

Table S1; Screening gene list by ICGC datasets.

Rank	Kidney Normal	Kidney Tumor	Liver Normal	Liver Tumor	Rank	Kidney Normal	Kidney Tumor	Liver Normal	Liver Tumor
1	CD74	SIRPG	HPD	MRPS24	501	BDKRB2	PHLD2	ASAP1	CHCHD5
2	NKAIN1	ASIC1	P4HA1	URGCP-MRPS24	502	PLEKHA5	CNO18	SLC23A1	NARF
3	GRAMD1A	TNS4	AGMAT	FUNDC2	503	PHETA1	ALS2	SFXN5	UBE2J2
4	CYP3A4	CCN1	ARID3C	LPCAT1	504	LRRC42	APLF	TMOD3	ZCRB1
5	KRT8	RTP3	ANGPT2	EIF3B	505	WDR45	MSR1	NME1-NME2	TIMMDC1
6	STAP2	DCXR	DNAJC16	EXOC4	506	CSK	SLC40A1	ID2	RPL13
7	OTOS	ECEL1	GLYAT	ENO1	507	ALYREF	PNRC2	SLC39A5	C1R
8	IPO4	ZNF100	DLL4	EIF4A3	508	MYL9	USP34	CPD	RPS6
9	MME	IQCA1	PIPOX	MFS5D5	509	TLL1	TANK	PLAU	ACVR1
10	SLC35F6	HAUS3	EPHX1	ARPC1A	510	NTSDC2	EPC2	ESPN	SCAMP3
11	CTS2	HERC4	FGL1	CPSF4	511	SORD	ZFC3H1	SAA4	ITPA
12	PLA2G4C	ANKRD42	CES4A	SNF8	512	SLC6A8	RNF168	GSTK1	PALMD
13	KRT18	NA	PKD2	CCDC86	513	TNIP2	SCML1	HNRNPR	C7orf26
14	IFB5	ARMC9	CYP2C9	COP56	514	FCN2	LRRC8D	ZNF462	RPL23
15	PIGS	DNAJB4	SERPINA4	UBE2M	515	HSPB1	CAAP1	DCP2	ADM
16	WEE2	ANKRD6	GSTA1	PHB	516	VASN	PBRM1	KNG1	PYGB
17	HM13	SATB1	UGT2B10	GNB2	517	CDKN1C	JMJD1C	PCP4L1	GPR89A
18	IGSF21	ANKRD26	TM6SF2	DHX37	518	TOMM34	ETAA1	VWA1	VPS25
19	CYP3A7	FAM200B	SEC14L2	SLC6A8	519	UBE2F	LEPR	BHD2	STARD3
20	CFB	GAS2	CRP	ABCF2	520	CRACDL	ANAPC1	MDFIC	YKT6
21	A4GALT	KCNJ10	ABHD15	ANGPT2	521	STX5	WIP2	YRDC	NDUFS6
22	PLAAT4	USP33	HRG	RALA	522	TFEB	ECPAS	PCCB	RPLP2
23	POLD3	VPS26A	FLT1	PTCD1	523	KLC3	ZFP90	VMP1	PITRM1
24	AIFM2	RND3	AMACR	COP21	524	PRAME	SLC1A3	BRAF	FAM98C
25	PHC2	ZMYM6	C1QTNF3-AMACR	RUVBL1	525	KLLN	CARD8	KCNJ2	DTD1
26	C2	USP53	PKC2	BUD31	526	TAP2	RBM41	HSPA14	NR2C2AP
27	TMEM88	ZNF721	ELFN1	PKIB	527	TEKT5	ATP10D	CSNK1A1	DTNBP1
28	SECTM1	MERTK	LOX	POLD2	528	C1QA	LGALS4	PRDX6	POLR2L
29	TMIGD1	ERCC3	MED30	PPIA	529	RTN1	RABGAP1	SLC1A1	SLC10A3
30	ABCF1	WDR11	C16orf87	EIF4H	530	KCNF1	CREBRF	PKD1	HAS3
31	LTBR	RNF180	ARMCX3	PGAM1	531	ADSS1	TAS2R5	ETNK2	SMS
32	CDNF	HECTD2	PPL	PRPF19	532	RBCK1	ZNF776	HACE1	FBP1
33	PRSS21	ODF2L	S1PR5	CDK4	533	NLRP14	GANC	ATP6V1G1	C12orf43
34	PNPLA1	ZDBF2	SLC20A2	DTYMK	534	MTHFD1L	RCHY1	NCAM1	CHCHD1
35	TNFRSF1A	C10orf88	SERPIND1	DDX54	535	ABCF2	ZNF316	FBXL7	NXT1
36	VWCE	LCA5	IFITM2	NME1-NME2	536	DDX23	FGF2	MYLCD	GSTM3
37	CYTH2	RUFY2	CES1	LAGE3	537	NOX1	TMEM241	RPL34	REEP4
38	THOC6	OSBP19	OTUD1	SEC61G	538	ZNF98	ZBED1	HNRNPK	UTP20
39	SERPING1	OSER1	CYP8B1	TXNL4A	539	UBE2M	GABPA	LBP	SLC2A9
40	THNSL1	PDE8A	UROC1	SARNP	540	LILRA2	ZNF214	FLOT1	TIMM9
41	SCUBE1	BCL10	PXDN	TP1	541	CLDN4	HNRNPA2B1	CYP4F2	NT5C
42	PLTP	WEE1	SLC26A1	MYL6B	542	CFAP69	CTTNBP2NL	PCDHGA3	CDT1
43	CD99	CACUL1	TF	CIAPIN1	543	GAL3ST4	PIFO	PCDHA3	RRP36
44	CFI1	PPM1K	CHSY3	NME2	544	FKBP1A	ZNF621	COL27A1	VBP1
45	CCN1	ZNF25	PDE11A	MRPL11	545	TGIF1	FAR1	VTN	DSC2
46	RHOG	MTAP	SMNDC1	RPL22	546	CRYAB	RBM7	RORC	STC2
47	RNLS	PPM1D	HEY1	ATP1B3	547	TXNL4B	RSPH1	SNX9	NUDCD3
48	PLVAP	CHAC1	TERF2IP	EGLN3	548	MIIP	ZNF260	ATP6V1C1	ADCK2
49	CNKSR3	TIAL1	BCL2L11	KDM1A	549	FAM174C	PCDH84	MCAM	SPATS2
50	DDX19B	EFCAB7	GGXC	SNRPD2	550	SBK2	EMC9	GPCPD1	RPS11
51	VPS4A	NBPF3	ATP6V0E2	SNRPD1	551	TP53INP2	ZBTB34	TTBK1	RPA3
52	HHIP	HDAC9	HNRNPH2	PTGFRN	552	CD151	MBD5	MRPL17	VAPA
53	CIB2	PIK3CA	TSKU	MAPKAPK5	553	PLEKHO2	TMPPRS12	IFITM3	MYBL2
54	CCL26	IGFBP4	KLKB1	ALG1	554	ADPRS	SF3A3	HACL1	KRT10
55	DMGDH	ABRAXAS2	SERPINA5	TIMM22	555	PCP4	NAALAD2	MAOB	POLR2J
56	ANGPTL3	AGL	SLC6A12	EIF1	556	RASGRP4	MAPK8	HECTD1	HNRNPR
57	MMP2	PTK6	ICOSLG	YWHAG	557	HMGAI1	HBP1	ZNF217	UBE3C
58	CHMP7	FMR1	FNDC3B	ESYT2	558	INAFM2	ZNF549	BCO2	TTCT2
59	MTARC2	TCTN2	GPD1	RPL27	559	RNASET2	RBM17	PRPF18	SSU72
60	STK19	IGFLR1	BHMT	POP7	560	EPGN	KLF3	SEC11A	RPSA
61	RAB20	PTAR1	XDH	MTCH1	561	INAFM1	L3MBTL3	PRMT6	RAB5B
62	TEAD4	ZBTB5	IVNS1ABP	KNG1	562	PCBP1	KLHDC7B	HMGNS	MIIP
63	GNG4	PARG	SGPP1	PPP2R1A	563	MAP2K2	KLRF1	CHAC2	RNF216
64	TRIP6	KCNN4	GCK	MTFP1	564	ZNF296	RPAP2	NUP50	QPCTL
65	RASD1	SLC38A2	TBC1D15	NLE1	565	RETREG3	TTC14	CDC14B	TMED1
66	ACTG1	ZNF613	ACE2	PARK7	566	TOE1	ABI1	FOXF1	CTDNBP1
67	LRRN4	THSD7A	EFNB2	ATIC	567	GIPC2	UBQLN1	AZ12	HPX
68	RELB	RAB26	DIO1	MLST8	568	CPA1	STX16-NPEPL1	BTF3L4	UBE2A
69	AFM	PACRGL	FER	HK2	569	IFITM1	LEM3D	NDRG2	CDC123
70	GPR143	UNC93A	SAP30	ATP6V0C	570	TAPB	N4BP2L1	TOX2	ZBTB80S
71	ST13	ZFAND4	KLC4	PLIN3	571	SMARCAL1	IFIT1	CLPTM1	RNF11
72	LRRC8D	NUP54	TGFBR3	AATF	572	PPT2	NUFIP2	ARL4C	NR1H2
73	TEKT3	EXOC1	NUDCD3	CUEDC2	573	MARS1	LSM11	FTCD	TRNAU1AP
74	CDK2AP2	BICC1	SMC4	SLC4A2	574	CELF4	STX12	CLNS1A	ATP6V1F
75	CDC20B	AK3	IMPA2	NSUN4	575	KMO	ZNF248	HNRNPU	NCL
76	SLC39A7	BMPRI1A	DNAJC25	PDA1	576	SKIDA1	SCAF11	ABHD14A-ACY1	PATL1
77	RPEL1	WASHC2A	NPM1	DNAJC7	577	TMEM121B	PGBD1	OGDHL	TSPO
78	FAM167B	PTPDC1	KLHDC7A	CCZ1	578	GGH	FBXL13	TSN	PWP1
79	HSPA5	UHRF2	DAO	PFKFB4	579	CYBC1	RFXAP	WNT11	BZW2
80	HEPACAM	IRAG2	RABGGTB	SNX17	580	LRPPRC	ZNF154	DNAJC9	RPL23A
81	CLDN9	PRPF4B	FAM89A	RHOC	581	ALDH9A1	EDIL3	BTBD11	MED24
82	ALB	WAPL	GCOM1	MRPL37	582	IER5L	ZDHHC12	PHF8	RP1
83	CTSE	BHLH89	FABP3	MBOAT7	583	ATF3	BST1	NR1H2	CENPM
84	BAX	MINDY3	HIC1	FAM50A	584	SLC35A2	DCAF12	WHAMM	SMOX
85	C5AR1	TCTN1	CYP4F11	SNX8	585	TRAPP1C	KBTBD2	PGM1	ATP6V1E1
86	IL32	MPHOSPH6	EGLN3	UTP18	586	RNPS1	TYRO3	NUP107	SMARCE1
87	USP51	SKIL	FAAH2	PGK1	587	ATP5MGL	TFCP2	CD80	GTPPB8
88	PDLIM1	ZNF304	SLC17A3	LSM4	588	CNN2	NCK1	ALPL	TMEM148
89	PAH	USP54	DEK	POLE4	589	IFFO2	CPED1	SOCS2	ARF5
90	MSH3	ZNF254	MCM8BP	CTDP1	590	PHLDA2	FNIP1	ARMCX1	ATAD3A
91	FLOT1	RASGRP3	CRAT	MRS12	591	S100A11	ACVR2A	TIMM17B	RRB
92	GSTA2	MARCHF5	UGT2B4	EFTUD2	592	MAD1L1	LRRC1	PCDHA7	CENPN
93	FGFBP1	ZZZ3	ACOX2	BR13	593	HLA-B	SECISBP2L	PUM2	BAK1
94	GPR89B	TDRD6	KCNE4	TMEM141	594	UGT2B7	CENPC	CLDN5	CRTAP
95	ACTB	NDUFAF7	TCP11L1	DCTN2	595	IER3	MINDY2	SLC15A1	TRAI
96	GPC4	SLF2	DPP4	KTI12	596	FAM110A	PLD1	RPSA	MPG
97	ALDH3A2	CD200	THRSF	PGLS	597	GABRB2	ZNF711	LRIG3	MAP4
98	WAS	CCP110	CES2	MARCKSL1	598	IL17D	LIMD2	ALDOB	STAM
99	JVL	IKZF5	DCTN6	MAPK3	599	ABC1	RCL1	RPIA	HNRNPM
100	IFITM3	RASGEF1B	BLMH	DCTPP1	600	XPO7	SCHIP1	KIAA0586	WAC
101	PDIA3	LRRN2	SELENBP1	TMEM109	601	TMEM106A	LOC344065	NAP1L5	MLX

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Rank	Kidney Normal	Kidney Tumor	Liver Normal	Liver Tumor	Rank	Kidney Normal	Kidney Tumor	Liver Normal	Liver Tumor
102	ITGB2	PDCD4	NRBF2	RS1D1	602	TMEM51	ZNF441	DDX24	MRPL42
103	COL19A1	PAWR	MOGAT2	RPS8	603	NA	SLC7A6OS	CLRN3	CDK2AP1
104	UBALD2	CDC14A	NRP1	BLMH	604	DNTTIP1	MAK	HNRNPA1	GRN
105	DCTN2	KIFBP	SULT1A2	AGFG1	605	ITPRIP	CCSER2	RNF13	TMEM234
106	GCH1	ZNF217	HNF4A	ATP6AP1	606	CAPG	ZNF528	ACBD4	GNS
107	CLCF1	GPRASP2	HADH	TBC1D7	607	BHMT	CEP290	XPNPEP3	C2orf27
108	RNF212B	RASA2	AQP7	COASY	608	ACTN1	DYNC1L12	PYROXD1	LIMS1
109	CTS5	CDK13	LDHA	UQCRH	609	COL23A1	IL1RAP	NHLRC1	SNN
110	ACTR1A	ARHGAP12	HPRT1	PFKM	610	GLYAT	CDC37L1	RPS16	OAZ1
111	CCDC137	ZRANB2	FAM186B	KHDRBS1	611	DPEP3	ZNF330	PAG1	PPM1G
112	FADS3	DNAI4	USP2	NUDT1	612	GRIPAP1	MYSM1	UGP2	DVL2
113	ACOT6	TBC1D12	HNRNPF	UBE2S	613	MACROH2A1	MYLIP	TMCC3	DCBLD2
114	TRIM10	SMNDC1	CCT8	GTF3C6	614	BEX1	THNSL1	ARPC5L	ACACA
115	SP11	IFNAR2	GLIS3	EEF1E1	615	ACOX2	NHLRC2	ACY1	ZNF540
116	ZYX	INH4	F10	AP4M1	616	CPLX1	ITGB1	TAF12	RAB41
117	MAP1LC3A	ARID4B	ALDH5A1	NDUFB2	617	CYB5A	KCTD10	UBE2D1	XPNPEP1
118	SH2B2	TNKS2	PAFAH2	UBE2Z	618	LILRA1	HGH1	RS124D1	RPP30
119	ADAMTSL2	TBC1D9	AFM	PPP2R3A	619	C17orf64	TDRD7	LCORL	IFT57
120	NUAK2	PPP3CB	TMPRSS6	MARCKS	620	CCDC96	PCGF5	FKBP1B	SERPINB6
121	VSIG10L	ZNF506	FLOT2	RAMP3	621	TREM2	BIRC2	WWTR1	SEH1L
122	ARF6	HDX	UBA2	MKRN1	622	RHOB	POLR3A	HELB	PRMT5
123	PDXP	SRSF11	GTF2E2	PPP1CA	623	SERPINE2	EMC10	IPMK	F9
124	EPHA2	RPGRIP1L	MTUS1	PACSLN2	624	GDF5	TRUB1	CD93	SMPD4
125	CLDN6	TRAF3IP1	AGBL4	RANBP1	625	TSPAN1	SOC56	PHGDH	EIF4EBP1
126	ELF3	RANBP9	MED28	DNAJB6	626	SRPRA	PLEKH2	STX6	SERPINA6
127	SPAG4	ZFP3	AZIN1	RPF2	627	ULBP2	RAP2C	SARDH	POMGNT1
128	PILRA	MORC3	STC2	RPL11	628	MYC	ZNF749	SERPINE2	MRPS30
129	CDC25B	TUT4	SLC6A1	SNRPB	629	TMEM268	GOLTA1	ALDH1A3	RPL27A
130	SMCO4	RAB28	RFX3	MRPS7	630	CHRD	ZBED5	ALDOB	ALDOB
131	KDELRL1	MAP4K3	OSBPL1A	UBE2I	631	ASB10	GORAB	ALKBH8	RUFY1
132	IGFLR1	PKN2	UGT2B7	GNA12	632	OPA1	PDHX	POLA1	SNRPC
133	LPCAT1	ETFBKMT	PHYH	GTPBP4	633	YTHDF1	SLC24A1	IVD	CISD3
134	SCN1B	KLHL24	SH2D1B	TAF6	634	RIDA	CEP170	RPS23	SMPD2
135	PCDH15	SH3GLB1	METTL7A	CDK5	635	CD81	C18orf54	FBXO2	DDOST
136	GGT5	SPATA4	IDH1	C3	636	EPM2A	ME1	TSPO	EXOC3
137	ABHD11	RGPD6	MMACHC	VAT1	637	LYPLA2	TLE5	HTRA1	TK1
138	PDE10A	LCOR	CPN1	NOMO1	638	DDO	ZNF283	SCAMP1	UBXN6
139	PSD2	MICU3	IL12RB2	SLC38A3	639	LRR37A3	CPNE8	XPO7	EMD
140	TTL13	PDCD1	FGB	GLS2	640	CROT	PNCK	ACTR3C	PDRG1
141	CDC42EP1	ZNF518A	AQP11	CIZ1	641	UBA7	C8orf48	TLK2	SYF2
142	TUBA1C	RAB11FIP2	SEC61G	CLIP2	642	LYPLA2	YPEL2	MECOM	SEN3-EIF4A1
143	HPCA	CDK6	SOC55	C1orf174	643	PRSS36	NPAT	PPP1C8	XRCC6
144	SNAPC2	PTPN12	IDH3A	AGTRAP	644	SYTL3	ZNF135	CYP4F12	ADSL
145	SLC2A8	SGMS1	PYGL	SDF4	645	SIGLEC1	BLZF1	GPR153	STX5
146	GYP4	RAB40C	HNRNPA3	PRR13	646	VEP	RNF4	CCT6A	SCAF1
147	STRIT1	ZMYM4	KLRC3	AFM	647	SLC12A6	CMTR2	DNAJC21	GOLM1
148	RUNDC3B	IFRD1	SLC22A1	PKN1	648	YBX3	MYBL1	ADH4	GGCT
149	SIAH2	TBC1D15	EIF4E	TRIM28	649	WDR38	FSHR	MTHFD2L	CD47
150	PLEKHA8	C1GALT1C1L	TPMT	PARD3	650	CCDC102A	TTC26	SLC19A3	PAFAH1B3
151	A1CF	SEN6	PALMD	SRSF9	651	PDIA6	RLG1	ADAMT59	WDR72
152	FAM214B	RWDD3	CLYBL	LDHA	652	LDHA	SMC5	CBS	AKIP1
153	IQCD	LAYN	C9	ALDOA	653	SPINK2	ACAP2	RLIM	ST6GAL1
154	ADH6	MARCHF8	RABAC1	MANBAL	654	RBMA2	ZNF257	JTB	ANAPC11
155	ALDH3A1	NT5C1B	GGH	AIMP2	655	APOBEC3A	DIXDC1	NCKAP1	CAT
156	DOHH	LDB1	FNDC5	UBXN1	656	PSPH	POU6F2	NCALD	ORC6
157	SPON2	WDSUB1	RAB15	BTF3L4	657	NCL	SP100	DPY5	B4GALT3
158	P2RY6	TIMM23B-AGAP6	DEGS1	PPP1CC	658	EFEMP2	ACSM6	HOMER3	IGF2BP3
159	MAN1B1	PPP3CA	IL13RA1	CHCHD6	659	C7	LEKR1	IGFBP3	PTMA
160	ENPP3	RAP1A	PGF	MZT2A	660	MFS5D10	PPWD1	PTTG1	PIGS
161	CALR	MFS14A	KANK4	NUP93	661	SLIT3	CRBN	ARRDC4	AP2B1
162	GTF2F1	MED17	SERPINA10	POLD1	662	ZNF428	KIAA1586	GADD45B	RPL36A
163	EEF1A2	ANKRD13C	SRSF5	LSM12	663	SMOX	RABGAP1L	GIPC2	LLPH
164	IQGAP2	MIER1	ALDH1B1	CALU	664	DRC7	AK9	RYR3	CD63
165	HPD	WASHC2C	TIFA	AARS5D1	665	CST3	FZD6	OSTF1	RBFA
166	CCN2	FBXW2	CLU	EIF3F	666	ATP6V1G2	BRCC3	PHACTR4	RP1A
167	REC8	CCDC90B	TCEAL7	ACYL	667	P3H3	ZNF684	NHSL1	KPNA6
168	ASPHD1	ZNF644	TCEA3	RPL35A	668	ADAMTS16	NEK11	NGRN	TTC39A
169	GPR89A	SLC18B1	PGRMC2	GNB1	669	SLC3A1	ZNF529	CADM1	FAM120C
170	GPX2	ZDHHC21	LHPP	PLOD1	670	PDIA4	STX17	SLC13A5	PRPF31
171	GSTP1	WFDC2	DHRS13	DCTN1	671	GPX2	KMT5B	ARMC6	TMEM98
172	BIK	LIG4	ANKS4B	ATP9B	672	EGLN3	PTPN20	DNAJC28	HNRNPUL2
173	HSPB8	PPM1N	FAM13A	RBMA2	673	FBXO7	PLEKHA3	AMOT	LEAP2
174	FLOT2	CDC50	SLC2A3	RPS15A	674	FXN	ZNF566	SYN1	MCFL2
175	TTPA	SRSF10	BDH1	RNH1	675	MANF	CGAS	SOX7	TNIP2
176	CEBPD	MAGEE2	JAKMIP2	POLR3K	676	RRAS	WDR37	GMPS	TSN
177	KRTCAP2	UBXN2A	PLEKHA3	BCL2L12	677	GADD45B	YY2	AVL9	RNF187
178	CTSD	BEX4	CDK17	LRRCS9	678	HILPDA	MIS18BP1	SRPK2	VPS4A
179	C1QB	TMEM30A	AHSG	CSNK1D	679	APOH	PCDHB12	MXRA5	LIMK1
180	RNASE1	MARCHF7	BAALC	RABAC1	680	SLC10A2	RXFP2	PUS10	PRDX5
181	PEDS1	ZNF44	ADM	HDAC1	681	CRELD2	STRIP1	HMG82	S100A9
182	STBD1	TANC1	MIA3	HDCC2	682	LAMC3	SYTL1	PDZK1	RNF220
183	HPGD	LURAP1	RASIP1	NOSIP	683	RCOR2	ZBTB21	ZNF460	SLC39A4
184	SLC44A4	STX2	ANGPTL2	PPP1R8	684	CYP4F3	ATAD1	MRPL3	MIB2
185	C1QC	FAXDC2	SASH1	PRMT1	685	CHMP4B	NAB1	NECAP1	KPNA4
186	RTTN	KDM4C	PGM2L1	ZNF775	686	SVEP1	DGCR6L	EEF1B2	CCL14
187	SPRYD3	MORC4	ANLN	TTC26	687	MPV17L2	REEP3	RRP8	MCRS1
188	VPS33A	ZNF451	EFNA1	TIMM17B	688	RAE1	CYTL1	RPS25	CLDN11
189	PIGR	IFIT5	NT5DC1	MRPL10	689	ZFP36	MASTL	LRR3	SLC7A2
190	KATNAL2	ZNF17	PGLYRP2	ZCCHC17	690	R3HDM4	RIC8B	LSG1	P2RX5-TAX1BP3
191	ARL8A	OB1	CAPN5	TMEM101	691	TWF2	SNRPN	RBBP9	GALNS
192	PPFIA3	EVIS	KCNE3	FAF1	692	BBS12	CAB39L	SPRED1	GLYATL1
193	S100A1	CAPS2	ZNF22	SLC9A3R1	693	PISD	SIKE1	NME2	ZNF593
194	RAB4B	CCL25	SLC17A1	AAMP	694	B3GALT6	JRKL	SLC39A11	DNASE1L3
195	STX4	AMMECR1L	SLC14A	RAB1B	695	GLUD1	ACSS3	HNRNPL	UROD
196	BHMT2	RYK	MCC52	HSDL1	696	GPR162	SLC25A24	LCAT	COP58
197	EIF4A3	CEP85L	LRIG1	UXT	697	CAPN3	SAMD9	RPS18	RAB13
198	ENG	PSIP1	RDH5	EIF2B5	698	RGS9	TEKT2	NSRP1	EIF4A1
199	VAT1	RGPD5	KBTBD2	TBRG4	699	S100A2	PPP6R3	HAO2	TBL1XR1
200	TAX1BP3	HACE1	ACACB	PSRC1	700	SLC9A2	RAB25	RBM15	PUSL1
201	GATA6	CRIM1	FAM102A	SND1	701	WDR72	CAND1	RPS6	FUS
202	LRR6C1	ZBTB1	ADH1A	RAC1	702	A2M	ZNF665	TPCN2	IGFBP6

Table S1; Screening gene list by ICGC datasets.

Rank	Kidney Normal	Kidney Tumor	Liver Normal	Liver Tumor	Rank	Kidney Normal	Kidney Tumor	Liver Normal	Liver Tumor
203	FAM50A	EPB41L2	RDH14	MZT2B	703	ANKRD46	KCNJ16	KCNT2	RP57
204	NECTIN2	TENT5A	FAM3C	SCRN1	704	CORO7-PAM16	SWT1	CRN1	ZC3HC1
205	PUF60	MROH6	SLC38A3	PFDN5	705	NRSN2	BNIP2	MGAT4A	CANT1
206	CBX4	PIH1D2	MAPK14	DBNL	706	RET	RNF133	TFDP1	STARD7
207	SAR1B	ZNF326	SOAT1	CDK14	707	PXDC1	POLK	SHROOM4	PPP1R7
208	SLC52A2	ZNF639	WNT5A	ARFIP2	708	OSCAR	ASCC1	FAM83G	PSMD13
209	Csor4f7	FAM768	BRMS1L	CLPP	709	ZNF556	GCC2	PHLPP1	GIT1
210	TGFB1	ZNF461	VEZT	RP59	710	ANKRD53	CELA2B	FGFR1OP2	RPL10
211	LKAAEAR1	FCHO2	TMEM82	RPL17	711	NANS	ZNF568	TMEM14C	RNF10
212	JUN	ZNF131	SNAPC1	BRD9	712	SMPDL3A	ERMAP	GNL3	GLG1
213	EDEM2	FSCN3	RAB26	COMMD9	713	FAM83D	CREB1	ZMYND12	CNTD1
214	APOD	FBXO11	CA14	PSMD3	714	ICAM1	RBMS2	PTPN12	ANP32B
215	STAU1	PTPN7	C1orf112	ZNHIT3	715	PTOV1	MCMBP	PKD1L3	DFFA
216	SHISA5	PRKD3	ECHS1	AMD1	716	RBBP1	ZNF33A	LSS	BAX
217	IYD	EXTL2	MAMDC4	LOX	717	FIBP	LRRC40	LEPROTL1	NECAP2
218	RORC	XPA	NUDT6	AP151	718	TFE3	NUP153	NCAPG2	MMGT1
219	LPCAT3	CNEP1R1	AGTR1	KDELR1	719	ARHGEF19	IPP	SDHA	PMUSD1
220	NFKBIE	TRMT13	ITGB1	MLLT3	720	E1F4EN1F1	STK38L	SRPRB	PPP5C
221	GARS1	PTPRD	PLSCR1	MIF	721	FBXO9	SPTY2D1	BCAM	SLC25A19
222	PDGFB	ZYG11B	BTD	SF3A1	722	UBE2L6	LUC7L2	MAD2L1	CCDC59
223	ODF2	RSRP1	SLC25A42	BNIP3L	723	TBL2	POLD3	CEP170	S100A10
224	CNDP1	ZMYM1	OTC	RPL24	724	FAM149A	GGTA1	TRIM23	ABCA9
225	RPL28	ZBED2	PNPLA4	ALKBH4	725	RG514	RSF1	C2orf49	ATP6V0B
226	FBLN5	IFT88	SLC10A1	GLTP	726	MAP3K6	PLK2	TMEM87A	MED27
227	KPNA2	ZNF431	RAPH1	HMGGA1	727	HLA-DRB1	DR1	PSPC1	MIF4G
228	HACL1	STAM	CCNH	PSMD9	728	CDH5	VMP1	SAA2	TRDMT1
229	AOC3	ADAMTS3	CYP2A6	GPD2	729	PLOD3	GOLGA1	SLC2A1	POMZP3
230	MAP7	CCDC82	NIT1	CHCHD2	730	EGR1	SPRING1	OSGIN1	C18orf54
231	DNASE2	MSL3	AFMID	C4orf3	731	SLC35C2	TSPLY5	FNTA	AGPAT1
232	MPC1L	ST7L	RPL31	SBBP1	732	C11orf54	CBFB	SLC30A5	DDIT3
233	EDN2	AGTPBP1	SAA1	LVRM4	733	STON2	PUM2	PCDH4	CNOT1
234	MAPK10	ABITRAM	THSD4	SNAPC1	734	URM1	CCNY	PCDHGB4	REXO4
235	SHFL	MCL1	PTPN2	SPAGA	735	NUGGC	TCTN3	PNPO	RPL37A
236	BCL2L14	GPR137C	FGA	FLYWCH2	736	RCN3	WAC	NDUFA4L2	METTL2A
237	CKAP4	NOC3L	RIOK2	TRAPP3	737	SHKBP1	NRAS	LEO1	RBMX2
238	ROBO4	DENND4C	CBR1	THAP11	738	PCSK2	DNAJC11	EXOC6	TSSC4
239	PSME1	ZNF718	ENPP3	TBL2	739	TMEM214	ACE2	STAB1	ANAPC7
240	PRND	C1orf52	RBPA	AP2M1	740	NOL4	TLCD1	PRR11	ACD
241	ZSWIM4	PRKCI	TLE3	MAN1B1	741	WNT5B	MIGA1	CEBPA	ATP6V1H
242	KIAA0930	MTRNR2L3	F2R	ORAI1	742	FTSJ1	TTC17	ZNF639	CMTM3
243	ASRGL1	OSBPL11	ALDH1A1	RPS16	743	ARAF	TGFBRAP1	AGT	MRTL28
244	ETV4	SANBR	FOXP1	TMEM39B	744	ACOT13	DHX36	KCNMB4	COL18A1
245	PBLD	TUBE1	LDHD	TTC4	745	SNX5	INPP5F	DPY19L3	CLU
246	HMCN2	INIP	EHHADH	IER3IP1	746	WNT16	GNAQ	CCDC9	SMAD2
247	PFN1	CDK17	BCLAF1	SLC38A4	747	RAB7A	CCDC65	SULF1	BLVRA
248	PRCC	APBP2	FMO4	HSPBP1	748	RGPD8	DDIT4	DIS3	ERP29
249	TICAM1	TENT2	BAIAP2	FAR5B	749	ACMSD	ZNF555	CALU	CYP4V2
250	PUS1	MTF2	PEL1	RBM14-RBM4	750	OTOGL	CLHC1	EPB41L5	TPD52L2
251	MX1	PLEKHF1	CDKN1B	PSMD2	751	CDIPT	IPO8	RIT1	ITIH4
252	LILRB3	CD302	MAP7D3	PPP1R14B	752	FARP1	PMS2	TNFRSF11B	KIF2C
253	MAP3K14	FASTKD1	FUT1	EME1	753	MAGED1	MSL2	LIMK2	RNF40
254	RNF167	CEP78	PEPD	CKS1B	754	PTPA	TCP11L2	SNRK	CYB5R1
255	CDK14	RFX3	GPR4	DPDC	755	SETD9	MPDZ	CYP2C18	TEAD2
256	SUMF2	MBNL2	ACSM2B	CORO1C	756	PTPN6	VKORC1	CAPZA2	MDH2
257	NEU1	DCAF16	SGTB	RNF145	757	ADORA1	OXR1	SLC45A3	ZDHHX18
258	CSF1R	CPSF6	GPD2	LSM5	758	CARS1	FAM76A	TMEM128	DENR
259	SCNM1	REV1	GPT	ETV1	759	SCAMP3	EFHC2	PFKFB2	GADD45GIP1
260	CMTM7	ZSWIM6	CX3CL1	GATC	760	PLD2	SRSF2	F13B	ZC3H13
261	CFD	PLA2G4A	ACTN1	BAMBI	761	ADCK1	DYNC2L1	EOMES	CDO1
262	SERPINB1	RNF138	HNF1A	DNAJC8	762	GCLC	TAS2R4	CYP2B6	RCE1
263	BUD23	ZNF223	DHX15	LRRC61	763	CETP	CSTF2T	CDC45	APOC2
264	NPIP15	ZNF738	SLC39A1	HNRNPL	764	OSBPL1A	BCAS2	GCKR	PSMD8
265	SEPTIN4	MAP3K7	KPNA4	BRMS1	765	SDC3	GTF3C4	FAM3B	PPP1R2
266	SLC16A3	FAM214A	GCDH	CNGA1	766	MESP1	CD7	TMEM182	PITG1
267	MTTP	CIBAR1	PKLR	CUL4B	767	ITGA3	VEZF1	EDEM1	ESM1
268	NUDT6	TAF5	SLC46A3	RBM4	768	KPTN	PRRG1	ZNF329	TMUB1
269	KLHDC8B	SNIP1	F7	ER13	769	ADM	PCF11	TSG101	PYCR1
270	HLA-A	NFKB1B	ZNF436	TSEN34	770	CRYBB1	BUB3	ODC1	LSM7
271	SLC35C1	SOGA3	ZGPAT	RALY	771	VWA8	GCNT2	OSTM1	SRI
272	CDKN2D	TMEM170B	SLC22A7	TUBA1C	772	GSPT2	NAP1L5	GOLPH3	RPL7A
273	MVK	FRS2	TMEM30A	LAMTOR1	773	USP39	RANBP10	ACSL6	RPL28
274	NMB	GPBP1L1	ASPDH	NKAP	774	SLC15A3	E1F3A	SLC39A14	FIS1
275	PVR	ZNF597	TANC1	TOMM7	775	XYLB	THOC5	TNFAIP8L1	HRAS
276	PNKD	TMEM163	MZT1	GRWD1	776	MTCH1	PLSCR4	CSGALNACT2	RPL39
277	WARS1	CNOT2	KITLG	NUTF2	777	APOL1	ZNF600	PRC1	MYPOP
278	E1F1	BTRC	NT5C2	RBM45	778	CEBPB	TTC23L	PRG4	LSM2
279	GAS2	MTFP1	TNC	SMARCD1	779	TP53I3	MYNN	CREM	SLC16A3
280	TMEM179B	USP1	PAK2	FBL	780	GMPPA	GTPBP2	SLC16A6	DAZAP2
281	WDR4	ARGLU1	RTN4	TUBA1B	781	TULP2	ING3	CYP4F3	CCDC51
282	BPHL	PLSCR1	LMNB1	UPP1	782	MBOAT7	PPP1R15A	SLC16A13	ENO2
283	HNRNPL	ABHD14B	XYLB	SAE1	783	TBC1D10B	STAM2	GZMH	NAT10
284	COP2	TRIM22	TMEM139	RRAGD	784	SEMA4D	DENND2C	GREB1	OIT3
285	DEPDC7	BATF	KIF2C	DNM1	785	MUL1	ZNF43	SPTBN2	IFI27L2
286	INTS15	FAM13B	PRKAR1A	CLTA	786	MS4A8	UACA	CNKSR2	MRPL45
287	MAP7D1	BMI1	SEMA4G	SPPL3	787	USP30	ZNF674	NMT1	TOMM22
288	DDX27	MITD1	C4orf19	NDRG1	788	ADAMTS2	ZNF607	BTG3	RPL18
289	APBB1IP	HECA	SLC5A6	DDX23	789	TRPN	RNASEL	TNS3	DNPEP
290	EPHA1	TTL11	HP	GYG1	790	RTL8C	ZNF610	UBE2B	ZBTB17
291	NMRAL1	LAG3	BPHL	PARG	791	TMBIM6	TMPRSS11D	TWF1	VPS26A
292	MFSD2A	C2orf73	DHODH	ATP6V1D	792	NAGK	SDHAF1	PCDHGA8	SLC39A1
293	CD101	SLC35B3	ORM1	BCL7B	793	CUTA	ITPK1	UHRF2	RPL18A
294	PPP1R1B	ARLSB	CAT	CLIC1	794	PIIF	TFAM	MPV17L	TFPT
295	GALNT16	PCGF3	ANO5	MPP6	795	PQBP1	DENND5A	SMTN	MMP24
296	MMP14	FUBP1	DNAH6	FLOT1	796	TMEM102	STIL	CFB	P2RX4
297	DPP3	P4HA1	CMBL	INO80C	797	FOXD4	DST	MRP55	S1PR1
298	P4HB	CUL7	DNAJB6	RPL5	798	TUFT1	CCDC30	CCDC102B	ASNS
299	DEPDC4	SIRT1	SEMA6B	SSNA1	799	GJD3	CYCR3	CDKN2D	COMTD1
300	GLYATL1	HNRNPDL	SNAPC3	PIIH	800	CTSF	CARF	CASKIN2	MED10
301	HOXA1	ZNF440	LIMS1	CKS2	801	AKIP1	CLK4	GTF2H1	MRPL52
302	PAF1	DBR1	GSTZ1	SLC25A3	802	SSRP1	TRIM32	OSMR	MRPS33
303	CITED4	MDFIC	SUOX	SRM	803	SLC16A10	ADNP2	MATR3	CHCHD3

Table S1; Screening gene list by ICGC datasets.

Rank	Kidney Normal	Kidney Tumor	Liver Normal	Liver Tumor	Rank	Kidney Normal	Kidney Tumor	Liver Normal	Liver Tumor
304	SIGLEC7	ZNF426	SEMA4C	PSMC3IP	804	SFN	RIN2	IFI16	NAA10
305	XPO6	STXBP3	EPHA1	VAMP3	805	HELZ2	DCUIN1D1	CYP4V2	DPF2
306	CA2	SPIN1	RPL35A	MTFN	806	BYSL	TXLNG	PCYT2	PGP
307	OVCH2	WDR44	GNNG10	MRPS34	807	REEP4	SLAIN2	LDLRAD3	TRIM47
308	RRH	TBCEL	AK4	MRPS23	808	CD4	CDC425E1	ANGPTL3	DNASE2
309	CYP21A2	WDR19	STC1	MRPL20	809	CHIT1	ZNF611	EI24	VMA21
310	SLC48A1	PXYLP1	EXOSC7	RUVBL2	810	PDAP1	CEP135	TAF1D	ERGIC3
311	SPOCD1	BBOF1	EXT1	VTN	811	TRPM3	MLLT10	KDELRF3	GDE1
312	MUC3A	ZNF761	APPL1	PSMG3	812	NA	WDR75	TM9SF3	E2F6
313	CAMK2G	MAPKAPK5	TRNT1	TRIP13	813	GK3P	ZFYVE9	IFNGR1	SUPT3H
314	YIPF3	PANK2	TRMT11	RNF7	814	NUDT13	DBF4	SPP2	CCDC9
315	JMJD6	ZNF519	ZBTB7B	TMEM147	815	INSYN2B	SKP2	LAMA4	TMEM69
316	FJX1	GNPDA2	RAB27A	SLCO1B1	816	DHFR	RBM43	GALM	BAD
317	LY6E	PLAG1	COP3	BOD1	817	CSP1	GLIS3	PLSCR4	DYNLRB1
318	CNPY3	HSPBP1	AKR1C2	RNF149	818	RASGEF1C	SAR1A	FBXO4	GTF3C5
319	RGPD4	ZNF615	ALAD	CCDC124	819	PIK3IP1	GNNG12	CSTF2T	PSMD10
320	MTA2	SESTD1	SLCO2B1	C1RL	820	HSPB6	HELLS	FAM91A1	HDAC2
321	FEV	SMARCAL1	RAC3	CC77	821	DAGLB	GABRA3	AKIRIN2	PELL3
322	WDR1	ZNF175	RPL22L1	PPP2R1B	822	ABCA12	KCTD18	BNIP3L	AMZ2
323	DUSP5	FMNL2	STRADB	NACA	823	APEX2	ZNF333	MRC1	G6PC3
324	DNASE1L3	SUPT7L	FAM177A1	PLK1	824	ENTPD6	PARD3	SLCSA9	CA11
325	LUZP2	CD8B	FGFR1	CTU1	825	RNF152	NA	TRAPPC4	TUBG1
326	PPP1R16B	RBBP6	GPAM	LRTOMT	826	VWF	CCDC171	CRYM	RAD54L
327	KYNU	EPS15	ENO3	DDIT4	827	C1QTNF2	HESX1	RAP1GAP	SEPH51
328	IFITM2	SOX11	SMO	CBX3	828	HERC5	CEP120	NAGS	PTGES2
329	TMEM39B	MOSMO	ACOX1	SSTR2	829	CCDC85C	CCNT2	THPO	GAR1
330	VWA1	ZNF432	ABCG1	RPL13A	830	YARS1	ZNF148	LSM10	FNDC3B
331	PYGL	ADGRG6	TOR1A	NUP205	831	C6orf47	AQP6	HAMP	C12orf75
332	HSPD1	NT5C2	ECI2	PEF1	832	NAGPA	TNFSF15	NRARP	CSTF2
333	PLAAT2	DOCK4	RPS29	DAP	833	MEGF11	SMURF2	BOK	UPF3B
334	CAMK2A	ANKLE2	GCLC	CCT2	834	SLC11A1	DGKI	CHUK	NC51
335	SH3BP1	SPTLC1	DDX47	NAP1L4	835	GGT7	ZEB2	LZTFL1	NCS1
336	RMND1	EXOSC10	TMEM63B	RPL19	836	CD276	BBX	SSB	RPS19BP1
337	SRF	GTF2H1	MAPK8IP1	ATP6V0D1	837	ARL14	SLX4IP	TMEM39A	CDKN2A
338	GFRA1	RIC1	TM7SF2	GPATC3	838	PMP22	HERC5	DUSP22	CRHBP
339	TRAF2	ZRANB1	PLAGL2	STAR3NL	839	ZNF385A	FGD6	PRR5L	TACC3
340	BCL3	KLF11	SLC23A3	GHDC	840	LRWD1	NCOA7	SKP2	GSPT1
341	PCYOX1	COQ7	DNAJC12	SKA1	841	PYCR1	ABRAXAS1	RPL26L1	SERPINB1
342	CD14	SGMS2	NSUN3	PES1	842	DTX2	SRSF1	NCOR1	RAD51
343	ATG13	CDIC7	CD109	DDX10	843	OTUD5	PGM2	ZNF385B	MRPL47
344	CCT6B	INVS	CLEC2B	METTL5	844	FOSL2	PPIL6	HAO1	BAZ1B
345	HCK	G6PD	NNMT	CKAP4	845	STX19	DNAJB14	RBMS1	MTF
346	IL11	IQB	ASRGL1	TUBA4A	846	RANGAP1	SLC38A3	CENPF	ORM1
347	QSOX1	BTBD8	RAB21	TNFSF14	847	NUDC	PRDM5	CYP2C8	RF2
348	ADCK2	SLC9A6	ESAM	RAN	848	AFTPH	OCEL1	BNIP2	NME6
349	CACNA2D2	SLC30A7	GJB1	BIRC5	849	EML3	WDR31	JOSD2	HDGF
350	TMPRSS11E	SRPK2	CHN2	CENPW	850	PIERC1	BTF3L4	MCOLN1	NCAPG2
351	C1R	ANXA1	CELSR1	PCBP2	851	B3GAT3	ZNF235	ACSM2A	RPS29
352	TRIM11	DDX58	AP4S1	PHF13	852	UNC5CL	FILIP1	RG51	GNP2
353	METTL3	GPATCH2	HIF1A	C1orf122	853	VAMP5	STAR9D	OVGP1	RPS10
354	NEURL3	ANKRD53	HINT1	GD12	854	GD12	AGAP4	BHMT2	MPZL1
355	PPP2R1A	C1orf105	SERPINA3	SPNS1	855	PSMB8	ZBTB6	SYPL1	TACC2
356	RRP12	KLHL36	NGDN	TMEM199	856	MYOM2	ZNF449	IL6R	RPS2
357	REP15	RABL2A	RAD21	XPO6	857	TIMM29	ANKRD36	TMEM33	NXN
358	ADGRG3	FBXL2	IER3IP1	LRWD1	858	SNF8	SPDYA	INPP4B	ELOVL1
359	EFNB1	ADGRA3	EPHX2	DDB1	859	B3GNTL1	ZNF184	CCNB2	PLXNA1
360	ASPA	ZNF256	ADH6	CLSTN1	860	CLDN14	B3GALT9	ACTR10	CUL2
361	MIDN	GPR75	TPST1	WRAP73	861	CC2D1B	NOL8	GPR39	METTL1
362	UNC119	TM6SF1	GOT1	ARPC1B	862	SOD2	STAMBPL1	CBFA2T3	FARSA
363	C1RL	CSGALNACT2	TMEM45A	CCT4	863	OSMR	ATF2	C12orf57	WRAP53
364	G6PC1	LPAR6	SEC14L1	SLC39A6	864	CUEDC2	RAB18	TRIM37	NHP2
365	RNF113B	ZFX	SYBU	MCM7	865	BABAM2	RANBP3L	COL18A1	PDCDC6
366	UCP1	ZNF200	PAIP1	UBL4A	866	CD209	ZNF41	LYNX1	DIP2B
367	AS3MT	LOXHD1	COMMD10	RNPS1	867	SRM	IFT74	POLD3	C18orf21
368	DPM2	EOGT	LECT2	TNPO3	868	CLEC11A	B3GALNT2	RIN2	KIN
369	KDELRF2	TYR	TBX15	PHC2	869	FANCC	ASB2	LRP12	GNPDA1
370	ZMYND15	ABCA5	STS	ERAL1	870	SHB	METTL15	PFND4	BOLA3
371	DPF3	PPP1R3B	PPP1R3B	RPL6	871	CAV3	FAM126B	NARF	SLC3A2
372	BMP1	ERLIN1	FBXO5	TSC22D4	872	PTGFR	PLEKHA1	ATAD3C	RUNDC1
373	KLHL38	ZNF493	PLEKHB2	RP9	873	PRKD2	OSGEP1	YIPF1	CFHR1
374	BASP1	DUSP9	MSRA	NOL7	874	SH3RF3	ZC3H12B	PGGT1B	RPLP0
375	CFAP276	GAN	ST3GAL4	KIAA0930	875	RPS6KL1	TTL	ZFP1	ANKLE2
376	VSTM2B	TLCD4	PFND2	GSK3A	876	REG3G	TLL1	PLRG1	RACGAP1
377	CACFD1	IST1	NLGN4X	APLN	877	PLPP2	RLF	GAS2	PHLDA2
378	AGMAT	ADNP	ATP2B4	DKC1	878	ATF5	SLC6A1	SRP14	PGD
379	CCDC9	RPP30	PCDH17	DIABLO	879	PIWIL2	SULT1C4	DDX10	NDUFA10
380	PLAUR	CC2D2A	SLC2A4RG	NME1	880	SMIM12	SHPRH	PCDH85	ADRM1
381	FOLR2	ERCC6	ALDH7A1	RHEB	881	PLAAT5	C21orf62	WIP2	KDSR
382	BCL7B	YDJC	FN3K	PABPC4	882	HCLS1	SGTA	THNSL1	NUP37
383	TMEM115	RNPC3	NOP58	LONP1	883	PANK1	PGM3	MTX1	AFG3L2
384	THADA	ZBTB49	CHSY1	RBM17	884	HCFC1R1	RAB21	SLC25A23	RAD51B
385	VPS18	PLAA	SNRPE	SRRM5	885	CCKBR	DPH2	TRIM26	PAF1
386	GMDS	DHX15	SOD2	CCDC127	886	HRAS	SCN11A	JAK1	SF3A3
387	ZP2	ERCC6L2	KLHL25	NEU1	887	VSTM1	DEF6	TPD52L1	CFHR3
388	DMRTA1	EPC1	GLS2	CDC20	888	EEF2KMT	BBIP1	EAF1	B3GAT2
389	LIAS	ERVFRD-1	TM2D3	CC75	889	CLDN7	RBM18	GNA13	POC1A
390	RNF187	RB1CC1	AMBP	TOMM40	890	PARP12	ZNF736	LTV1	NUP35
391	ASB15	FAS	COG5	RPS3	891	GRIK4	ELP1	VNN3	PHF14
392	TYMP	SPIN4	GNPDA2	SSB	892	CDKN1A	CCDC89	RPE	TCTN2
393	C1QTNF1	CWC22	FAM149A	TMEM54	893	BEST4	ABHD17B	BTG1	DDX56
394	SOX9	ZBTB11	PHLDB2	IMP4	894	HABP4	LZTFL1	LNP1	NGRN
395	RARRES2	FBH1	TUBE1	FCGBP	895	FMNL1	DET1	PGS1	RNF41
396	DOK3	GCLM	HNRNPM	VDAC2	896	RGCC	FSD1L	HAUS1	CNP
397	HTRA3	NEK7	PACRG	KCTD2	897	BUD13	ZNF540	CALCRL	PTPMT1
398	CEP135	ZNF766	TMED9	POM121C	898	HBD	FBXL3	MCTP1	GLD1
399	NKAIN4	AMIGO2	VNN2	ACOT7	899	PLAT	PTPRN2	TEX10	TRNP1
400	TOR2A	PIK3AP1	RHOJ	NKIRAS2	900	KCNK10	KBTD3	AFAP1L1	RAB6B
401	PPP1CA	GPR34	GOLT1B	TIMM50	901	PDPN	RAPGEF5	PAFAH1B3	RAB5C
402	ULBP1	SPOPL	ETNK1	CLEC3B	902	HNRNPM	BRAP	ATL3	ANKRD27
403	ABCC2	MTA3	SAA2-SAA4	OTUB1	903	ATG16L1	ADSS2	RXRA	ARF3
404	INMT	PHHLN1	EIF4A3	COPG2	904	C10orf99	MMS22L	PRKAA1	ARG1

Table S1; Screening gene list by ICGC datasets.

Rank	Kidney Normal	Kidney Tumor	Liver Normal	Liver Tumor	Rank	Kidney Normal	Kidney Tumor	Liver Normal	Liver Tumor
405	KCTD2	SLC22A15	DDX50	PTDSS2	905	PDIA5	MECOM	CYP3A43	RIT1
406	CHST12	ARHGAP21	ANO1	IMPDH2	906	ZDHHC1	ZNF281	ARSD	C1QBP
407	AKAP12	SMAD5	CDK5RAP2	VPS37C	907	ACOD1	RANBP2	IL18R1	SLC35E4
408	C14orf39	CABCOC01	GLYCTK	TYRO3	908	KXD1	SLC23A2	IRS1	MYCT1
409	SLC27A3	C21orf91	CEBPD	AURKB	909	SART1	NPHP1	LVRM4	IL33
410	KIF4B	KIAA0825	ARHGAP35	IMPDH1	910	FAM83G	RBM24	PCDHA13	GSS
411	CERS1	ZNF347	SLC25A1	ALB	911	FBXL5	BMP2	S100A13	ANKRD40
412	TM7SF3	DENND1B	SGK1	MED19	912	TENT5C	RNF11	ULK4	CDKN2AIPNL
413	KDM8	ORC4	CYP2A7	RCC1	913	TIMP1	PHF20	RNF2	YWHAE
414	ADGRG7	TAB3	IGFALS	NPM3	914	CFAP65	XPO1	RPS3	RPL36
415	FAM241B	STAG1	C9orf72	EIF2AK1	915	NALF2	STXBP5	CDIPT	G8A
416	AEN	RAD18	HES1	TMEM14C	916	MDFI	NODAL	UHRF1BP1	STUB1
417	TMEM54	DNAJC27	SS18	PDC3L3	917	SLC25A36	PWP1	CLNDN1	PSMB6
418	EIF3G	IFI44	TSPAN13	RAB31L1	918	C11orf96	WDR26	FETUB	TLL12
419	MCM5	ZC3H12C	TTR	EIF3M	919	PAQR4	SLC25A36	ACVR1C	TAF3
420	FOXQ1	GAPVD1	ENTPD8	TMEM160	920	SLC27A4	ZNF182	TSNAX	TRIM24
421	SH3BGR3	SVOP	UNG	RPLP1	921	PRKRIP1	AVL9	MED10	FAM117B
422	CRISPLD2	ZNF354B	RPS6KA5	UNC45A	922	ZC3H14	KDM5B	SCN1B	RP2A
423	PFKP	DCLRE1B	MYNN	DCTN3	923	AK1	ABLIM1	ST6GALNAC6	DGUOK
424	TMEM192	LAIR2	PAH	NSUN5	924	PREB	WDR48	CUL4B	B9D2
425	VPS28	SLK	SLC22A9	TIPIN	925	SH3BP5L	BTBD3	DOK4	XDH
426	NPR1	TOPORS	TESK2	NFU1	926	LGALS9	PRKACB	KIF20A	TMEM51
427	DZIP1	RBMXL1	NOL8	SEN3	927	USP5	ZNF792	CYP3A4	KFBP14
428	MAN2B1	CEP126	CPE	RBM8A	928	TREX2	GTDC1	PSMC6	RAB3GAP1
429	CXCL16	HSD3B7	TP53INP2	COX8A	929	KCNE5	RM1	MARCKS	COMMD6
430	RNF224	NDST2	SHMT1	FCN3	930	PGD	C9orf72	TNPO1	NDUFA4
431	RORB	MINPP1	ENTPD5	SLC1A5	931	ANP32B	ABHD14A	CYP4A22	EXOSC7
432	UBE2L3	ZNF91	SYNE2	MTHFD1L	932	ACAD11	CHMP6	ESD	WASL
433	GGACT	ORC2	RPS21	SRC	933	IDNK	GPA33	TMEM50A	ZNF441
434	PRAM1	ZNF136	PEX19	KCNJ15	934	GALNT14	MCM9	MED20	VPS35
435	C3orf49	EIF2AK2	GRHPR	POLR2G	935	PTGS2	SGK1	FUT11	SYNGR2
436	EFTUD2	MOV10L1	ARL4D	PIN1	936	C10orf67	MAS1L	DYNLT3	RAB35
437	DDA1	ASXL1	TEAD2	SSRP1	937	ARPC1B	WN7B	FGFR1L	ITGB5
438	RAB40B	PARP8	ATAD1	BMP6	938	PHGDH	CBWD3	SRGAP1	AMIGO2
439	EFNA4	TM9SF3	CDK1	B4GALT7	939	SLC22A4	LEPROT	NETO2	ATG3
440	OAT	SLC16A12	BTBD1	PROZ	940	NKIRAS2	CCDC68	MSMD1	CEACAM19
441	LMAN2	PBX1	YARS2	HAUS1	941	COL1A2	CELF1	REPS2	CSNK2A2
442	SELP	CCDC93	TCF12	FKBP9	942	YWHAB	EGR2	NUDT3	GNL1
443	ARPC4	DDX20	FGG	PARL	943	REN	MSH2	HNRNPA2B1	APOC4-APOC2
444	IL12RB2	SHLD2	NCK1	GINS3	944	GPR137	FRP3	DHX9	F7
445	CAPNS1	RAD9B	PAPPA	NPC1	945	ELAVL1	SUN1	PCDHGC3	ATG9A
446	SDF2L1	FPGT	DHTKD1	AACS	946	HEYL	CNOT10	BMPER	NUDC
447	BLMH	FAM222A	SHBG	ARL4A	947	OAZ3	CDKL2	RAB18	PDCD2
448	SMARCB1	ZBED9	BLNK	ZNF442	948	C4A	TRIM59	PSMD6	PKFB3
449	SRRM3	ZNF778	RNF24	C1S	949	RPS6KA1	KRT17	PPP2R5A	SNED1
450	BCAP31	DPH5	PNPLA3	MRT04	950	TINAGL1	ZNF530	ZNF830	ACTN4
451	TRABD2A	NOSTRIN	SLC25A10	NDUF83	951	PRPF6	CTNNA1	ALDH18A1	ARHGAP1
452	AP2S1	ZNF583	DCXR	JMJD6	952	PNMA5	OGFR1	PANX2	SNRPG
453	NSFL1C	ZNHIT6	EIF1	MRPL17	953	LGR6	AFTPH	ZNF484	SMARCB1
454	TRH	AEBP2	APCS	C8B	954	G6PD	GPCPD1	CYP2J2	TLK2
455	CLN3	NRG7	RIF1	DOHH	955	MAD2L2	PDS51	RPL5	SNRNP40
456	TKT	SYNGR3	MYH14	RPS27A	956	C4B	TPSG1	ALDH3A2	SRGAP2
457	DIO1	ZKSCAN7	KHDRBS1	MMD	957	H2AX	ABC810	ZNF512B	MAP1LC3B
458	SERPINA6	ASB3	ARFGAP3	MED22	958	GRM8	CCDC160	SCRN2	RPS19
459	AIG1	OTUD1	SNRPD1	SLC6A1	959	MAFF	ROCK1	AQP9	NAGPA
460	ISM1	FAIM	NCOA1	ARMC10	960	POLA2	WAS	RPS12	FIP1L1
461	UBE2I	HSD17B12	PCBP1	CBX1	961	KRT80	ZNF222	ACAA1	TBC1D22A
462	GGT6	RAB14	PANK4	LRRCC47	962	RFXANK	RNF2	HMGCS2	ITIH3
463	PYGM	ANKRD50	CRNKL1	TXNL1	963	TRIM39	DHX32	ANXA7	PSME3
464	MRO	TTC30B	RGN	ST3GAL2	964	SF3B2	TRA2B	AMT	MRPL48
465	ENPP6	NCAN	ARID4B	DYNLL1	965	CHRNA3	NMNAT1	NDUFAF2	NDUFA1
466	KLFB	MAP9	RAPGEF5	AXIN1	966	RLTB8	SLC5A4	CWC22	KIAA2013
467	TLCD3A	ZNF765	EDNRA	SPAG16	967	ALDOA	SEPSCE3	TPT1	SLC27A2
468	TALDO1	CCDC186	LIME1	GAPDH	968	RNF175	CEP44	BACE1	PHI1D1
469	LRRCC28	MIEN1	ARMCX6	ZNF428	969	ALDOB	ZNF614	RPS8	C5
470	PIPOX	CCDC148	MTHFD1L	PKMYT1	970	FAM234A	TMF1	CAST	TRADD
471	GPAT3	CNTLN	POLE4	MAGO8	971	MFG8	CSNK1G3	CYB5D2	RNF4
472	SCARF2	FCRL3	PLEK3	TMEM60	972	KRT20	THBS1	SLC28A1	HAX1
473	NFAM1	UBE2D1	FCHO2	HOMER3	973	CDADC1	C7orf31	CP	RRP1
474	OLFML3	CHORDC1	MTRF1L	TFEB	974	IFI30	TRIO	CDH13	CREB3
475	PDE6B	PPTC7	UPRT	TXNDC12	975	ADA	BOD1L1	HMG83	SMTN
476	IDH1	TSC22D2	ABCC6	EIF3D	976	DPAGT1	ZNF701	RPS10	OPN1SW
477	EIF2B1	ITSN1	RAB13	BRAT1	977	DDX19A	KLHL9	VPS37A	NDUFA13
478	FARSA	EFCAB13	CALM2	RPL36A-HNRNPH2	978	LSR	ARL6IP6	ACY3	EPH2B
479	SERPINH1	DYRK2	GUCY1A2	EXOSC10	979	SLC10A3	RASA1	SLC30A7	MST1
480	NSDHL	ATF1	NFKB1B	GALE	980	PRNP	NR1D2	MAML3	HNRNPUL2-BSC12
481	MMP23B	RNF34	TBK1	PHF19	981	CCDC97	KAT6B	WARS2	RFC4
482	UBR4	TAF1A	AP1AR	SNRPF	982	APLP1	USP46	NR1I3	AP2S1
483	CYP4V2	MS4A7	AADAT	ISY1	983	PTPN18	ZNF558	HABP2	MICALL1
484	LCN2	ZNF345	DHCR24	C11orf49	984	NOPCHAP1	DCUN1D4	AS3MT	N4BP2L1
485	MMUT	ZNF675	UBE2S	TMEM9	985	NAT1	SMARCAD1	HK2	MCAT
486	SPINT1	APH1B	PPARA	NOMB9	986	TGM2	TRIP12	CD28	RAB21
487	SMARCD2	MYO5A	TCF4	RPS5	987	ACD	SAMD13	CLVS1	RNASEK
488	NT5E	MAP3K2	PREX2	SHCBP1	988	CAPZB	CCDC6	SGCD	SET
489	JPT1	TAB2	ABCG8	NOC2L	989	FCGR3A	DYRK3	VEGFC	C12orf73
490	ACAD9	RC3H2	ADRA1B	SMARCAL1	990	ESYT1	MZB1	MICU1	CNPPD1
491	CLDN3	ZNF436	SPRY1	IGSF3	991	FBXO10	CNOT6	HCN3	GABARAPL2
492	GHR	RPGR	SEC61B	VPS41	992	HSD3B7	ZNF655	PTPN9	MRPL21
493	MT2A	BTN2A1	DHFR	SF3B2	993	YWHAH	N4BP2L2	CCP110	BCAP31
494	CHST7	TBC1D19	PRPF38B	CCT6A	994	SLC17A3	MLF1	MKI67	RBX1
495	LRRCC25	SNX14	SMN1	G6PD	995	PPP1R14A	ZNF816	UTP6	LHFP2L
496	NFKB2	SWAP70	EGFLAM	C7orf50	996	CDH6	VEG	ATR	CSNK2B
497	MGAT4B	PHTF1	SMN2	EPDR1	997	RBM22	AP3M1	TMEM65	MRPS5
498	DAPK3	CDYL	GARNL3	PHLN1	998	HSPB2-C11orf52	MUC1	PDE1A	CPS1
499	CALM1	RBM20	TSPAN9	NSF	999	PIIB	DIDO1	BMPR1B	SRR
500	PDE6H	PKP4	TBL1XR1	TRAPPC4	1000	NLRX1	UBE2D3	FGFR4	SPRYD3