CD99L
2,CDC14B,CDH1,CD
H2,CDO1,CEBPD,CE
NPV,CES1,CGN,CHC
HD3,CHCHD4,CHD6,
CHPT1,CHRA1,CIB
3,CITED2,CLDND1,C
LK2,CLMN,CLOCK,C
MTM6,CNOT4,CNP,C
OL27A1,COL5A3,CO
RO1B,CPEB4,CPT1A
,CRIP2,CROT,CS,CT
DSP1,CTPS2,CTSH,
CUL4B,CXADR,CYL
D,CYP2U1,CYP39A1,
CYP4F2,CYP7A1,CY
TH1,DAZAP1,DCTN1
,DDC,DDX60,DEK,D
GKZ,DHX9,DIAPH2,D
ICER1,DIO1,DIPK2A,
DIXDC1,DMD,DMTF1
,DNAJC5,DOCK4,DP
P4,DPP9,DSP,DSTN,
DUSP19,DVL1,E2F5,
ECHDC1,ECHDC3,E
EPD1,EGR1,EIF1AX,
EIF4EBP1,ELF1,ENP
P1,ERBB3,ESRRA,E
XOC6,EXOSC2,EXTL
2,F11,F2R,F3,FADS2
,FAM102A,FAM160B
1,FAM172A,FBXO9,F
ECH,FGA,FGB,FGFR
2,FGFRL1,FGG,FKB
P4,FLCN,FMO1,FMO
5,FOXK1,FOXO3,FP
GS,FTSJ3,G6PD,GA
BARAP,GAS2L3,GCA
T,GCLC,GCNT2,GDA
,GNA12,GNG12,GOL
GB1,GPD2,GPN1,GR
HPR,GSDMD,GSK3A
,GSS,GTF2F1,GTF3
C2,HECA,HECTD3,H
ERC4,HLF,HMG20B,
HMGCR,HNRNPC,H
NRNPD,HOMER2,HO
OK1,HRAS,HSD17B2
,HSD3B7,HSPB1,ICK
,ID2,ID4,IGFBP2,IL18
,ING4,IRF6,IRS1,ITP
K1,JAK2,JMJD1C,KA
T2B,KCMF1,KDM6A,
KEAP1,KIAA0100,KIT
LG,KLF12,KLF9,KLH
DC2,KLHL21,KLHL7,
KPNB1,KTN1,KYNU,
LARS2,LGALS4,LGR
5,LIN7A,LIN7C,LMNA

,LRIG1,LRP12,LRRC
28,LRRC3,LSM14B,L
SS,LTBR,MACROH2
A1,MAGED1,MAGI3,
MAP1LC3B,MAP2K3,
MAP3K7,MBNL2,MC
OLN1,MEF2A,MIA2,
MKNK2,MLLT10,MLX
,MOCOS,MON2,MPD
Z,MPRIIP,MRNIP,MR
PL12,MRPL20,MRPL
24,MRPS22,MRPS25
,MRPS27,MRPS9,MT
1F,MYO1B,MYO5B,M
YO6,N4BP2,NAGK,N
CALD,NCOA1,NDUF
A12,NDUFA9,NEK7,
NET1,NFKBIA,NGEF,
NHLRC2,NINJ1,NIPB
L,NME1,NOSIP,NPC
1,NR1H4,NR2F6,NR3
C2,NR5A2,NRIP1,NT
5C,NUDT1,NUDT19,
NUDT7,NUP62,NUP8
8,OAZ1,OSBPL1A,O
XR1,PALMD,PAN2,P
AN3,PAQR9,PCDH1,
PCGF5,PDE2A,PDE9
A,PDGFC,PDGFRB,P
DLIM1,PDP2,PDPK1,
PDRG1,PER1,PER3,
PES1,PEX26,PEX6,P
FDN2,PGAP1,PHF20
L1,PHKA2,PIK3AP1,
PIK3CA,PKHD1,PLD
1,PLXNA2,PMPCA,P
NKD,PNRC1,POR,PP
M1A,PPOX,PPP1R12
A,PPP1R14B,PPP1R
1B,PPP1R3B,PPP1R
9A,PPP2R1A,PRDX6,
PRPF39,PRPF6,PRP
S1,PSMD1,PSMD11,
PSMD2,PSMD8,PSM
F1,PSPC1,PSPH,PT
BP1,PTBP2,PXMP4,
QDPR,RAB11FIP2,R
ABGAP1L,RAI14,RAL
GPS2,RAN,RASA3,R
ASSF3,RB1CC1,RBB
P5,RBBP7,RCL1,RE
PIN1,RGS2,RHBDD1,
RHOD,RICTOR,RNF
167,ROCK1,RPA1,R
PIA,RUFY3,SAA4,SA
R1B,SARS1,SBF2,S
CAPER,SCARB2,SC
YL1,SDC4,SEC63,SE
CISBP2L,SENP6,SE
RPINA6,SERPINE2,S
ERPINH1,SESN3,SE
TDB2,SFRP5,SGK2,

					SGTB,SH3D19,SHMT1,SHPRH,SIRT5,SLC10A1,SLC1A4,SLC20A1,SLC20A2,SLC27A2,SLC2A2,SLC2A5,SLC2A9,SLC30A10,SLC35B1,SLC35B3,SLC38A2,SLC39A10,SLC39A8,SLC6A12,SLC9A3R1,SLK,SMAD7,SMAP1,SNAPC2,SNRNP200,SNTB1,SNX10,SNX9,SOAT2,SOD2,SPARC,SPG21,SPON2,SPOP,SPTBN1,SPTBN2,ST3GAL4,STARD7,STIP1,STK24,STK40,STOM,STT3B,STX8,STXBP3,SULF2,SUMF1,SYAP1,SYNE1,SYT1,TBC1D16,TBC1D20,TBC1D24,TBRG4,TCIM,TCP1,TEP1,TEX2,THAP4,THRSP,TIGD2,TIMM44,TK1,TLCD4,TLE1,TMBIM1,TMEM126A,TMEM219,TMEM41A,TMEM41B,TMEM62,TMEM97,TNFAIP8L1,TNRC6A,TP1MT,TPI1,TPR,TPRKB,TRIB3,TBMT1,TSN,TSPAN33,TTC1,TTC19,TUBB,TUBB6,TUBGCP2,TXNL1,UBAC1,UBE2F,UBE2L3,UBR1,UBTF,UBXN1,UBXN6,UCK1,UGP2,UGT2B10,ULK1,UNG,UPP2,UROC1,UROD,USP47,UTP14A,UTRN,UXS1,VP13A,WDR18,WDR26,WDR81,WIP1,WNT5B,YWHAH,ZCCHC24,ZFAND2B,ZNF23,ZNF32,ZNF326,ZNF654	
Dermatological Diseases And Conditions,Organismal Injury And Abnormalities	Keratosis	Keratosis	2.57E-04	-1.939	CDH1,CYP7A1,DSP,ENPP1,FGFR2,G6PD,HRAS,ITPA,KEAP1,LRIG1,NFKBIA,NR1H4,PIK3CA,PSEN2	14
Cancer,Gastrointestinal Disease,Organismal Injury And Abnormalities	Colon Cancer	Colon Cancer	1.83E-05	-1.982	AASDH,ABCB1,ABCG5,ACLY,ACTR6,AFG3L2,AGPAT2,AHCY,AKAP9,ALDH1L1,ALG13,ARHGAP21,ARL6IP4,ASAP2,ASB13,ATG3,ATG4D,ATXN2L,BAAT,BAP1,C11orf54,C9orf152,CARS1,CC	228

DC66,CCT4,CCT5,C
CT7,CD2AP,CD99L2,
CDH1,CDH2,CDO1,C
ES1,CGN,CHCHD3,C
HD6,CHPT1,CHRA
C1,CLDND1,CLK2,CL
MN,CLOCK,CMTM6,
CNOT4,CNP,COL27A
1,COL5A3,CPEB4,CP
T1A,CS,CTDSP1,CT
PS2,CUL4B,CYLD,C
YP4F2,DCTN1,DDX6
0,DHX9,DICER1,DM
D,DMTF1,DOCK4,DS
TN,EGR1,ELF1,ERB
B3,ESRRA,F3,FAM16
0B1,FGA,FGB,FGFR
2,FLCN,FMO1,FMO5,
G6PD,GAS2L3,GNA1
2,GNG12,GSS,HECA
,HECTD3,HMGCR,H
NRNPC,HSD17B2,H
SPB1,ICK,IGFBP2,IL
18,IRF6,IRS1,JAK2,J
MJD1C,KDM6A,KEA
P1,KIAA0100,KITLG,
KLF12,KLHL7,KPNB1
,KTN1,LGR5,LIN7A,L
RIG1,LRP12,LRRC3,
MACROH2A1,MAGE
D1,MAP3K7,MIA2,MK
NK2,MLLT10,MLX,M
ON2,MPRIIP,MRNIP,
MRPS9,MT1F,MYO5
B,MYO6,NCOA1,NEK
7,NET1,NGEF,NHLR
C2,NIPBL,NOSIP,NR
3C2,NUDT19,NUDT7,
NUP62,OSBPL1A,PA
QR9,PCDH1,PCGF5,
PDE9A,PDGFRB,PD
P2,PDPK1,PER1,PF
DN2,PGAP1,PHF20L
1,PHKA2,PIK3AP1,PI
K3CA,PKHD1,PLD1,
PLXNA2,PNKD,PNR
C1,PPP1R14B,PPP1
R1B,PPP2R1A,PRPF
39,PRPF6,PSMD8,PT
BP1,QDPR,RABGAP
1L,RASSF3,RB1CC1,
RBBP5,RICTOR,ROC
K1,RPA1,RUFY3,SA
A4,SBF2,SCAPER,S
CYL1,SEC63,SECISB
P2L,SENP6,SESN3,S
GK2,SHPRH,SLC1A4
,SLC20A1,SLC20A2,
SLC27A2,SLC2A2,SL
C35B3,SLC38A2,SLC
39A10,SLC39A8,SLC
6A12,SMAD7,SMAP1

					,SNRNP200,SNX9,S OAT2,SPOP,SPTBN1 ,SPTBN2,STIP1,STX 8,SULF2,SYAP1,SYN E1,SYT1,TBC1D16,T BC1D24,TBRG4,TCP 1,TEP1,TIMM44,TK1, TMEM126A,TMEM41 B,TMEM97,TNRC6A, TOP1MT,TPR,TTC1, TUBB,UBAC1,UBTF, ULK1,UNG,UROC1,U TRN,VPS13A,WDR18 ,WDR26,WDR81,WN T5B,ZCCHC24	
Cancer,Organismal Injury And Abnormalities	Anogenital Cancer	Anogenital Cancer	9.09E-10	-1.996	ABCB1,ABCB4,ABC G2,ABCG5,ACAD8,A CLY,ACOX2,ACSL3, ACSL4,ACSM1,ACSS 2,AGPAT2,AHNAK,A KAP11,AKAP9,ALAS 1,ALDH1L1,ALG13,A NKRD12,ARHGAP18, ARHGAP21,ARHGAP 6,ARIH2,ARL15,ASA P2,ATP1A1,ATP6V1 D,ATXN2L,AUH,BAA T,BAP1,BDH1,BIK,BL MH,BRD8,CA3,CAPN 2,CBLB,CCT3,CCT5, CCT6A,CD2AP,CD47 ,CD9,CD99L2,CDA,C DH1,CDH2,CDO1,CE BPD,CES1,CGN,CHD 6,CLDND1,CLK2,CL MN,CMTM8,CNOT4, CNOT6,CNP,COL27A 1,COL5A3,CPEB4,CP T1A,CS,CSRNP1,CT SH,CXADR,CYLD,CY P2U1,CYP4F2,CYP7 A1,CYTH1,DAZAP1, DCTN1,DDX60,DGKZ ,DHX9,DIAPH2,DICE R1,DIO1,DIPK2A,DIX DC1,DMD,DOCK4,D PP4,DPP9,DSP,DST N,E2F5,EFHD2,EGR 1,EIF1AX,EIF4EBP1, ELF1,ELOVL6,ENPP 1,ERBB3,ESRRA,EX OC6,EXOSC2,F11,F2 R,F3,FADS2,FAM160 B1,FAM172A,FAM89 A,FECH,FGA,FGFR2, FGFRL1,FGG,FH,FK BP4,FLCN,FOXK1,F OXO3,FTSJ3,GDA,G NA12,GOLGB1,GPD2 ,GRHPR,GSDMD,GS K3A,GSTM2,GTF2A2 ,GYG1,HECA,HECTD	358

3,HLF,HMGBR,HRAS
,HSD3B7,HSPB1,ICK
,ID2,IGFBP2,IL18,IN
G4,IRF6,IRS1,ITPA,J
AK2,JMJD1C,KAT2B,
KCMF1,KDM6A,KEA
P1,KIAA0100,KLF9,K
TN1,L2HGDH,LARS2
,LGALS4,LGR5,LIN7
C,LITAF,LMNA,LRIG
1,LRP12,LRRC28,LS
M14B,LSS,MACROH
2A1,MAGED1,MAGI3
,MAP1LC3B,MAP2K3
,MBNL2,MCOLN1,ME
F2A,MIA2,MKNK2,ML
LT10,MMD,MOCOS,
MON2,MPDZ,MPRIIP,
MRPL24,MRPL34,MR
PL44,MRPS22,MRPS
25,MRPS27,MT1F,M
YO1B,MYO5B,MYO6,
N4BP2,NCOA1,NDU
FA9,NDUFB9,NEK7,
NFKBIA,NHLRC2,NIP
BL,NME1,NOSIP,NP
C1,NR2F6,NR3C2,N
R5A2,NRIP1,NUDT7,
NUP62,NUP88,NUS1
,OAZ1,OSBPL1A,OT
UD6B,OXR1,PALMD,
PAN3,PCDH1,PCGF5
,PDCD2,PDE2A,PDG
FRB,PDLIM1,PDP2,P
DPK1,PER1,PER3,P
EX6,PGAP1,PHF20L
1,PHKA2,PIK3CA,PK
HD1,PLD1,PLXNA2,P
NRC1,POR,PPIF,PP
P1R1B,PPP1R3B,PP
P1R9A,PPP2R1A,PR
PF39,PRPF6,PSEN2,
PSMD1,PSMD2,PTB
P1,PTBP2,PXMP4,R
AB11FIP2,RABEPK,R
ABGAP1L,RALGPS2,
RASA3,RB1CC1,RBB
P5,RBBP7,RCAN1,R
CL1,REPIN1,RGS2,R
HOD,RICTOR,RNF14
,RNF144A,ROCK1,R
PIA,SBF2,SCAPER,S
CARB2,SCYL1,SDC4
,SDR42E1,SECISBP2
L,SERPINA6,SERPIN
E2,SESN3,SETDB2,S
FRP5,SIRT5,SLC16A
5,SLC1A4,SLC20A1,
SLC20A2,SLC25A32,
SLC2A2,SLC38A2,SL
C39A10,SLC6A12,SL
C9A3R1,SLK,SMAP1,

					SNRNP200,SNTB1,S NX10,SOD2,SPARC, SPG21,SPOP,SPTBN 1,SPTBN2,ST3GAL4, STARD7,STK24,STK 40,STOM,STT3B,STX 8,STXBP3,SULF2,SY NE1,TBC1D16,TBC1 D20,TBC1D24,TCP1, TEP1,TEX2,THRSP,T IFA,TIGD2,TIMM44,T K1,TLE1,TMEM126A, TMEM97,TNFAIP2,T NRC6A,TOP1MT,TPI 1,TPR,TPRG1L,TRIB 3,TRMT1,TSPAN33,T TC1,TUBB,TUBB6,TX NL1,UBAC1,UBE2F, UBR1,UGP2,UGT2B1 0,UROC1,UROD,USP 47,UTRN,UXS1,VPS1 3A,WNT5B,YPEL3,Y WHAH,ZCCHC24,ZF AND2B,ZKSCAN1,ZN F23,ZNF32,ZNF654	
Cancer,Organismal Injury And Abnormalities	Genitourinary Carcinoma	Genitourinary Carcinoma	9.18E-11	-2	ABCB1,ABCB4,ABC G2,ABCG5,ACAD8,A CLY,ACOX2,ACSL3, ACSL4,ACSM1,ACSS 2,AFG3L2,AGPAT2,A HNAK,AKAP11,AKAP 9,ALAS1,ALDH1L1,A LG13,ANKRD12,ARH GAP18,ARHGAP21,A RHGAP6,ARIH2,ARL 15,ASAP2,ATP1A1,A TP6V1D,ATXN2L,AU H,BAAT,BAP1,BDH1, BIK,BRD8,CA3,CAPN 2,CARS1,CBLB,CCT 3,CCT5,CCT6A,CD2 AP,CD47,CD9,CDA,C DC14B,CDH1,CDH2, CDO1,CES1,CGN,CH D6,CLDND1,CLK2,CL MN,CMTM8,CNOT4, CNOT6,CNP,COL5A3 ,CPEB4,CPT1A,CRO T,CS,CSRNP1,CTSH, CXADR,CYP4F2,CYP 7A1,CYTH1,DAZAP1, DCTN1,DDC,DDX60, DGKZ,DHX9,DIAPH2, DICER1,DIO1,DIPK2 A,DMD,DOCK4,DPP4 ,DPP9,DSP,DSTN,D USP19,EFHD2,EIF1A X,ELF1,ENPP1,ERBB 3,ESRRA,EXOC6,EX TL2,F11,F2R,F3,FAM 160B1,FAM172A,FA M89A,FECH,FGA,FG	346

FR2,FGFRL1,FGG,F
H,FLCN,FOXK1,FOX
O3,FTSJ3,G6PD,GD
A,GNA12,GOLGB1,G
PD2,GRHPR,GSDMD
,GSK3A,GSTM2,GTF
2A2,GTF3C2,GYG1,
HECA,HECTD3,HLF,
HMGCR,HRAS,HSD3
B7,ICK,ID2,IGFBP2,I
L18,ING4,IRF6,IRS1,I
TPA,JAK2,JMJD1C,K
AT2B,KCMF1,KDM6A
,KEAP1,KIAA0100,KL
HDC2,KLHL7,KTN1,K
YNU,L2HGDH,LARS2
,LGR5,LIN7C,LITAF,L
MNA,LPIN1,LRIG1,L
RP12,LRRC28,LSM1
4B,LSS,MAGED1,MA
GI3,MAP1LC3B,MAP
2K3,MBNL2,MCOLN1
,MEF2A,MIA2,MLLT1
0,MMD,MOCOS,MON
2,MPDZ,MPP1,MPRI
P,MRPL44,MRPS22,
MRPS25,MRPS27,M
T1F,MYO1B,MYO5B,
MYO6,N4BP2,N4BP2
L1,NAGK,NCOA1,ND
UFA9,NEK7,NFKBIA,
NGEF,NHLRC2,NIPB
L,NOSIP,NPC1,NR2F
6,NR5A2,NRIP1,NUD
T7,NUP62,NUP88,OS
BPL1A,OTUD6B,OXR
1,PALMD,PAN3,PCD
H1,PCGF5,PDCD2,P
DE2A,PDGFRB,PDLI
M1,PDP2,PDPK1,PD
RG1,PER1,PER3,PE
X6,PGAP1,PHF20L1,
PHKA2,PIK3CA,PKH
D1,PLD1,PLXNA2,PN
KD,PNRC1,POR,PPI
F,PPP1R1B,PPP1R3
B,PPP1R9A,PPP2R1
A,PRPF6,PSEN2,PS
MD1,PSMD2,PTBP1,
PTBP2,PXMP4,RAB1
1FIP2,RABEPK,RAB
GAP1L,RAI14,RALG
PS2,RB1CC1,RBBP5
,RBBP7,RCAN1,RCL
1,REPIN1,RGS2,RH
OD,RICTOR,ROCK1,
RPIA,SBF2,SCAPER,
SCARB2,SCYL1,SDC
4,SDR42E1,SEC63,S
ECISBP2L,SENP6,S
ERPINA6,SERPINE2,
SESN3,SETDB2,SHP

					RH,SLC1A4,SLC20A1,SLC20A2,SLC25A3,SLC2A2,SLC2A9,SLC38A2,SLC39A10,SLC39A8,SLC6A12,SLC9A3R1,SLK,SMAD7,SMAP1,SNRNP200,SNTB1,SNX10,SOD2,SPARC,SPOP,SPTBN1,SPTBN2,ST3GAL4,STARD7,STK24,STK40,STOM,STT3B,STX8,STXBP3,SULF2,SYNE1,TBC1D16,TBC1D20,TBC1D24,TEP1,TEX2,TIFA,TIGD2,TK1,TLE1,TMEM126A,TMEM51,TNFAIP2,TNRC6A,TP1MT,TPI1,TPR,TPRG1L,TRIB3,TRMT1,TSPAN33,TC1,TUBB,TUBB6,TXNL1,UBAC1,UBE2F,UBR1,UGP2,UGT2B10,UROC1,USP47,UTP14A,UTRN,UXS1,VPS13A,WIPI2,YPEL3,ZCCHC24,ZFAND2B,ZKSCAN1,ZNF23,ZNF32,ZNF654	
Lipid Metabolism,Molecular Transport,Small Molecule Biochemistry	Transport	Transport Of Oleic Acid	8.02E-06	-2	ACSL3,ACSL4,ACSL5,NPC1	4
Lipid Metabolism,Molecular Transport,Small Molecule Biochemistry	Transport	Transport Of Long Chain Fatty Acid	1.05E-03	-2	ACSL3,ACSL4,ACSL5,CROT,NPC1	5
Cancer,Organismal Injury And Abnormalities	Malignant Solid Tumor	Malignant Solid Tumor	8.12E-30	-2.004	AASDH,ABCB1,ABCB4,ABCG2,ABCG5,ABCG8,ABTB2,ACAD8,ACAT2,ACLY,ACOX2,ACSL3,ACSL4,ACSL5,ACSM1,ACSM5,ACSS2,ACTR6,ADH4,AFG3L2,AGPAT2,AHCY,AHNAK,AHSA1,AKAP11,AKAP9,AKR1D1,ALAS1,ALDH1L1,ALG13,AMDHD1,ANKRD12,ANP32A,ANXA7,ARF3,ARGLU1,ARRHGAP18,ARRHGAP21,ARRHGAP6,ARRIH2,ARRL15,ARRL4A,ARRL6IP4,ARSG,ASAP2,ASB13,ATG3,ATG4D,ATP1A1,ATP1B1,ATP6V1D,ATXN2L,AUH,BAA1T,BAP1,BDH1,BHMT,	597

BHMT2,BID,BIK,BLM
H,BRD8,BUD23,C11orf54,C9orf152,C9orf16,CA3,CAMKK2,CAPN2,CARS1,CBLB,CCBE1,CCDC66,CCT3,CCT4,CCT5,CCT6A,CCT7,CD2AP,CD47,CD9,CD99L2,CDA,CD14B,CDH1,CDH2,CDO1,CEBPD,CENPV,CES1,CGN,CHCHD3,CHCHD4,CHD6,CHPT1,CHRA1,CIB3,CITED2,CLDN1,CLK2,CLMN,CLOCK,CLTA,CMTM6,CMTM8,CNN3,CNOT4,CNOT6,CNP,COL27A1,COL5A3,CORO1B,CPEB4,CPT1A,CRIP2,CRLS1,CROT,CS,CSRNP1,CTDSP1,CTPS2,CTSH,CUL4B,CXADR,CYB5B,CYLD,CYP2U1,CYP39A1,CYP4F2,CYP7A1,CYTH1,DAZAP1,DCTN1,DDC,DDX60,DEK,DGKZ,DHX9,DIAPH2,DICER1,DIO1,DIPK2A,DIXDC1,DMMD,DMTF1,DNAJB1,DNAJC5,DOCK4,DP4,DPP9,DSP,DSTN,DTYMK,DUSP19,DVL1,E2F5,ECHDC1,ECHDC3,EEP1,EFHD2,EGR1,EIF1AX,EIF4EBP1,ELF1,ELOVL6,ENDOG,ENPP1,ERBB3,ESRRA,EXOC6,EXOSC2,EXTL2,F11,F2R,F3,FADS2,FAM102A,FAM118B,FAM160B1,FAM172A,FAM76B,FAM89A,FBXO31,FBXO9,FECH,FGA,FGFB,FGFR2,FGFR1,FGG,FH,FKBP4,FLCN,FMO1,FMO5,FOXK1,FOXO3,FPGS,FTSJ3,G6PD,GABARAP,GAS2L3,GCAT,GCLC,GCNT2,GDA,GNA12,GN12,GOLGB1,GPD2,GPN1,GRHPR,GSDMD,GSK3A,GSS,GSTM2,GTF2A2,GTF2F1,GTF3C2,GYG1,HECA,HECTD3,HERC4,HLLF,HMG20B,HMGCR,HNRNPC,HNRNP,H

OMER2,HOOK1,HRA
S,HSD17B2,HSD3B7,
HSPB1,ICK,ID2,ID4,I
GFBP2,IL18,ING4,IR
F6,IRS1,ITPA,ITPK1,
JAK2,JMJD1C,KAT2
B,KCMF1,KDM6A,KE
AP1,KHK,KIAA0100,
KITLG,KLF12,KLF9,K
LHDC2,KLHL21,KLH
L7,KPNB1,KTN1,KYN
U,L2HGDH,LARS2,L
GALS4,LGR5,LIN7A,
LIN7C,LITAF,LMNA,L
PIN1,LRIG1,LRP12,L
RRC28,LRRC3,LSM1
4B,LSS,LTBR,MACR
OH2A1,MAGED1,MA
GI3,MAP1LC3B,MAP
2K3,MAP3K7,MBNL2,
MCOLN1,MEF2A,MIA
2,MKNK2,MLLT10,ML
X,MMD,MOCOS,MO
N2,MPDZ,MPP1,MPR
IP,MRNIP,MRPL12,M
RPL20,MRPL24,MRP
L34,MRPL44,MRPS2
2,MRPS25,MRPS27,
MRPS9,MT1F,MYO1
B,MYO5B,MYO6,N4B
P2,N4BP2L1,NAGK,N
CALD,NCOA1,NDUF
A12,NDUFA9,NDUFB
9,NEK7,NET1,NFKBI
A,NGEF,NHLRC2,NI
CN1,NINJ1,NIPBL,N
ME1,NOP10,NOSIP,
NPC1,NR1H4,NR2F6
,NR3C2,NR5A2,NRIP
1,NT5C,NUDT1,NUD
T19,NUDT7,NUP62,N
UP88,NUS1,OAZ1,O
SBPL1A,OTUD6B,OX
R1,PALMD,PAN2,PA
N3,PAQR9,PCDH1,P
CGF5,PDCD2,PDE2A
,PDE9A,PDGFC,PDG
FRB,PDLIM1,PDP2,P
DPK1,PDRG1,PER1,
PER3,PES1,PEX26,P
EX6,PFDN2,PFKFB1,
PGAP1,PHF20L1,PH
KA2,PIK3AP1,PIK3C
A,PKHD1,PLD1,PLX
NA2,PMPCA,PNKD,P
NRC1,POLE4,POR,P
PIF,PPM1A,PPOX,PP
P1R12A,PPP1R14B,
PPP1R1B,PPP1R3B,
PPP1R9A,PPP2R1A,
PRDX6,PRPF19,PRP
F39,PRPF6,PRPS1,P

RPS2, PSEN2, PSMA6
, PSMD1, PSMD11, PS
MD2, PSMD8, PSME2,
PSMF1, PSMG1, PSP
C1, PSPH, PTBP1, PT
BP2, PXMP4, QDPR, R
AB11FIP2, RAB1B, RA
BEPK, RABGAP1L, RA
I14, RALGPS2, RAN, R
ASA3, RASSF3, RB1C
C1, RBBP5, RBBP7, R
BKS, RCAN1, RCL1, R
EPIN1, RGS2, RHBDD
1, RHOD, RICTOR, RN
F14, RNF144A, RNF16
7, ROCK1, RPA1, RPIA
, RUFY3, SAA4, SAR1
B, SARS1, SBF2, SCA
PER, SCARB2, SCGN,
SCOC, SCYL1, SDC4,
SDR42E1, SEC63, SE
CISBP2L, SENP6, SE
RPINA6, SERPINE2, S
ERPINH1, SESN3, SE
TDB2, SFRP5, SGK2,
SGTB, SH3BGRL2, SH
3D19, SHMT1, SHPRH
, SIRT5, SLC10A1, SLC
16A5, SLC1A4, SLC20
A1, SLC20A2, SLC25A
32, SLC27A2, SLC2A2
, SLC2A5, SLC2A9, SL
C30A10, SLC35A3, SL
C35B1, SLC35B3, SLC
38A2, SLC39A10, SLC
39A8, SLC6A12, SLC9
A3R1, SLK, SMAD7, S
MAP1, SNAPC2, SNR
NP200, SNTB1, SNX1
0, SNX5, SNX9, SOAT2
, SOD2, SPARC, SPG2
1, SPON2, SPOP, SPT
BN1, SPTBN2, ST3GA
L4, STARD4, STARD7,
STIP1, STK24, STK40,
STOM, STT3B, STX18,
STX8, STXBP3, SULF
2, SUMF1, SYAP1, SY
NE1, SYT1, TBC1D16,
TBC1D20, TBC1D24,
TBRG4, TCIM, TCP1, T
EP1, TEX2, THAP4, TH
RSP, TIFA, TIGD2, TIM
M10, TIMM44, TK1, TL
CD4, TLE1, TMBIM1, T
MEM126A, TMEM219,
TMEM41A, TMEM41B
, TMEM51, TMEM62, T
MEM97, TNFAIP2, TN
FAIP8L1, TNRC6A, TO
P1MT, TPI1, TPR, TPR
G1L, TPRKB, TRIB3, T

Cancer,Gastrointestinal Disease,Organismal Injury And Abnormalities	Digestive System Cancer	Digestive System Cancer	8.01E-15	-2.009	RMT1,TSN,TSPAN33 ,TSTA3,TTC1,TTC19, TUBB,TUBB6,TUBG CP2,TUT4,TXN2,TXN L1,UBAC1,UBE2F,UB E2L3,UBR1,UBTF,UB XN1,UBXN6,UCK1,U GP2,UGT2B10,ULK1, UNG,UPP2,UROC1,U ROD,USP47,UTP14A ,UTRN,UXS1,VPS13 A,WDR18,WDR26,W DR81,WIP12,WNT5B, YPEL3,YWHAH,ZCC HC24,ZFAND2B,ZKS CAN1,ZNF23,ZNF32, ZNF326,ZNF654	506
					AASDH,ABCB1,ABC B4,ABCG2,ABCG5,A BCG8,ABTB2,ACAD8 ,ACAT2,ACLY,ACOX 2,ACSL4,ACSL5,ACS M5,ACSS2,ACTR6,A DH4,AFG3L2,AGPAT 2,AHCY,AHNAK,AHS A1,AKAP11,AKAP9,A KR1D1,ALAS1,ALDH 1L1,ALG13,AMDHD1, ANKRD12,ANP32A,A NXA7,ARF3,ARGLU1 ,ARHGAP18,ARHGA P21,ARHGAP6,ARIH 2,ARL6IP4,ARSG,AS AP2,ASB13,ATG3,AT G4D,ATP1A1,ATP1B 1,ATP6V1D,ATXN2L, BAAT,BAP1,BDH1,B HMT,BHMT2,BID,BL MH,BRD8,BUD23,C1 1orf54,C9orf152,CAM KK2,CAPN2,CARS1, CBLB,CCBE1,CCDC 66,CCT4,CCT5,CCT6 A,CCT7,CD2AP,CD4 7,CD9,CD99L2,CDH1 ,CDH2,CDO1,CEBPD ,CENPV,CES1,CGN, CHCHD3,CHCHD4,C HD6,CHPT1,CHRA C1,CIB3,CITED2,CLDN D1,CLK2,CLMN,CLO CK,CMTM6,CNOT4,C NP,COL27A1,COL5A 3,CORO1B,CPEB4,C PT1A,CRIP2,CROT,C S,CTDSP1,CTPS2,C TSH,CUL4B,CXADR, CYLD,CYP2U1,CYP3 9A1,CYP4F2,CYP7A 1,CYTH1,DAZAP1,D CTN1,DDC,DDX60,D EK,DGKZ,DHX9,DIA	

PH2,DICER1,DIO1,DI
PK2A,DIXDC1,DMD,
DMTF1,DNAJC5,DO
CK4,DPP4,DPP9,DS
P,DSTN,DUSP19,DV
L1,E2F5,ECHDC1,EE
PD1,EGR1,EIF1AX,EI
F4EBP1,ELF1,ENPP
1,ERBB3,ESRRA,EX
OC6,EXOSC2,EXTL2
,F11,F2R,F3,FADS2,
FAM102A,FAM160B1
,FAM172A,FBXO9,FE
CH,FGA,FGB,FGFR2
,FGFRL1,FGG,FKBP
4,FLCN,FMO1,FMO5,
FOXK1,FOXO3,FPG
S,FTSJ3,G6PD,GAS2
L3,GCAT,GCLC,GCN
T2,GDA,GNA12,GNG
12,GOLGB1,GPD2,G
PN1,GRHPR,GSDMD
,GSK3A,GSS,GTTF2F
1,GTTF3C2,HECA,HE
CTD3,HERC4,HLF,H
MG20B,HMGCR,HNR
NPC,HNRNP,HOME
R2,HOOK1,HRAS,H
SD17B2,HSD3B7,HS
PB1,ICK,ID2,ID4,IGF
BP2,IL18,ING4,IRF6,I
RS1,ITPK1,JAK2,JMJ
D1C,KAT2B,KCMF1,
KDM6A,KEAP1,KIAA
0100,KITLG,KLF12,K
LF9,KLHDC2,KLHL21
,KLHL7,KPNB1,KTN1
,KYNU,LARS2,LGAL
S4,LGR5,LIN7A,LIN7
C,LMNA,LRIG1,LRP1
2,LRRC28,LRRC3,LS
M14B,LSS,LTBR,MA
CROH2A1,MAGED1,
MAGI3,MAP1LC3B,M
AP2K3,MAP3K7,MBN
L2,MCOLN1,MEF2A,
MIA2,MKNK2,MLLT1
0,MLX,MOCOS,MON
2,MPDZ,MPRIIP,MRN
IP,MRPL12,MRPL20,
MRPL24,MRPS22,M
RPS25,MRPS27,MR
PS9,MT1F,MYO1B,M
YO5B,MYO6,N4BP2,
NAGK,NCALD,NCOA
1,NDUFA12,NDUFA9
,NEK7,NET1,NFKBIA,
NGEF,NHLRC2,NINJ
1,NIPBL,NME1,NOSI
P,NPC1,NR1H4,NR2
F6,NR3C2,NR5A2,N
RIP1,NT5C,NUDT1,N

UDT19,NUDT7,NUP6
2,NUP88,OAZ1,OSB
PL1A,OXR1,PALMD,
PAN2,PAN3,PAQR9,
PCDH1,PCGF5,PDE2
A,PDE9A,PDGFC,PD
GFRB,PDLIM1,PDP2,
PDPK1,PDRG1,PER1
,PER3,PES1,PEX26,
PEX6,PFDN2,PGAP1
,PHF20L1,PHKA2,PI
K3AP1,PIK3CA,PKH
D1,PLD1,PLXNA2,P
MPCA,PNKD,PNRC1,
POR,PPM1A,PPOX,P
PP1R12A,PPP1R14B
,PPP1R1B,PPP1R3B,
PPP1R9A,PPP2R1A,
PRPF39,PRPF6,PRP
S1,PSMD1,PSMD11,
PSMD2,PSMD8,PSM
F1,PSPC1,PSPH,PT
BP1,PTBP2,PXMP4,
QDPR,RAB11FIP2,R
ABGAP1L,RAI14,RAL
GPS2,RAN,RASA3,R
ASSF3,RB1CC1,RBB
P5,RBBP7,RCL1,RE
PIN1,RGS2,RHBDD1,
RICTOR,RNF167,RO
CK1,RPA1,RUFY3,S
AA4,SAR1B,SARS1,
SBF2,SCAPER,SCA
RB2,SCYL1,SDC4,S
EC63,SECISBP2L,SE
NP6,SERPINA6,SER
PINE2,SERPINH1,SE
SN3,SETDB2,SFRP5,
SGK2,SGTB,SH3D19
,SHMT1,SHPRH,SIR
T5,SLC10A1,SLC1A4
,SLC20A1,SLC20A2,
SLC27A2,SLC2A2,SL
C2A5,SLC2A9,SLC35
B3,SLC38A2,SLC39A
10,SLC39A8,SLC6A1
2,SLC9A3R1,SLK,SM
AD7,SMAP1,SNAPC2
,SNRNP200,SNTB1,S
NX10,SNX9,SOAT2,S
OD2,SPARC,SPG21,
SPON2,SPOP,SPTB
N1,SPTBN2,ST3GAL
4,STARD7,STIP1,ST
K24,STK40,STOM,ST
T3B,STX8,STXBP3,S
ULF2,SUMF1,SYAP1,
SYNE1,SYT1,TBC1D
16,TBC1D20,TBC1D2
4,TBRG4,TCIM,TCP1
,TEP1,TEX2,THAP4,
THRSP,TIGD2,TIMM

					44,TK1,TLE1,TMBIM 1,TMEM126A,TMEM2 19,TMEM41A,TMEM4 1B,TMEM62,TMEM97 ,TNFAIP8L1,TNRC6A ,TOP1MT,TPI1,TPR,T PRKB,TRIB3,TRMT1, TSN,TSPAN33,TTC1, TTC19,TUBB,TUBB6, TUBGCP2,TXNL1,UB AC1,UBE2L3,UBR1,U BTF,UBXN1,UBXN6, UCK1,UGP2,UGT2B1 0,ULK1,UNG,UPP2,U ROC1,UROD,USP47, UTP14A,UTRN,UXS1 ,VPS13A,WDR18,WD R26,WDR81,WIP12,W NT5B,YWHAH,ZCCH C24,ZFAND2B,ZNF2 3,ZNF32,ZNF326,ZN F654	
Cancer,Organismal Injury And Abnormalities	Urogenital Cancer	Urogenital Cancer	6.45E-12	-2.015	ABCB1,ABCB4,ABC G2,ABCG5,ACAD8,A CLY,ACOX2,ACSL3, ACSL4,ACSM1,ACSS 2,AFG3L2,AGPAT2,A HNAK,AKAP11,AKAP 9,ALAS1,ALDH1L1,A LG13,ANKRD12,ARH GAP18,ARHGAP21,A RHGAP6,ARIH2,ARL 15,ASAP2,ATP1A1,A TP1B1,ATP6V1D,AT XN2L,AUH,BAAT,BA P1,BDH1,BIK,BLMH, BRD8,CA3,CAPN2,C ARS1,CBLB,CCT3,C CT5,CCT6A,CD2AP, CD47,CD9,CD99L2,C DA,CDC14B,CDH1,C DH2,CDO1,CEBPD,C ES1,CGN,CHD6,CLD ND1,CLK2,CLMN,CM TM8,CNOT4,CNOT6, CNP,COL27A1,COL5 A3,CPEB4,CPT1A,C ROT,CS,CSRNP1,CT SH,CXADR,CYLD,CY P2U1,CYP4F2,CYP7 A1,CYTH1,DAZAP1, DCTN1,DDC,DDX60, DGKZ,DHX9,DIAPH2, DICER1,DIO1,DIPK2 A,DIXDC1,DMD,DOC K4,DPP4,DPP9,DSP, DSTN,DUSP19,E2F5, EFHD2,EGR1,EIF1A X,EIF4EBP1,ELF1,EL OVL6,ENPP1,ERBB3 ,ESRRA,EXOC6,EXO SC2,EXTL2,F11,F2R,	390

F3,FADS2,FAM160B
1,FAM172A,FAM89A,
FECH,FGA,FGFR2,F
GFRL1,FGG,FH,FKB
P4,FLCN,FO XK1,FO
XO3,FTSJ3,G6PD,G
ABARAP,GDA,GNA1
2,GOLGB1,GPD2,GR
HPR,GSDMD,GSK3A
,GSTM2,GTF2A2,GT
F3C2,GYG1,HECA,H
ECTD3,HLF,HMGCR,
HRAS,HSD3B7,HSP
B1,ICK,ID2,IGFBP2,I
L18,ING4,IRF6,IRS1,I
TPA,JAK2,JMJD1C,K
AT2B,KCMF1,KDM6A
,KEAP1,KIAA0100,KL
F9,KLHDC2,KLHL7,K
TN1,KYNU,L2HGDH,
LARS2,LGALS4,LGR
5,LIN7C,LITAF,LMNA
,LPIN1,LRIG1,LRP12,
LRRC28,LSM14B,LS
S,MACROH2A1,MAG
ED1,MAGI3,MAP1LC
3B,MAP2K3,MBNL2,
MCOLN1,MEF2A,MIA
2,MKKN2,MLLT10,M
MD,MOCOS,MON2,M
PDZ,MPP1,MPRIP,M
RPL24,MRPL34,MRP
L44,MRPS22,MRPS2
5,MRPS27,MT1F,MY
O1B,MYO5B,MYO6,N
4BP2,N4BP2L1,NAG
K,NCOA1,NDUFA9,N
DUFB9,NEK7,NFKBI
A,NGEF,NHLRC2,NI
NJ1,NIPBL,NME1,NO
SIP,NPC1,NR2F6,NR
3C2,NR5A2,NRIP1,N
UDT7,NUP62,NUP88,
NUS1,OAZ1,OSBPL1
A,OTUD6B,OXR1,PA
LMD,PAN3,PCDH1,P
CGF5,PDCD2,PDE2A
,PDGFRB,PDLIM1,P
DP2,PDPK1,PDRG1,
PER1,PER3,PEX6,P
GAP1,PHF20L1,PHK
A2,PIK3CA,PKHD1,P
LD1,PLXNA2,PNKD,
PNRC1,POR,PPIF,P
PP1R1B,PPP1R3B,P
PP1R9A,PPP2R1A,P
RPF39,PRPF6,PSEN
2,PSMD1,PSMD2,PT
BP1,PTBP2,PXMP4,
RAB11FIP2,RABEPK,
RABGAP1L,RAI14,R
ALGPS2,RASA3,RB1

					CC1,RBBP5,RBBP7, RCAN1,RCL1,REPIN 1,RGS2,RHOD,RICT OR,RNF14,RNF144A, ROCK1,RPIA,SBF2,S CAPER,SCARB2,SC YL1,SDC4,SDR42E1, SEC63,SECISBP2L,S ENP6,SERPINA6,SE RPINE2,SESN3,SET DB2,SFRP5,SHPRH, SIRT5,SLC16A5,SLC 1A4,SLC20A1,SLC20 A2,SLC25A32,SLC2A 2,SLC2A9,SLC38A2, SLC39A10,SLC39A8, SLC6A12,SLC9A3R1, SLK,SMAD7,SMAP1, SNRNP200,SNTB1,S NX10,SOD2,SPARC, SPG21,SPOP,SPTBN 1,SPTBN2,ST3GAL4, STARD7,STK24,STK 40,STOM,STT3B,STX 8,STXBP3,SULF2,SY NE1,TBC1D16,TBC1 D20,TBC1D24,TCP1, TEP1,TEX2,THRSP,T IFA,TIGD2,TIMM44,T K1,TLE1,TMEM126A, TMEM51,TMEM97,T NFAIP2,TNRC6A,TO P1MT,TPI1,TPR,TPR G1L,TRIB3,TRMT1,T SPAN33,TTC1,TUBB, TUBB6,TXNL1,UBAC 1,UBE2F,UBR1,UGP 2,UGT2B10,UROC1, UROD,USP47,UTP14 A,UTRN,UXS1,VPS1 3A,WIPI2,WNT5B,YP EL3,YWHAH,ZCCHC 24,ZFAND2B,ZKSCA N1,ZNF23,ZNF32,ZN F654	
Cancer,Organismal Injury And Abnormalities	Malignant Genitourinary Solid Tumor	Malignant Genitourinary Solid Tumor	1.07E-11	-2.015	ABCB1,ABCB4,ABC G2,ABCG5,ACAD8,A CLY,ACOX2,ACSL3, ACSL4,ACSM1,ACSS 2,AFG3L2,AGPAT2,A HNAK,AKAP11,AKAP 9,ALAS1,ALDH1L1,A LG13,ANKRD12,ARH GAP18,ARHGAP21,A RHGAP6,ARIH2,ARL 15,ASAP2,ATP1A1,A TP1B1,ATP6V1D,AT XN2L,AUH,BAAT,BA P1,BDH1,BIK,BRD8, CA3,CAPN2,CARS1, CBLB,CCT3,CCT5,C CT6A,CD2AP,CD47,	389

CD9,CD99L2,CDA,C
DC14B,CDH1,CDH2,
CDO1,CEBPD,CES1,
CGN,CHD6,CLDND1,
CLK2,CLMN,CMTM8,
CNOT4,CNOT6,CNP,
COL27A1,COL5A3,C
PEB4,CPT1A,CROT,
CS,CSRNP1,CTSH,C
XADR,CYLD,CYP2U1
,CYP4F2,CYP7A1,CY
TH1,DAZAP1,DCTN1
,DDC,DDX60,DGKZ,
DHX9,DIAPH2,DICE
R1,DIO1,DIPK2A,DIX
DC1,DMD,DOCK4,D
PP4,DPP9,DSP,DST
N,DUSP19,E2F5,EFH
D2,EGR1,EIF1AX,EIF
4EBP1,ELF1,ELOVL6
,ENPP1,ERBB3,ESR
RA,EXOC6,EXOSC2,
EXTL2,F11,F2R,F3,F
ADS2,FAM160B1,FA
M172A,FAM89A,FEC
H,FGA,FGFR2,FGFR
L1,FGG,FH,FKBP4,F
LCN,FOXK1,FOXO3,
FTSJ3,G6PD,GABAR
AP,GDA,GNA12,GOL
GB1,GPD2,GRHRP,
GSDMD,GSK3A,GST
M2,GTF2A2,GTF3C2,
GYG1,HECA,HECTD
3,HLF,HMGCR,HRAS
,HSD3B7,HSPB1,ICK
,ID2,IGFBP2,IL18,IN
G4,IRF6,IRS1,ITPA,J
AK2,JMJD1C,KAT2B,
KCMF1,KDM6A,KEA
P1,KIAA0100,KLF9,K
LHDC2,KLHL7,KTN1,
KYNU,L2HGDH,LAR
S2,LGALS4,LGR5,LI
N7C,LITAF,LMNA,LPI
N1,LRIG1,LRP12,LR
RC28,LSM14B,LSS,
MACROH2A1,MAGE
D1,MAGI3,MAP1LC3
B,MAP2K3,MBNL2,M
COLN1,MEF2A,MIA2,
MKNK2,MLLT10,MM
D,MOCOS,MON2,MP
DZ,MPP1,MPRIIP,MR
PL24,MRPL34,MRPL
44,MRPS22,MRPS25
,MRPS27,MT1F,MYO
1B,MYO5B,MYO6,N4
BP2,N4BP2L1,NAGK,
NCOA1,NDUFA9,ND
UFB9,NEK7,NFKBIA,
NGEF,NHLRC2,NINJ

1,NIPBL,NME1,NOSI
P,NPC1,NR2F6,NR3
C2,NR5A2,NRIP1,NU
DT7,NUP62,NUP88,N
US1,OAZ1,OSBPL1A
,OTUD6B,OXR1,PAL
MD,PAN3,PCDH1,PC
GF5,PDCD2,PDE2A,
PDGFRB,PDLIM1,PD
P2,PDPK1,PDRG1,P
ER1,PER3,PEX6,PG
AP1,PHF20L1,PHKA
2,PIK3CA,PKHD1,PL
D1,PLXNA2,PNKD,P
NRC1,POR,PPIF,PP
P1R1B,PPP1R3B,PP
P1R9A,PPP2R1A,PR
PF39,PRPF6,PSEN2,
PSMD1,PSMD2,PTB
P1,PTBP2,PXMP4,R
AB11FIP2,RABEPK,R
ABGAP1L,RAI14,RAL
GPS2,RASA3,RB1CC
1,RBBP5,RBBP7,RC
AN1,RCL1,REPIN1,R
GS2,RHOD,RICTOR,
RNF14,RNF144A,RO
CK1,RPIA,SBF2,SCA
PER,SCARB2,SCYL1
,SDC4,SDR42E1,SE
C63,SECISBP2L,SEN
P6,SERPINA6,SERPI
NE2,SESN3,SETDB2
,SFRP5,SHPRH,SIRT
5,SLC16A5,SLC1A4,
SLC20A1,SLC20A2,S
LC25A32,SLC2A2,SL
C2A9,SLC38A2,SLC3
9A10,SLC39A8,SLC6
A12,SLC9A3R1,SLK,
SMAD7,SMAP1,SNR
NP200,SNTB1,SNX1
0,SOD2,SPARC,SPG
21,SPOP,SPTBN1,S
PTBN2,ST3GAL4,ST
ARD7,STK24,STK40,
STOM,STT3B,STX8,
STXBP3,SULF2,SYN
E1,TBC1D16,TBC1D
20,TBC1D24,TCP1,T
EP1,TEX2,THRSP,TI
FA,TIGD2,TIMM44,T
K1,TLE1,TMEM126A,
TMEM51,TMEM97,T
NFAIP2,TNRC6A,TO
P1MT,TPI1,TPR,TPR
G1L,TRIB3,TRMT1,T
SPAN33,TTC1,TUBB,
TUBB6,TXNL1,UBAC
1,UBE2F,UBR1,UGP
2,UGT2B10,UROC1,
UROD,USP47,UTP14

Cancer,Organismal Injury And Abnormalities	Abdominal Neoplasm	Abdominal Neoplasm	1.91E-24	-2.159	A,UTRN,UXS1,VPS1 3A,WIPI2,WNT5B,YP EL3,YWHAH,ZCCHC 24,ZFAND2B,ZKSCA N1,ZNF23,ZNF32,ZN F654 AASDH,ABCB1,ABC B4,ABCG2,ABCG5,A BCG8,ABTB2,ACAD8 ,ACAT2,ACLY,ACOX 2,ACSL3,ACSL4,ACS L5,ACSM1,ACSM5,A CSS2,ACTR6,ADH4, AFG3L2,AGPAT2,AH CY,AHNAK,AHSA1,A KAP11,AKAP9,AKR1 D1,ALAS1,ALDH1L1, ALG13,AMDHD1,AN KRD12,ANP32A,ANX A7,ARF3,ARGLU1,A RHGAP18,ARHGAP2 1,ARHGAP6,ARIH2,A RL15,ARL6IP4,ARSG ,ASAP2,ASB13,ATG3 ,ATG4D,ATP1A1,ATP 1B1,ATP6V1D,ATXN 2L,AUH,BAAT,BAP1, BDH1,BHMT,BHMT2, BID,BIK,BLMH,BRD8, BUD23,C11orf54,C9o rf152,C9orf16,CA3,C AMKK2,CAPN2,CAR S1,CBLB,CCBE1,CC DC66,CCT3,CCT4,C CT5,CCT6A,CCT7,C D2AP,CD47,CD9,CD 99L2,CDA,CDC14B,C DH1,CDH2,CDO1,CE BPD,CENPV,CES1,C GN,CHCHD3,CHCHD 4,CHD6,CHPT1,CHR AC1,CIB3,CITED2,CL DND1,CLK2,CLMN,C LOCK,CMTM6,CMTM 8,CNOT4,CNOT6,CN P,COL27A1,COL5A3, CORO1B,CPEB4,CP T1A,CRIP2,CROT,CS ,CSRNP1,CTDSP1,C TPS2,CTSH,CUL4B, CXADR,CYLD,CYP2 U1,CYP39A1,CYP4F 2,CYP7A1,CYTH1,DA ZAP1,DCTN1,DDC,D DX60,DEK,DGKZ,DH X9,DIAPH2,DICER1, DIO1,DIPK2A,DIXDC 1,DMD,DMTF1,DNAJ C5,DOCK4,DPP4,DP P9,DSP,DSTN,DUSP 19,DVL1,E2F5,ECHD C1,ECHDC3,EPPD1,	558
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EFHD2,EGR1,EIF1A
X,EIF4EBP1,ELF1,E
NPP1,ERBB3,ESRRA
,EXOC6,EXOSC2,EX
TL2,F11,F2R,F3,FAD
S2,FAM102A,FAM16
0B1,FAM172A,FAM8
9A,FBXO9,FECH,FG
A,FGB,FGFR2,FGFR
L1,FGG,FH,FKBP4,F
LCN,FMO1,FMO5,FO
XK1,FOXO3,FPGS,F
TSJ3,G6PD,GABARA
P,GAS2L3,GCAT,GC
LC,GCNT2,GDA,GNA
12,GNG12,GOLGB1,
GPD2,GPN1,GRHPR,
GSDMD,GSK3A,GSS
,GSTM2,GTF2A2,GT
F2F1,GTF3C2,GYG1,
HECA,HECTD3,HER
C4,HLF,HMG20B,HM
GCR,HNRNPC,HNR
NPD,HOMER2,HOO
K1,HRAS,HSD17B2,H
SD3B7,HSPB1,ICK,I
D2,ID4,IGFBP2,IL18,I
NG4,IRF6,IRS1,ITPA,
ITPK1,JAK2,JMJD1C,
KAT2B,KCMF1,KDM6
A,KEAP1,KIAA0100,K
ITLG,KLF12,KLF9,KL
HDC2,KLHL21,KLHL
7,KPNB1,KTN1,KYN
U,L2HGDH,LARS2,L
GALS4,LGR5,LIN7A,
LIN7C,LITAF,LMNA,L
PIN1,LRIG1,LRP12,L
RRC28,LRRC3,LSM1
4B,LSS,LTBR,MACR
OH2A1,MAGED1,MA
GI3,MAP1LC3B,MAP
2K3,MAP3K7,MBNL2,
MCOLN1,MEF2A,MIA
2,MKNK2,MLLT10,ML
X,MMD,MOCOS,MO
N2,MPDZ,MPP1,MPR
IP,MRNIP,MRPL12,M
RPL20,MRPL24,MRP
L44,MRPS22,MRPS2
5,MRPS27,MRPS9,M
T1F,MYO1B,MYO5B,
MYO6,N4BP2,N4BP2
L1,NAGK,NCALD,NC
OA1,NDUFA12,NDUF
A9,NEK7,NET1,NFKB
IA,NGEF,NHLRC2,NI
NJ1,NIPBL,NME1,NO
SIP,NPC1,NR1H4,NR
2F6,NR3C2,NR5A2,N
RIP1,NT5C,NUDT1,N
UDT19,NUDT7,NUP6

2,NUP88,OAZ1,OSB
PL1A,OTUD6B,OXR1
,PALMD,PAN2,PAN3,
PAQR9,PCDH1,PCG
F5,PDCD2,PDE2A,P
DE9A,PDGFC,PDGF
RB,PDLIM1,PDP2,PD
PK1,PDRG1,PER1,P
ER3,PEX26,PEX6,PF
DN2,PGAP1,PHF20L
1,PHKA2,PIK3AP1,PI
K3CA,PKHD1,PLD1,
PLXNA2,PMPCA,PN
KD,PNRC1,POLE4,P
OR,PPIF,PPM1A,PP
OX,PPP1R12A,PPP1
R14B,PPP1R1B,PPP
1R3B,PPP1R9A,PPP
2R1A,PRDX6,PRPF3
9,PRPF6,PRPS1,PSE
N2,PSMA6,PSMD1,P
SMD11,PSMD2,PSM
D8,PSMF1,PSPC1,P
SPH,PTBP1,PTBP2,P
XMP4,QDPR,RAB11
FIP2,RABEPK,RABG
AP1L,RAI14,RALGPS
2,RAN,RASA3,RASS
F3,RB1CC1,RBBP5,
RBBP7,RCAN1,RCL1
,REPIN1,RGS2,RHB
DD1,RHOD,RICTOR,
RNF144A,RNF167,R
OCK1,RPA1,RPIA,R
UFY3,SAA4,SAR1B,S
ARS1,SBF2,SCAPER
,SCARB2,SCYL1,SD
C4,SDR42E1,SEC63,
SECISBP2L,SENP6,
SERPINA6,SERPINE
2,SERPINH1,SESN3,
SETDB2,SFRP5,SGK
2,SGTB,SH3D19,SH
MT1,SHPRH,SIRT5,S
LC10A1,SLC16A5,SL
C1A4,SLC20A1,SLC2
0A2,SLC25A32,SLC2
7A2,SLC2A2,SLC2A5
,SLC2A9,SLC30A10,
SLC35B1,SLC35B3,S
LC38A2,SLC39A10,S
LC39A8,SLC6A12,SL
C9A3R1,SLK,SMAD7
,SMAP1,SNAPC2,SN
RNP200,SNTB1,SNX
10,SNX9,SOAT2,SO
D2,SPARC,SPG21,S
PON2,SPOP,SPTBN
1,SPTBN2,ST3GAL4,
STARD7,STIP1,STK2
4,STK40,STOM,STT3
B,STX8,STXBP3,SUL

					F2,SUMF1,SYAP1,S YNE1,SYT1,TBC1D1 6,TBC1D20,TBC1D24 ,TBRG4,TCIM,TCP1, TEP1,TEX2,THAP4,T HRSP,TIGD2,TIMM4 4,TK1,TLCD4,TLE1,T MBIM1,TMEM126A,T MEM219,TMEM41A,T MEM41B,TMEM51,T MEM62,TMEM97,TN FAIP2,TNFAIP8L1,TN RC6A,TOP1MT,TPI1, TPR,TPRG1L,TPRKB ,TRIB3,TRMT1,TSN,T SPAN33,TTC1,TTC1 9,TUBB,TUBB6,TUB GCP2,TXNL1,UBAC1 ,UBE2F,UBE2L3,UBR 1,UBTF,UBXN1,UBX N6,UCK1,UGP2,UGT 2B10,ULK1,UNG,UP P2,UROC1,UROD,US P47,UTP14A,UTRN,U XS1,VPS13A,WDR18 ,WDR26,WDR81,WIP I2,WNT5B,YPEL3,YW HAH,ZCCHC24,ZFAN D2B,ZKSCAN1,ZNF2 3,ZNF32,ZNF326,ZN F654	
Molecular Transport	Transport	Transport Of Molecule	3.02E-12	-2.164	ABC1,ABCB4,ABC G2,ABCG5,ABCG8,A CAT2,ACLY,ACSL3,A CSL4,ACSL5,AFG3L 2,ANP32A,AQP11,AR F3,ATP1A1,ATP1B1, ATP6V1D,BET1,CA3, CBLB,CD2AP,CDH1, CES1,CHCHD4,CITE D2,CMTM6,CNP,CPT 1A,CROT,CYP7A1,C YTH1,DCTN1,DDC,D GKZ,DNAJC5,DVL1, EGR1,ENPP1,ERBB3 ,F2R,FECH,FGA,FGB ,FGG,FH,FKBP4,FOX O3,GABARAP,GSK3 A,HMGCR,HNRNPD, HOOK1,HRAS,HSD1 7B2,IRS1,JAK2,KPN B1,LIN7A,LIN7C,LMN A,LSS,MAP2K3,MEF 2A,MLX,MYO5B,MYO 6,NFKBIA,NPC1,NR1 H4,NR3C2,NR5A2,N UP62,NUP88,OGA,O SBPL1A,PDGFRB,PD PK1,PER1,PEX26,PE X6,PGAP1,PIK3CA,P MPCA,PNKD,PPP1R 3B,PRDX6,PSEN2,R	129

Cancer, Organismal Injury And Abnormalities	Abdominal Cancer	Abdominal Cancer	1,60E-23	-2,169	AN, REPIN1, RHBDD1, RICTOR, ROCK1, SCARB2, SERPINA6, SGK2, SLC10A1, SLC1A4, SLC20A1, SLC20A2, SLC27A2, SLC2A2, SLC2A5, SLC2A9, SLC30A10, SLC35A3, SLC38A2, SLC38A3, SLC39A10, SLC39A8, SLC6A12, SLC9A3R1, SNTB1, SNX10, SNX9, SOAT2, SOD2, SPTBN2, STAR, STX18, STX7, STX8, STXBP3, SYT1, TIMM44, TPR, TRIB3, UROD, VPS11, YWHAH AASDH, ABCB1, ABCB4, ABCG2, ABCG5, ABCG8, ABTB2, ACAD8, ACAT2, ACLY, ACOX2, ACSL3, ACSL4, ACSL5, ACSM1, ACSM5, ACSS2, ACTR6, ADH4, AFG3L2, AGPAT2, AH1CY, AHNK, AHNK1, AKAP11, AKAP9, AKR1D1, ALAS1, ALDH1L1, ALG13, AMDHD1, ANKRD12, ANP32A, ANXA7, ARF3, ARGLU1, ARHGAP18, ARHGAP21, ARHGAP6, ARIH2, ARL15, ARL6IP4, ARSG, ASAP2, ASB13, ATG3, ATG4D, ATP1A1, ATP1B1, ATP6V1D, ATXN2L, AUH, BAAT, BAP1, BDH1, BHMT, BHMT2, BID, BIK, BLMH, BRD8, BUD23, C11orf54, C9orf152, CA3, CAMKK2, CAPN2, CARS1, CBLB, CCBE1, CCDC66, CCT3, CCT4, CCT5, CCT6A, CCT7, CD2AP, CD47, CD9, CD99L2, CDA, CDC14B, CDH1, CDH2, CDO1, CEBPD, CENPV, CES1, CGN, CHCHD3, CHCHD4, CHD6, CHPT1, CHRA1, CIB3, CITED2, CLDN1, CLK2, CLMN, CLOCK, CMT6, CMT8, CNOT4, CNOT6, CNP, COL27A1, COL5A3, CORO1B, CPEB4, CPT1A, CRIP2, CROT, CS, CSRP1, CTDSP1, CTPS2, CTSN, CUL4B, CXADR, CYLD, CYP2U1, CYP39	551
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A1,CYP4F2,CYP7A1,
CYTH1,DAZAP1,DCT
N1,DDC,DDX60,DEK,
DGKZ,DHX9,DIAPH2,
DICER1,DIO1,DIPK2
A,DIXDC1,DMD,DMT
F1,DNAJC5,DOCK4,
DPP4,DPP9,DSP,DS
TN,DUSP19,DVL1,E2
F5,ECHDC1,EEPD1,
EFHD2,EGR1,EIF1A
X,EIF4EBP1,ELF1,E
NPP1,ERBB3,ESRRA
,EXOC6,EXOSC2,EX
TL2,F11,F2R,F3,FAD
S2,FAM102A,FAM16
0B1,FAM172A,FAM8
9A,FBXO9,FECH,FG
A,FGB,FGFR2,FGFR
L1,FGG,FH,FKBP4,F
LCN,FMO1,FMO5,FO
XK1,FOXO3,FPGS,F
TSJ3,G6PD,GABARA
P,GAS2L3,GCAT,GC
LC,GCNT2,GDA,GNA
12,GNG12,GOLGB1,
GPD2,GPN1,GRHPR,
GSDMD,GSK3A,GSS
,GSTM2,GTF2A2,GT
F2F1,GTF3C2,GYG1,
HECA,HECTD3,HER
C4,HLF,HMG20B,HM
GCR,HNRNPC,HNR
NPD,HOMER2,HOO
K1,HRAS,HSD17B2,H
SD3B7,HSPB1,ICK,I
D2,ID4,IGFBP2,IL18,I
NG4,IRF6,IRS1,ITPA,
ITPK1,JAK2,JMJD1C,
KAT2B,KCMF1,KDM6
A,KEAP1,KIAA0100,K
ITLG,KLF12,KLF9,KL
HDC2,KLHL21,KLHL
7,KPNB1,KTN1,KYN
U,L2HGDH,LARS2,L
GALS4,LGR5,LIN7A,
LIN7C,LITAF,LMNA,L
PIN1,LRIG1,LRP12,L
RRC28,LRRC3,LSM1
4B,LSS,LTBR,MACR
OH2A1,MAGED1,MA
GI3,MAP1LC3B,MAP
2K3,MAP3K7,MBNL2,
MCOLN1,MEF2A,MIA
2,MKNK2,MLLT10,ML
X,MMD,MOCOS,MO
N2,MPDZ,MPP1,MPR
IP,MRNIP,MRPL12,M
RPL20,MRPL24,MRP
L44,MRPS22,MRPS2
5,MRPS27,MRPS9,M
T1F,MYO1B,MYO5B,

MYO6,N4BP2,N4BP2
L1,NAGK,NCALD,NC
OA1,NDUFA12,NDUF
A9,NEK7,NET1,NFKB
IA,NGEF,NHLRC2,NI
NJ1,NIPBL,NME1,NO
SIP,NPC1,NR1H4,NR
2F6,NR3C2,NR5A2,N
RIP1,NT5C,NUDT1,N
UDT19,NUDT7,NUP6
2,NUP88,OAZ1,OSB
PL1A,OTUD6B,OXR1
,PALMD,PAN2,PAN3,
PAQR9,PCDH1,PCG
F5,PDCD2,PDE2A,P
DE9A,PDGFC,PDGF
RB,PDLIM1,PDP2,PD
PK1,PDRG1,PER1,P
ER3,PEX26,PEX6,PF
DN2,PGAP1,PHF20L
1,PHKA2,PIK3AP1,PI
K3CA,PKHD1,PLD1,
PLXNA2,PMPCA,PN
KD,PNRC1,POLE4,P
OR,PPIF,PPM1A,PP
OX,PPP1R12A,PPP1
R14B,PPP1R1B,PPP
1R3B,PPP1R9A,PPP
2R1A,PRPF39,PRPF
6,PRPS1,PSEN2,PS
MD1,PSMD11,PSMD
2,PSMD8,PSMF1,PS
PC1,PSPH,PTBP1,P
TBP2,PXMP4,QDPR,
RAB11FIP2,RABEPK,
RABGAP1L,RAI14,R
ALGPS2,RAN,RASA3
,RASSF3,RB1CC1,R
BBP5,RBBP7,RCAN1
,RCL1,REPIN1,RGS2
,RHBDD1,RHOD,RIC
TOR,RNF144A,RNF1
67,ROCK1,RPA1,RPI
A,RUFY3,SAA4,SAR
1B,SARS1,SBF2,SCA
PER,SCARB2,SCYL1
,SDC4,SDR42E1,SE
C63,SECISBP2L,SEN
P6,SERPINA6,SERPI
NE2,SERPINH1,SES
N3,SETDB2,SFRP5,S
GK2,SGTB,SH3D19,
SHMT1,SHPRH,SIRT
5,SLC10A1,SLC16A5
,SLC1A4,SLC20A1,S
LC20A2,SLC25A32,S
LC27A2,SLC2A2,SLC
2A5,SLC2A9,SLC35B
3,SLC38A2,SLC39A1
0,SLC39A8,SLC6A12
,SLC9A3R1,SLK,SMA
D7,SMAP1,SNAPC2,

Neurological Disease	Motor Dysfunction Or Movement Disorder	Motor Dysfunction Or Movement Disorder	5.12E-08	-2.191	SNRNP200,SNTB1,S NX10,SNX9,SOAT2,S OD2,SPARC,SPG21, SPON2,SPOP,SPTB N1,SPTBN2,ST3GAL 4,STARD7,STIP1,ST K24,STK40,STOM,ST T3B,STX8,STXBP3,S ULF2,SUMF1,SYAP1, SYNE1,SYT1,TBC1D 16,TBC1D20,TBC1D2 4,TBRG4,TCIM,TCP1 ,TEP1,TEX2,THAP4, THRSP,TIGD2,TIMM 44,TK1,TLE1,TMBIM 1,TMEM126A,TMEM2 19,TMEM41A,TMEM4 1B,TMEM51,TMEM62 ,TMEM97,TNFAIP2,T NFAIP8L1,TNRC6A,T OP1MT,TPI1,TPR,TP RG1L,TPRKB,TRIB3, TRMT1,TSN,TSPAN3 3,TTC1,TTC19,TUBB, TUBB6,TUBGCP2,TX NL1,UBAC1,UBE2F, UBE2L3,UBR1,UBTF, UBXN1,UBXN6,UCK1 ,UGP2,UGT2B10,UL K1,UNG,UPP2,UROC 1,UROD,USP47,UTP 14A,UTRN,UXS1,VP S13A,WDR18,WDR2 6,WDR81,WIP1,WNT 5B,YPEL3,YWHAH,Z CCHC24,ZFAND2B,Z KSCAN1,ZNF23,ZNF 32,ZNF326,ZNF654 ABCB1,AFG3L2,AHC Y,ALAS1,ALG13,ARI H2,ATP1B1,BID,CA3, CAMKK2,CDH2,CDO 1,CHD6,CNP,CYTH1, DDC,DGKZ,DICER1, DIXDC1,DNAJB1,DN AJC5,E2F5,EGR1,EN PP1,ERBB3,F3,FGFR L1,FGG,FKBP4,FOX O3,HMGCR,HRAS,H SPB1,ID4,IL18,ITPA,J MJD1C,LGR5,LMNA, MBNL2,MCOLN1,MP DZ,MYO1B,NGEF,NI NJ1,NME1,NPC1,NU DT1,NUP62,OXR1,P DCD2,PDLIM1,PDPK 1,PFKFB1,PLXNA2,P MPCA,PNKD,PPP1R 1B,PRDX6,PTBP2,R AN,RCAN1,RGS2,SA RS1,SCARB2,SCOC, SCYL1,SDC4,SERPI	86
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Neurological Disease	Movement Disorder	Movement Disorders	4.11E-07	-2.37	NE2,SGTB,SLC1A4,SLC30A10,SOD2,SPTBN2,STARD4,STOM,SYNE1,SYT1,TBC1D24,TPI1,TRIB3,TSN,UBAC1,VPS13A,WDR26,WDR81	82
					ABCB1,AFG3L2,AHCY,ALAS1,ALG13,ARIH2,ATP1B1,BID,CA3,CAMKK2,CDH2,CNP,CYTH1,DDC,DGKZ,DICER1,DIXDC1,DNAJB1,DNAJC5,E2F5,EGFR1,ERBB3,F3,FGFRL1,FGG,FKBP4,FOXO3,HMGCR,HRAS,HSPB1,ID4,IL18,ITPA,JMJD1C,LGR5,LMNA,MBNL2,MCOLN1,MPDZ,MYO1B,NGEF,NJ1,NME1,NPC1,NUDT1,NUP62,OXR1,PDCD2,PDLIM1,PDPK1,PFKFB1,PLXNA2,PMPCA,PNKD,PPP1R1B,PRDX6,PTBP2,RAN,RCAN1,RGS2,SAARS1,SCARB2,SCOC,SCYL1,SDC4,SGTB,SLC1A4,SLC30A10,SOD2,SPTBN2,STARD4,STOM,SYNE1,SYT1,TBC1D24,TPI1,TRIB3,TSN,UBAC1,VPS13A,WDR26,WDR81	
Cancer,Organismal Injury And Abnormalities	Extracranial Solid Tumor	Extracranial Solid Tumor	3.07E-29	-2.464	AASDH,ABCB1,ABCB4,ABCG2,ABCG5,ABCG8,ABTB2,ACAD8,ACAT2,ACLY,ACOX2,ACSL3,ACSL4,ACSL5,ACSM1,ACSM5,ACSS2,ACTR6,ADH4,AFG3L2,AGPAT2,AHCY,AHNAK,AHSA1,AKAP11,AKAP9,AKR1D1,ALAS1,ALDH1L1,ALG13,AMDHD1,ANKRD12,ANP32A,ANXA7,ARF3,ARGLU1,ARRHGAP18,ARRHGAP21,ARRHGAP6,ARRIH2,ARRL15,ARRL4A,ARRL6IP4,ARRSG,ARRSAP2,ARRSB13,ARRTG3,ARRTG4D,ARRTP1A1,ARRTP1B1,ARRTP6V1D,ARRTXN2L,ARRUH,BAA1T,BAP1,BDH1,BHMT,BHMT2,BID,BIK,BLMH,BRD8,BUD23,C11orf54,C9orf152,C9orf16,CA3,CAMKK2,CAP	596

N2,CARS1,CBLB,CC
BE1,CCDC66,CCT3,
CCT4,CCT5,CCT6A,
CCT7,CD2AP,CD47,
CD9,CD99L2,CDA,C
DC14B,CDH1,CDH2,
CDO1,CEBPD,CENP
V,CES1,CGN,CHCH
D3,CHCHD4,CHD6,C
HPT1,CHRA1,CIB3,
CITED2,CLDND1,CL
K2,CLMN,CLOCK,CL
TA,CMTM6,CMTM8,
CNN3,CNOT4,CNOT
6,CNP,COL27A1,CO
L5A3,CORO1B,CPEB
4,CPT1A,CRIP2,CRL
S1,CROT,CS,CSRNP
1,CTDSP1,CTPS2,CT
SH,CUL4B,CXADR,C
YB5B,CYLD,CYP2U1
,CYP39A1,CYP4F2,C
YP7A1,CYTH1,DAZA
P1,DCTN1,DDC,DDX
60,DEK,DGKZ,DHX9,
DIAPH2,DICER1,DIO
1,DIPK2A,DIXDC1,D
MD,DMTF1,DNAJB1,
DNAJC5,DOCK4,DP
P4,DPP9,DSP,DSTN,
DTYMK,DUSP19,DVL
1,E2F5,ECHDC1,EC
HDC3,EEPD1,EFHD2
,EGR1,EIF1AX,EIF4E
BP1,ELF1,ELOVL6,E
NDOG,ENPP1,ERBB
3,ESRRA,EXOC6,EX
OSC2,EXTL2,F11,F2
R,F3,FADS2,FAM102
A,FAM118B,FAM160
B1,FAM172A,FAM76
B,FAM89A,FBXO31,F
BXO9,FECH,FGA,FG
B,FGFR2,FGFRL1,F
GG,FH,FKBP4,FLCN,
FMO1,FMO5,FOXK1,
FOXO3,FPGS,FTSJ3,
G6PD,GABARAP,GA
S2L3,GCAT,GCLC,G
CNT2,GDA,GNA12,G
NG12,GOLGB1,GPD
2,GPN1,GRHPR,GSD
MD,GSK3A,GSS,GST
M2,GTF2A2,GTF2F1,
GTF3C2,GYG1,HEC
A,HECTD3,HERC4,H
LF,HMG20B,HMGCR,
HNRNPC,HNRNPD,H
OMER2,HOK1,HRA
S,HSD17B2,HSD3B7,
HSPB1,ICK,ID2,ID4,I
GFBP2,IL18,ING4,IR

F6,IRS1,ITPA,ITPK1,
JAK2,JMJD1C,KAT2
B,KCMF1,KDM6A,KE
AP1,KHK,KIAA0100,
KITLG,KLF12,KLF9,K
LHDC2,KLHL21,KLH
L7,KPNB1,KTN1,KYN
U,L2HGDH,LARS2,L
GALS4,LGR5,LIN7A,
LIN7C,LITAF,LMNA,L
PIN1,LRIG1,LRP12,L
RRC28,LRRC3,LSM1
4B,LSS,LTBR,MACR
OH2A1,MAGED1,MA
GI3,MAP1LC3B,MAP
2K3,MAP3K7,MBNL2,
MCOLN1,MEF2A,MIA
2,MKNK2,MLLT10,ML
X,MMD,MOCOS,MO
N2,MPDZ,MPP1,MPR
IP,MRNIP,MRPL12,M
RPL20,MRPL24,MRP
L34,MRPL44,MRPS2
2,MRPS25,MRPS27,
MRPS9,MT1F,MYO1
B,MYO5B,MYO6,N4B
P2,N4BP2L1,NAGK,N
CALD,NCOA1,NDUF
A12,NDUFA9,NDUFB
9,NEK7,NET1,NFKBI
A,NGEF,NHLRC2,NI
CN1,NINJ1,NIPBL,N
ME1,NOP10,NOSIP,
NPC1,NR1H4,NR2F6
,NR3C2,NR5A2,NRIP
1,NT5C,NUDT1,NUD
T19,NUDT7,NUP62,N
UP88,NUS1,OAZ1,O
SBPL1A,OTUD6B,OX
R1,PALMD,PAN2,PA
N3,PAQR9,PCDH1,P
CGF5,PDCD2,PDE2A
,PDE9A,PDGFC,PDG
FRB,PDLIM1,PDP2,P
DPK1,PDRG1,PER1,
PER3,PES1,PEX26,P
EX6,PFDN2,PFKFB1,
PGAP1,PHF20L1,PH
KA2,PIK3AP1,PIK3C
A,PKHD1,PLD1,PLX
NA2,PMPCA,PNKD,P
NRC1,POLE4,POR,P
PIF,PPM1A,PPOX,PP
P1R12A,PPP1R14B,
PPP1R1B,PPP1R3B,
PPP1R9A,PPP2R1A,
PRDX6,PRPF19,PRP
F39,PRPF6,PRPS1,P
RPS2,PSEN2,PSMA6
,PSMD1,PSMD11,PS
MD2,PSMD8,PSME2,
PSMF1,PSMG1,PSP

C1,PSPH,PTBP1,PT
BP2,PXMP4,QDPR,R
AB11FIP2,RAB1B,RA
BEPK,RABGAP1L,RA
I14,RALGPS2,RAN,R
ASA3,RASSF3,RB1C
C1,RBBP5,RBBP7,R
BKS,RCAN1,RCL1,R
EPIN1,RGS2,RHBDD
1,RHOD,RICTOR,RN
F14,RNF144A,RNF16
7,ROCK1,RPA1,RPIA
,RUFY3,SAA4,SAR1
B,SARS1,SBF2,SCA
PER,SCARB2,SCGN,
SCOC,SCYL1,SDC4,
SDR42E1,SEC63,SE
CISBP2L,SENP6,SE
RPINA6,SERPINE2,S
ERPINH1,SESN3,SE
TDB2,SFRP5,SGK2,
SGTB,SH3BGR2,SH
3D19,SHMT1,SHPRH
,SIRT5,SLC10A1,SLC
16A5,SLC1A4,SLC20
A1,SLC20A2,SLC25A
32,SLC27A2,SLC2A2
,SLC2A5,SLC2A9,SL
C30A10,SLC35A3,SL
C35B1,SLC35B3,SLC
38A2,SLC39A10,SLC
39A8,SLC6A12,SLC9
A3R1,SLK,SMAD7,S
MAP1,SNAPC2,SNR
NP200,SNTB1,SNX1
0,SNX5,SNX9,SOAT2
,SOD2,SPARC,SPG2
1,SPON2,SPOP,SPT
BN1,SPTBN2,ST3GA
L4,STARD4,STARD7,
STIP1,STK24,STK40,
STOM,STT3B,STX18,
STX8,STXBP3,SULF
2,SUMF1,SYAP1,SY
NE1,SYT1,TBC1D16,
TBC1D20,TBC1D24,
TBRG4,TCIM,TCP1,T
EP1,TEX2,THAP4,TH
RSP,TIFA,TIGD2,TIM
M10,TIMM44,TK1,TL
CD4,TLE1,TMBIM1,T
MEM126A,TMEM219,
TMEM41A,TMEM41B
,TMEM51,TMEM62,T
MEM97,TNFAIP2,TN
FAIP8L1,TNRC6A,TO
P1MT,TPI1,TPR,TPR
G1L,TPRKB,TRIB3,T
RMT1,TSN,TSPAN33
,TSTA3,TTC1,TTC19,
TUBB,TUBB6,TUBG
CP2,TXN2,TXNL1,UB

AC1,UBE2F,UBE2L3,
UBR1,UBTF,UBXN1,
UBXN6,UCK1,UGP2,
UGT2B10,ULK1,UNG
,UPP2,UROC1,UROD
,USP47,UTP14A,UTR
N,UXS1,VPS13A,WD
R18,WDR26,WDR81,
WIPI2,WNT5B,YPEL3
,YWHAH,ZCCHC24,Z
FAND2B,ZKSCAN1,Z
NF23,ZNF32,ZNF326
,ZNF654

An increase in the Z-score value indicates pathway activation, while the decrease in the Z-score indicates pathway inhibition. On a logarithmic scale (-log (p-value)) a P-value equal to 0.05 corresponds to 1.3 and the statistical significance of the result increases with the decrease in p-value and with the increase in - log (p-value) values.