

Table S1.1: Characteristics of the cell lines used

Cell line	786-O	A498	Caki-1	Caki-2	ACHN
Origin	ccRCC	ccRCC	ccRCC	pRCC	pRCC
Primary/Metastatic	primary	primary	metastatic	primary	metastatic
VHL status	mutant	mutant	wt	wt	wt
p53 status	mutant	wt	wt	wt	wt
Sensitivity to 10 μM sunitinib	22%	40%	59%	51%	53%

cc: clear cell; p: clear cell / papillary; VHL: p53: wt: wild type

Table S1.2: IC20 drug doses per cell line used in s-FSC

Dose (uM)	786-O	A498	CAKI-1	CAKI-2	ACHN	RF24
axitinib	16	10	15	15	10	2
erlotinib	20	5	15	2.5	2	7.5
RAPTA-C	750	100	400	100	150	1
BEZ-235	1	0.05	0.2	0.2	0.02	0.03
volasertib	0.5	0.1	0.3	0.05	0.1	0.015
dasatenib	0.2	0.1	0.02	0.04	0.05	0.2
tozasertib	16	5	1	30	4	0.3
U-104	62.5	100	30	50	25	40
AZD5457	12.5	7.5	2	20	10	3
crenolanib	5	5	1	15	5	4

Table S3.1: Normalized spectral counts of phosphokinases

Gene.name	786O_Repl1	786O_Repl2	A498_Repl1	A498_Repl2	Caki_1_Repl1	Caki_1_Repl2	Caki_2_Repl1	Caki_2_Repl2	ACHN_Repl1	ACHN_Repl2	ECRF24_Repl1	ECRF24_Repl2
ABL1,ABL2	0.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CDK1;CDK2;CDK3	61.8	77.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CDK17;CDK16	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CDK2;CDK3	1.9	7.5	38.7	52.2	33.5	43.0	44.4	6.8	38.1	39.0	29.4	48.5
CSNK1A1;CSNK1A1L	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DYRK1A;DYRK1B	10.9	11.7	3.2	3.7	4.1	4.6	3.6	0.0	3.0	2.8	2.6	1.8
DYRK4;DYRK2	0.0	0.8	3.2	1.9	1.0	3.7	0.0	0.0	3.0	1.9	0.0	0.9
EGFR;ERBB2;ERBB4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EPHA4;EPHA5;EPHA3	1.9	0.8	2.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GSK3B;GSK3A	23.2	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HIPK2;HIPK1	2.6	4.2	2.1	3.7	2.0	2.7	2.4	0.0	1.0	0.9	0.0	1.8
IGF1R;INSR	4.5	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LYN;HCK	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAPK10;MAPK8	9.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAK2;PAK1	1.3	1.7	0.0	0.9	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.0
PRKCA;PRKCG	1.9	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STK24;STK26	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TYRO3;MERTK	0.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
YES1;FYN	2.6	2.5	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YES1;FYN;FGR	1.3	0.8	1.1	0.9	1.0	0.9	0.0	0.0	1.0	0.0	0.0	1.8
YES1;FYN;LCK;SRC	2.6	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YES1;FYN;SRC	0.6	0.8	0.0	1.9	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
ABL1	0.6	0.8	1.1	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
ABL2	1.3	0.8	2.1	5.6	1.0	2.7	0.0	0.0	1.0	1.9	1.3	0.9
AXL	13.5	15.0	20.4	26.1	9.1	18.3	13.2	2.9	12.0	13.9	11.5	13.5
BMPR2	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BUB1B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CDC42BPB	0.6	0.8	2.1	4.7	1.0	2.7	3.6	0.0	2.0	1.9	0.0	1.8
CDK1	9.7	19.2	44.0	62.4	49.7	56.7	49.2	8.7	44.1	43.6	28.1	70.0
CDK17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CDK2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CDK5	0.6	0.8	2.1	1.9	1.0	0.9	1.2	0.0	1.0	0.9	0.0	0.0
CDK6	0.6	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CDKL5	1.9	1.7	1.1	2.8	1.0	2.7	1.2	0.0	0.0	0.0	0.0	0.0
CLK1	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CLK4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CSK	0.0	0.0	2.1	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CSNK2A2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DYRK1A	1.3	0.8	1.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DYRK3	1.3	1.7	2.1	3.7	2.0	4.6	0.0	0.0	2.0	2.8	0.0	1.8
EGFR	7.7	6.7	9.7	11.2	6.1	7.3	4.8	0.0	4.0	3.7	0.0	5.4
EPHA2	29.0	25.8	32.2	38.2	21.3	25.6	25.2	10.6	24.1	27.8	15.3	18.8
EPHA4	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EPHB2	0.0	0.0	0.0	0.0	1.0	1.8	0.0	0.0	0.0	0.9	0.0	0.0
ERBB2	1.9	0.0	2.1	3.7	0.0	1.8	1.2	0.0	1.0	1.9	0.0	0.9
FAM20B	1.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FER	1.3	2.5	0.0	0.9	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.9
FGFR1	1.3	1.7	8.6	14.0	4.1	7.3	6.0	0.0	5.0	3.7	2.6	4.5
FGFR2	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FRK	1.9	1.7	6.4	7.5	3.0	8.2	1.2	1.0	1.0	2.8	0.0	3.6
HIPK3	0.6	1.7	1.1	1.9	0.0	0.9	0.0	0.0	1.0	0.9	0.0	0.9
ICK	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IRAK1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JAK1	2.6	1.7	2.1	2.8	2.0	2.7	1.2	0.0	2.0	0.9	0.0	0.0
JAK2	2.6	2.5	2.1	2.8	1.0	1.8	0.0	1.0	2.0	0.9	0.0	0.9
LYN	9.7	10.8	2.1	4.7	0.0	2.7	0.0	0.0	3.0	1.9	1.3	4.5
MAP3K4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAPK1	6.4	12.5	20.4	27.9	17.2	18.3	19.2	8.7	14.0	15.8	17.9	22.4
MAPK11	0.6	0.8	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
MAPK12	3.9	3.3	0.0	0.0	1.0	0.9	0.0	0.0	1.0	0.0	3.8	1.8
MAPK13	0.0	0.0	2.1	0.9	1.0	2.7	1.2	0.0	1.0	0.9	0.0	0.0
MAPK14	13.5	10.0	1.1	3.7	1.0	2.7	1.2	0.0	3.0	4.6	0.0	3.6
MAPK3	2.6	4.2	14.0	15.8	12.2	14.6	4.8	2.9	13.0	7.4	7.7	12.6
MAPK7	0.6	0.0	1.1	0.9	1.0	1.8	1.2	0.0	1.0	0.9	0.0	1.8
MAPK9	5.1	3.3	2.1	1.9	1.0	0.9	1.2	0.0	0.0	0.9	0.0	0.0
MET	16.1	13.3	25.8	31.7	20.3	34.7	14.4	2.9	19.1	13.9	6.4	18.0
MINK1	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.9
MYLK	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0
PAK2	0.0	0.8	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.0
PEAK1	10.3	16.7	20.4	25.2	17.2	15.5	15.6	0.0	14.0	11.1	12.8	11.7
PKN2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRKAA1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRKCD	0.6	4.2	3.2	4.7	0.0	0.0	1.2	0.0	0.0	0.0	1.3	0.9
PRKD3	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRKDC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRPF4B	24.5	29.2	9.7	10.2	9.1	11.0	7.2	3.9	11.0	10.2	11.5	14.4
PTK2	27.0	24.2	26.8	40.1	14.2	19.2	19.2	1.9	16.0	26.0	14.1	31.4
RIPK1	0.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCK2	0.6	0.0	1.1	1.9	0.0	0.9	1.2	0.0	1.0	0.9	0.0	0.0
SGK223	12.9	14.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SRC	1.9	2.5	1.1	0.9	0.0	0.0	0.0	0.0	1.0	1.9	0.0	0.9
STK4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYK	6.4	4.2	1.1	2.8	1.0	1.8	0.0	0.0	3.0	2.8	1.3	2.7
TAOK1	0.0	0.0	0.0	1.9	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
TEC	0.6	1.7	1.1	0.9	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
TGFBR2	1.3	0.0	3.2	5.6	0.0	0.9	1.2	0.0	1.0	0.9	0.0	0.0
TNK2	5.1	8.3	6.4	9.3	6.1	8.2	4.8	0.0	6.0	2.8	1.3	0.9
TRIM33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTK	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TYK2	1.3	0.8	1.1	1.9	2.0	1.8	0.0	0.0	0.0	0.0	1.3	0.9
TYRO3	0.0	0.8	1.1	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YES1	1.9	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EGFR;ERBB4	0.0	0.0	1.1	1.9	1.0	1.8	2.4	0.0	2.0	1.9	0.0	1.8
EPHB2;EPHB1	0.0	0.0	0.0	0.0	1.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
EPHB4;EPHB3	0.0	0.0	0.0	0.9	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.9
FGFR1;FGFR3	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GSK3A;GSK3B	0.0	0.0	0.0	0.9	5.1	6.4	1.2	0.0	7.0	9.3	0.0	0.0
LCK;YES1;FYN;SRC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	2.0	2.8	0.0	0.0
MAPK8;MAPK10	0.0	0.0	4.3	1.9	3.0	2.7	0.0	0.0	2.0	0.0	1.3	1.8
NME2;NME1	0.0	0.0	1.1	0.9	0.0	0.9	0.0	0.0	0.0	0.0	1.3	0.0
BMX	0.0	0.0	1.1	1.9	1.0	1.8	1.2	0.0	1.0	0.9	0.0	0.9
DDR1	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DDR2	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
EPHA7	0.0	0.0	0.0	4.7	1.0	0.9	1.2	0.0	0.0	0.0	0.0	0.0
EPHB1	0.0	0.0	2.1	1.9	0.0	0.9	0.0	0.0	1.0	1.9	0.0	0.0
EPHB4	0.0	0.0	1.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ERBB3	0.0	0.0	0.0	0.9	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
FGFR4	0.0	0.0	0.0	0.9	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.0
KDR	0.0	0.0	2.1	3.7	1.0	0.9	0.0	0.0	1.0	2.8	0.0	4.5
LCK	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
MAP4K3	0.0	0.0	0.0	0.0	0.0	0.9						

Table S3.2 INKA data

Kinase	InKA_786-1	InKA_786-2	InKA_A498	InKA_A498	INKA_Caki	INKA_Caki.1	INKA_Caki.2	INKA_Caki.3	INKA_ACHI	INKA_ACHI	INKA_ECRF	INKA_ECRF24_CONTR
ABL1	31.9	29.2	0.0	28.9	0.0	0.0	0.0	0.0	0.0	18.9	34.1	0.0
ABL2	8.5	7.5	4.7	8.9	2.2	2.8	0.0	0.0	3.0	6.3	10.9	0.0
CDK1	47.1	56.7	31.0	42.0	19.4	33.5	24.2	2.8	22.8	29.7	48.9	15.3
CDK2	45.3	52.2	30.6	38.8	18.7	31.2	22.2	2.8	21.8	28.8	45.1	15.1
CDK5	7.5	6.9	5.6	6.0	3.3	5.2	4.1	0.0	4.6	4.4	8.6	2.8
CDKL5	4.2	2.8	1.4	2.8	2.8	2.8	0.0	0.0	1.4	2.8	2.8	0.0
CSNK1A1	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EGFR	50.8	36.2	45.7	73.9	25.6	48.4	14.3	3.6	38.7	41.6	0.0	0.0
EPHA2	94.8	67.9	48.8	94.4	64.0	80.2	48.1	13.1	44.9	50.7	46.4	26.8
EPHA3	8.1	4.9	3.5	4.5	2.0	4.5	2.8	0.0	0.0	0.0	4.7	0.0
EPHA4	6.7	2.8	4.7	7.2	1.4	3.9	2.4	0.0	0.0	0.0	2.0	0.0
EPHA5	4.2	1.4	2.0	2.4	1.4	2.8	1.4	0.0	0.0	0.0	1.4	0.0
EPHB2	0.0	0.0	6.5	12.1	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
ERBB2	41.1	0.0	28.8	37.0	17.0	29.0	18.7	5.5	12.3	25.0	0.0	0.0
ERBB4	4.4	0.0	4.0	6.6	0.0	0.0	2.4	0.0	2.4	2.0	0.0	0.0
FER	4.9	6.2	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	2.8	0.0
FGFR1	3.0	2.4	7.3	17.5	0.0	0.0	2.4	0.0	4.9	7.7	2.0	0.0
FGR	15.9	9.7	9.2	12.8	0.0	8.9	0.0	0.0	7.6	9.5	11.4	0.0
FRK	3.9	2.0	5.0	11.5	1.0	1.4	5.0	0.0	0.0	0.0	0.0	0.0
FYN	43.5	37.2	25.6	36.6	20.6	28.6	17.3	8.0	20.7	27.0	42.0	11.1
GSK3A	78.0	68.0	22.6	36.8	18.4	26.9	21.2	1.4	25.5	29.7	45.3	7.1
GSK3B	79.5	68.5	22.6	36.8	18.4	26.9	21.2	1.4	25.5	29.7	45.3	7.1
HCK	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	4.9	0.0
HIPK2	13.0	13.8	2.8	2.8	1.4	2.8	1.4	1.4	2.8	4.2	4.2	0.0
IGF1R	17.9	25.5	0.0	2.4	2.4	4.2	3.5	0.0	2.0	0.0	3.5	0.0
INSR	24.0	30.6	0.0	10.3	5.3	13.2	7.2	0.0	5.1	0.0	10.7	0.0
JAK1	5.9	3.0	2.4	5.5	2.0	2.8	0.0	0.0	1.4	2.0	2.8	0.0
JAK2	12.2	11.5	6.8	13.3	7.7	11.4	5.3	0.0	7.3	7.3	13.7	4.6
LCK	12.0	13.0	11.0	13.2	8.1	9.2	6.3	2.8	5.7	8.5	11.3	1.4
LYN	51.5	54.1	13.7	27.6	9.2	14.8	8.5	0.0	14.2	23.2	32.8	6.7
MAPK14	41.5	26.5	8.5	8.9	3.2	8.1	0.0	0.0	11.8	7.7	18.0	2.0
MAPK3	19.0	17.9	17.0	29.3	13.0	22.0	19.0	6.5	18.8	20.0	29.9	14.1
MET	92.3	64.7	57.7	114.4	67.4	132.5	32.9	14.8	33.5	37.3	15.6	0.0
PAK1	5.7	6.6	0.0	3.2	0.0	2.8	2.2	0.0	0.0	0.0	0.0	0.0
PRKCA	3.9	0.0	0.0	1.4	2.8	3.3	0.0	0.0	3.0	0.0	0.0	0.0
PRKCG	9.2	0.0	3.7	7.2	3.3	4.0	0.0	0.0	3.2	0.0	0.0	0.0
PTK2	46.2	34.1	32.2	80.1	17.9	30.8	13.0	3.5	21.6	52.2	77.5	11.5
SRC	65.5	61.9	40.2	55.8	30.2	34.6	29.5	10.0	32.2	42.8	60.7	18.9
SYK	5.5	3.9	1.4	7.5	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
TEC	6.3	8.5	0.0	9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TGFB2	2.8	0.0	1.4	3.7	0.0	1.4	1.4	0.0	0.0	1.4	0.0	0.0
TTK	0.0	12.9	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.0	11.4	0.0
TYK2	7.5	4.8	5.7	5.9	6.0	5.8	0.0	0.0	3.2	4.0	4.0	1.4
YES1	34.0	30.0	18.0	25.9	11.0	19.0	11.5	4.0	13.5	17.2	30.6	7.1

786-

786-O					A498					CAKI-1				
Gene Name	Unique Identifier	ERL	DAS	AXI	Gene Name	Unique Identifier	ERL	DAS	AZD	Gene Name	Unique Identifier	ERL	DAS	AZD
AAK1	Q2M2I8	0	0	88	ABL1	P00519	45	100	0	ABL1	P00519	58	84	0
ABL1	P00519	61	100	86	ABL2	P42684	0	100	0	ABL2	P42684	0	86	0
ABL2	P42684	0	100	84	ACAD11	Q709F0	63	0	0	ACAD11	Q709F0	98	0	0
ACAD11	Q709F0	100	0	0	ACVR1B	P36896	0	9	0	ACVR1B	P36896	0	3	0
ACVR1B	P36896	0	14	0	ACVR2B	Q13705	0	1	0	ACVR2B	Q13705	0	0	0
ACVR2B	Q13705	0	1	0	BCR	P11274	57	100	0	BCR	P11274	79	85	0
AP2A1	O95782	0	0	100	BMP2K	Q9NSY1	41	0	0	BMP2K	Q9NSY1	57	0	0
AURKA	O14965	0	0	95	BRAF	P15056	0	1	0	BRAF	P15056	0	1	0
AURKB	Q96GD4	0	0	93	BTX	Q06187	0	94	0	BTX	Q06187	0	63	0
BCR	P11274	84	100	99	BUB1	O43683	100	0	0	BUB1	O43683	100	0	0
BMP2K	Q9NSY1	62	0	83	CSK	P41240	0	84	0	CSK	P41240	0	22	0
BRAF	P15056	0	1	0	CSNK1E	P49674	0	1	0	CSNK1E	P49674	0	0	0
BTX	Q06187	0	98	0	DCPPP1	Q9H773	74	0	0	DCPPP1	Q9H773	98	0	0
BUB1	O43683	100	0	0	DDR1	Q08345	0	72	84	DDR1	Q08345	0	5	70
CSK	P41240	0	95	0	DDR2	Q16832	0	61	44	DDR2	Q16832	0	1	31
CSNK1E	P49674	0	1	0	EGFR	P00533	79	1	0	EGFR	P00533	98	1	0
DCPPP1	Q9H773	98	0	0	EIF2AK1	Q9BQI3	0	0	100	EIF2AK1	Q9BQI3	0	0	91
DDR1	Q08345	0	93	0	EPHA1	P21709	0	99	0	EPHA1	P21709	0	7	0
DDR2	Q16832	0	99	0	EPHA2	P29317	0	98	0	EPHA2	P29317	0	66	0
EGFR	P00533	99	1	0	EPHA4	P54764	0	100	0	EPHA4	P54764	0	80	0
EPHA1	P21709	0	100	0	EPHA5	P54756	0	100	0	EPHA5	P54756	0	91	0
EPHA2	P29317	0	100	0	EPHB2	P29323	0	98	0	EPHB2	P29323	0	81	0
EPHA4	P54764	0	100	0	EPHB3	P54753	0	88	0	EPHB3	P54753	0	30	0
EPHA5	P54756	0	100	0	EPHB4	P54760	0	100	0	EPHB4	P54760	0	92	0
EPHB2	P29323	0	100	0	EPHB6	O15197	0	89	0	EPHB6	O15197	0	3	0
EPHB3	P54753	0	96	0	FECH	P22830	44	0	0	FECH	P22830	65	0	0
EPHB4	P54760	0	100	0	FGFR1	P11362	0	0	100	FGFR1	P11362	0	0	100
EPHB6	O15197	0	99	0	FGR	F5H3M4	0	98	0	FGR	F5H3M4	0	82	0
FECH	P22830	70	0	73	FGR	P09769	0	100	0	FGR	P09769	0	87	0
FGFR1	P11362	0	0	100	FRK	P42685	0	86	0	FRK	P42685	0	59	0
FGR	P09769	0	100	65	FYN	P06241	0	99	0	FYN	P06241	0	82	0
FGR	F5H3M4	0	100	0	GAK	O14976	82	28	0	GAK	O14976	92	8	0
FRK	P42685	0	92	0	GRB2	P62993	60	0	0	GRB2	P62993	82	0	0
FYN	P06241	0	100	0	HCK	P08631	0	83	0	HCK	P08631	0	7	0
GAK	O14976	94	42	0	HCK	HOY3C5	0	96	0	HCK	HOY3C5	0	19	0
GRB2	P62993	86	0	0	INCENP	Q9NQ57	0	0	75	INCENP	Q9NQ57	0	0	39
HCK	P08631	0	97	0	INPP1	O15357	79	0	0	INPP1	O15357	94	0	0
HCK	HOY3C5	0	100	0	KIT	P10721	0	100	0	KIT	P10721	0	1	0
INCENP	Q9NQ57	0	0	95	LCK	P06239	0	94	0	LCK	P06239	0	57	0
INPP1	O15357	96	0	100	LIMK1	P53667	0	3	0	LIMK1	P53667	0	1	0
KIT	P10721	0	100	0	LIMK2	P53671	0	2	0	LIMK2	P53671	0	1	0
LCK	P06239	0	98	0	LYN	P07948	0	95	0	LYN	P07948	0	59	0
LIMK1	P53667	0	5	0	MAP2K2	P36507	0	1	0	MAP2K2	P36507	0	1	0
LIMK2	P53671	0	6	0	MAP2K5	Q13163	55	4	0	MAP2K5	Q13163	85	1	0
LYN	P07948	0	99	0	MAP3K1	Q13233	56	1	0	MAP3K1	Q13233	78	1	0
MAP2K2	P36507	0	1	0	MAP3K2	Q9Y2U5	0	1	0	MAP3K2	Q9Y2U5	0	1	0
MAP2K5	Q13163	90	9	0	MAP4K1	Q92918	0	1	89	MAP4K1	Q92918	0	0	63
MAP3K1	Q13233	82	3	0	MAP4K2	Q12851	0	1	98	MAP4K2	Q12851	0	1	84
MAP3K2	Q9Y2U5	0	1	0	MAP4K3	Q8IVH8	0	1	100	MAP4K3	Q8IVH8	0	1	100
MAP4K1	Q92918	0	1	0	MAP4K4	O95819	0	3	0	MAP4K4	O95819	0	1	0
MAP4K2	Q12851	0	1	0	MAP4K5	Q9Y4K4	0	3	100	MAP4K5	Q9Y4K4	0	1	100
MAP4K3	Q8IVH8	0	1	0	MAPK14	Q16539	0	3	0	MAPK14	Q16539	0	1	0
MAP4K4	O95819	0	5	91	MAPKAPK2	P49137	0	8	0	MAPKAPK2	P49137	0	1	0
MAP4K5	Q9Y4K4	0	7	100	MARK2	Q7KZ17	0	0	53	MARK2	Q7KZ17	0	0	20
MAPK14	Q16539	0	6	0	MARK3	P27448	0	0	42	MARK3	P27448	0	0	14
MAPKAPK2	P49137	0	16	0	MLTK	Q9NYL2	0	15	41	MLTK	Q9NYL2	0	2	15
MLTK	Q9NYL2	0	35	77	MST4	Q9P289	0	0	58	MST4	Q9P289	0	0	14
MYLK	Q15746	0	65	0	MYLK	Q15746	0	53	0	MYLK	Q15746	0	26	0
MYLK3	Q32MK0	0	0	97	NLK	HOYD75	0	54	0	NLK	Q9UBE8	0	1	0
NLK	Q9UBE8	0	16	0	NLK	Q9UBE8	0	4	0	NLK	HOYD75	0	37	0
NLK	HOYD75	0	62	0	PAG1	Q9NWWQ8	0	88	0	PAG1	Q9NWWQ8	0	68	0
PAG1	Q9NWWQ8	0	93	0	PDGFRB	P09619	0	1	99	PDGFRB	P09619	0	1	83
PDGFRB	P09619	0	9	100	PKMYT1	Q99640	0	2	0	PKMYT1	Q99640	0	1	0
PKMYT1	Q99640	0	4	0	PKN1	Q16512	0	14	0	PKN1	Q16512	0	2	0
PKN1	Q16512	0	29	0	PRKACB	P22694	0	1	0	PRKACB	P22694	0	0	0
PLK4	O00444	0	0	94	PRKCQ	Q04759	0	9	0	PRKCQ	Q04759	0	2	0
PRKACB	P22694	0	1	0	PTK6	Q13882	0	41	0	PTK6	Q13882	0	4	0
PRKCQ	Q04759	0	18	0	RET	P07949	64	1	94	RET	P07949	87	1	83
PTK6	Q13882	0	71	0	RIPK2	O43353	0	61	0	RIPK2	O43353	0	17	0
RET	P07949	90	3	100	SIK2	Q9H0K1	0	73	0	SIK2	Q9H0K1	0	24	0
RIPK2	O43353	0	79	0	SIK3	Q9Y2K2	0	37	0	SIK3	Q9Y2K2	0	12	0
SIK2	Q9H0K1	0	88	0	SLK	Q9H2G2	76	1	0	SLK	Q9H2G2	91	1	0
SIK3	Q9Y2K2	0	53	0	SRC	P12931	0	98	0	SRC	P12931	0	82	0
SLK	Q9H2G2	93	1	75	STK10	O94804	87	1	0	STK10	O94804	96	1	0
SRC	P12931	0	100	0	SYK	P43405	0	1	0	SYK	P43405	0	1	0
STK10	O94804	97	1	92	TEC	P42680	0	48	0	TEC	P42680	0	7	0
SYK	P43405	0	1	0	TESK1	Q15569	0	58	0	TESK1	Q15569	0	3	0
TEC	P42680	0	74	0	TGFBR1	P36897	0	1	0	TGFBR1	P36897	0	1	0
TESK1	Q15569	0	89	0	TGFBR1	B4DY26	0	5	0	TGFBR1	B4DY26	0	3	0
TGFBR1	P36897	0	1	0	TGFBR2	P37173	0	1	0	TGFBR2	P37173	0	1	0
TGFBR1	B4DY26	0	7	0	TNK1	Q13470	0	1	0	TNK1	Q13470	0	1	0
TGFBR2	P37173	0	1	0	TNK2	Q07912	0	70	0	TNK2	Q07912	0	17	0
TNIK	Q9UKE5	0	0	96	TYK2	E9PM19	0	1	0	TYK2	E9PM19	0	1	0
TNK1	Q13470	0	3	0	TYK2	P29597	0	1	0	TYK2	P29597	0	1	0
TNK2	Q07912	0	87	0	YES1	P07947	0	99	0	YES1	P07947	0	81	0
TYK2	E9PM19	0	1	0										
TYK2	P29597	0	1	0										
YES1	P07947	0	100	0										

Table S4.1: Cell viability in s-FSC iteration rounds for universal ODCs

	786-O	786-O	Caki-1	Caki-1	A498	A498	ACHN	ACHN	Caki-2	Caki-2
erlotinib	20uM	20uM	15uM	15uM	5uM	5uM	2uM	2uM	2.5uM	2.5uM
dasatinib	200nM	200nM	20nM	20nM	100nM	100nM	25nM	25nM	40nM	40nM
axitinib		16uM		15uM		10uM		10uM		20uM
AZD4547	12.5uM		2uM		7.5uM		20uM		20uM	
Avg	19.01	13.34	20.68	28.40	14.51	32.74	55.30	43.90	31.85	36.26
SEM	6.32	2.23	0.11	2.85	0.99	1.12	8.25	7.19	6.69	6.96