Supplementary Information

Development of DDR2 inhibitors for the treatment of *DDR2* mutated non-small cell lung cancer

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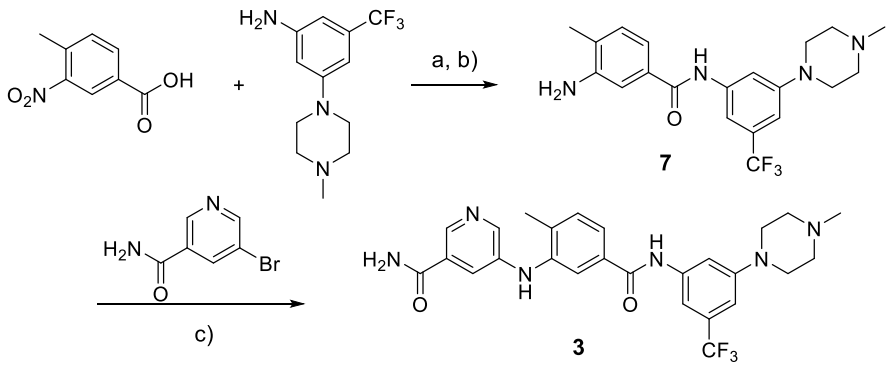
Synthetic procedures of compound 3.



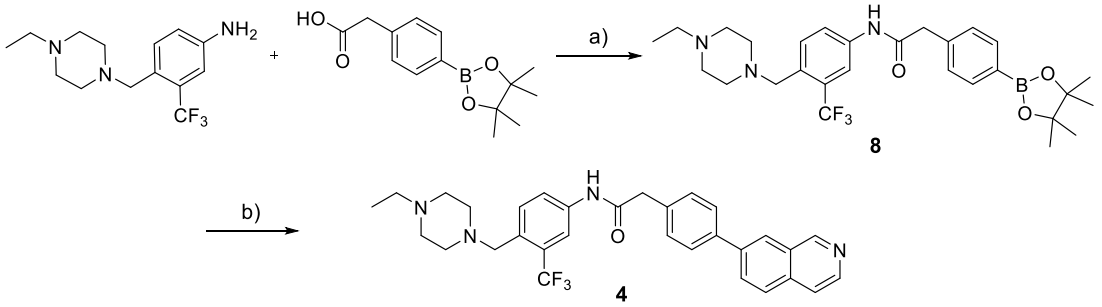
Scheme S1. Reagents and conditions: a) HATU, DIEA, CH_2Cl_2, b) $SnCl_2$•H_2O, ethyl acetate, ethanol, c) 5-bromonicotinamide, $Pd_2(dba)_3$, XPhos, K_2CO_3, *t*-butanol, 75 ^oC.

3-amino-4-methyl-*N*-(3-(4-methylpiperazin-1-yl)-5-(trifluoromethyl)phenyl)benzamide (7) To a stirred solution of 4-methyl-3-nitrobenzoic acid (2.17 g, 12 mmol) and 3-(4-methylpiperazin-1-yl)-5-(trifluoromethyl)aniline (2.60 g, 10 mmol) in 50 mL of dichloromethane was added HATU (4.56 g, 12 mmol), DMAP (1.47 g, 1.2 mmol) and DIEA (5.23 ml, 30 mmol). The reaction mixture was allowed to stand for 24 hr at room temperature, then eluted with ethyl acetate and washed with water, the organic phase was concentrated and purified with column chromatography (dichloromethane : methanol 15:1) to give a colorless oil. To a stirred solution of the obtained oil (422 mg, 1 mmol) in ethyl acetate (10 mL) and ethanol (1 mL) was added $SnCl_2$•$2H_2O$ (902 mg, 4 mmol). The reaction mixture was allowed to stand for 2 hr at 80 ^oC. When LC-MS showed most starting material was converted, the reaction mixture was cooled to RT, and added saturated $NaHCO_3$ solution and stir for at 0.5 hr, extracted with ethyl acetate, the organic phase was concentrated and dried. 305 mg (78% yield for 2 step) of **x** was obtained without further purification. MS m/z 393 [M+1].

5-((2-methyl-5-((3-(4-methylpiperazin-1-yl)-5-(trifluoromethyl)phenyl)carbamoyl)phenyl)amino)nicotinamide (3) To a solution of **x** (40 mg, 0.1 mmol) in *t*-butanol (1.2 mL) was added 5-bromonicotinamide (20 mg, 0.1 mmol) and K_2CO_3 (42 mg, 0.3 mmol). The reaction mixture was degassed for 5 min and then $Pd_2(dba)_3$ (11 mg, 0.015 mmol) and XPhos (8.6 mg, 0.018 mmol) were added. The reaction flask was stirred at 75 ^oC for 4 hr. After cooling to room temperature, the reaction mixture was filtered through a pad of celite and and concentrated. Purification by HPLC gave 46 mg (TFA salt, 73% yield) of

the title compound as a pale yellow solid. ^{1}H NMR 600 MHz (DMSO-d6, TFA salt) δ10.29 (s, 1H), 10.30 (s, 1H), 9.92 (br, 1H), 8.49 (s, 1H), 8.38 (s, 1H), 8.09 (s, 1H), 8.05 (s, 1H), 7.78 (s, 1H), 7.73 (s, 1H), 7.66 (s, 1H), 7.64 (m, 2H), 7.52 (s, 1H), 7.43 (d, *J* = 8.4 Hz, 1H), 3.90 (m, 2H), 3.54 (m, 2H), 3.16 (m, 2H), 3.06 (m, 2H), 2.90-3.06 (m, 4H), 2.86 (s, 3H), 2.29 (s, 3H). MS m/z 513 [M+1].

Synthetic procedures of compound 4.



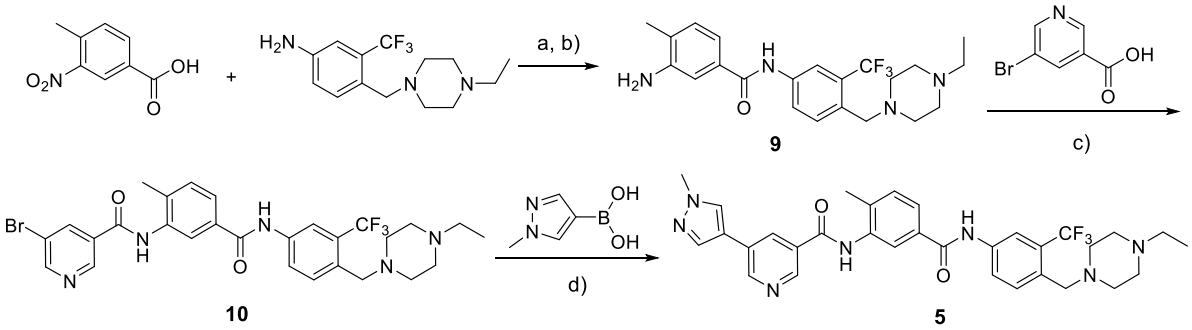
Scheme S2. Reagents and conditions: a) HATU, DIEA, DMF, b) 7-bromoisoqionoline, Pd(dppf)Cl_2, *t*-BuXPhos, Na_2CO_3, 1,4-dioxane, 100 ^oC.

***N*-(4-((4-ethylpiperazin-1-yl)methyl)-3-(trifluoromethyl)phenyl)-2-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl)acetamide (8)** To a solution of 4-((4-ethylpiperazin-1-yl)methyl)-3-(trifluoromethyl)aniline (100 mg, 0.348 mmol), 2-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl)acetic acid (91 mg, 0.348 mmol) and HATU (265 mg, 0.696 mmol) was added DIEA (303 µL, 1.74 mmol). The mixture was stirred for 0.5 hr then H_2O (50 mL) was added followed by extraction with ethyl acetate. The combined organic layers were dried over $MgSO_4$, filtered and condensed. The crude product was purified by flash column chromatography using a 9:1 v/v dichloromethane:methanol mixture as solvent to afford the title compound 174 mg (94% yield) as a white solid. MS m/z 532.19 [M+1].

***N*-(4-((4-ethylpiperazin-1-yl)methyl)-3-(trifluoromethyl)phenyl)-2-(4-(isoquinolin-7-yl)phenyl)acetamide (4)** To a solution of **x** (174 mg, 0.327 mmol) in a mixture of 1,4-dioxane (5 mL) and 2M Na_2CO_3 solution (1 mL) was added 7-bromoisoquinoline (68 mg, 0.327 mmol). The reaction mixture was degassed for 5 min and then Pd(dppf)Cl_2 (14.35 mg, 0.019 mmol) and *t*-BuXPhos (11 mg, 0.026 mmol) were added. The reaction flask was stirred at 100 ^oC for 2 hr. After cooling to room temperature, the reaction mixture was filtered through a pad of celite and

partitioned between ethyl acetate and water. The organic layer was separated and the aqueous layer was extracted with ethyl acetate. The combined organic extracts were washed with brine, dried over $MgSO_4$, filtered and concentrated. Purification by HPLC gave the title compound 130 mg (TFA salt, 62% yield) as a light-brown solid. ^{1}H NMR 400 MHz (DMSO-d6, TFA salt) δ 10.62 (s, 1H), 9.69 (s, 1H), 8.65 (m, 2H), 8.4 (m, 1H), 8.25 (m, 2H), 8.1 (s, 1H), 7.85 (d, *J* = 8.0 Hz, 3H), 7.68 (d, *J* = 8.0 Hz, 1H), 7.53 (d, *J* = 8.0 Hz, 2H), 3.79 (s, 2H), 3.66 (s, 2H), 3.45 (m, 2H), 3.15 (q, *J* = 8.0 Hz, 2H), 2.94 (m, 4H), 2.4 (m, 2H), 1.2 (t, *J* = 8.0 Hz, 3H); ^{13}C NMR 100 MHz (DMSO-d6) δ 169.93, 152.14, 150.30, 148.10, 140.73, 139.11, 137.28, 136.58, 133.19, 132.13, 130.56, 128.16, 127.56, 126.39, 123.18, 56.92, 50.97, 49.75, 44.64, 43.34, 9.38; MS m/z: 533.74 [M+1].

Synthetic procedures of compound 5.



Scheme S3. Reagents and conditions: a) HATU, DIEA, CH_2Cl_2, b) $SnCl_2$•H_2O, ethanol, 80 ^{o}C, c) 5-bromonicotinic acid, HATU, DIEA, CH_2Cl_2, d) (1-methyl-1*H*-pyrazol-4-yl)boronic acid, Pd(dppf)Cl_2, Na_2CO_3, 1,4-dioxane, H_2O, 75 ^{o}C.

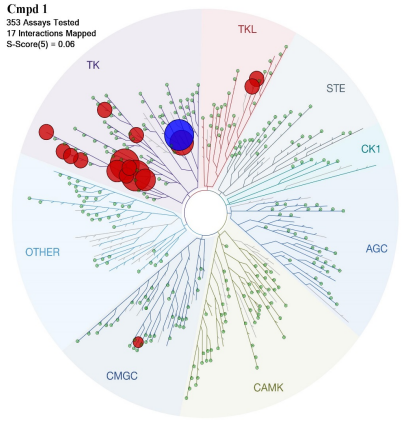
3-amino-*N*-(4-((4-ethylpiperazin-1-yl)methyl)-3-(trifluoromethyl)phenyl)-4-methylbenzamide (9). To a stirred solution of 4-methyl-3-nitrobenzoic acid (2.17 g, 12 mmol) and 4-((4-ethylpiperazin-1-yl)methyl)-3-(trifluoromethyl)aniline (2.87 g, 10 mmol) in 50 mL of dichloromethane was added HATU (4.56 g, 12 mmol), DMAP (1.47 g, 1.2 mmol) and DIEA (5.23 ml, 30 mmol). The reaction mixture was allowed to stand for 24 hr at room temperature, then eluted with ethyl acetate and washed with water, the organic phase was concentrated and purified with column chromatography (dichloromethane : methanol 15:1) to give a pale yellow oil. To a stirred solution of the obtained oil (450 mg, 1 mmol) in ethyl acetate (10 mL) and ethanol (1 mL) was added $SnCl_2$•$2H_2O$ (902 mg, 4 mmol). The reaction mixture was allowed to stand for 2 hr at 80 ^{o}C. When LC-MS showed most starting material was converted, the reaction

mixture was cooled to RT, and added saturated $NaHCO_3$ solution and stir for at 0.5 hr, extracted with ethyl acetate, the organic phase was concentrated and dried. 336 mg (80% yield for 2 step) of **x** was obtained without further purification. MS m/z 421 [M+1].

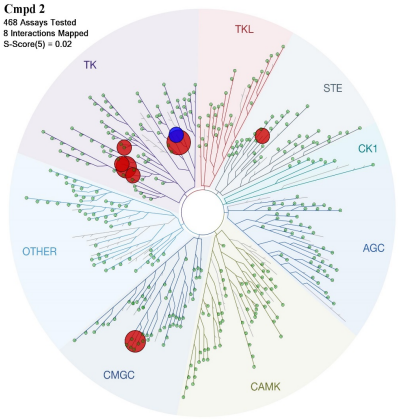
5-bromo-*N*-(5-((4-((4-ethylpiperazin-1-yl)methyl)-3-(trifluoromethyl)phenyl)carbamoyl)-2-methylphenyl)nicotinamide (10) To a stirred solution of compound **x** (420 mg, 1 mmol) and 5-bromonicotinic acid (245 mg, 1.2 mmol) in 5 mL of dichloromethane was added HATU (456 mg, 1.2 mmol), DMAP (147 mg, 1.2 mmol) and DIEA (523 μL, 3 mmol). The reaction mixture was allowed to stand for 24 hr at room temperature, then eluted with ethyl acetate and washed with water, the organic phase was concentrated and purified with column chromatography (dichloromethane : methanol = 15:1) to give 514 mg (85% yield) of **x** as a white solid. MS m/z 604 [M+1].

***N*-(5-((4-((4-ethylpiperazin-1-yl)methyl)-3-(trifluoromethyl)phenyl)carbamoyl)-2-methylphenyl)-5-(1-methyl-1*H*-pyrazol-4-yl)nicotinamide (5)** To a solution of **x** (60 mg, 0.1 mmol) in a mixture of 1,4-dioxane (0.75 mL) and water (0.15 mL) was added (1-methyl-1*H*-pyrazol-4-yl)boronic acid (19 mg, 0.15 mmol) and Na_2CO_3 (42 mg, 0.4 mmol). The reaction mixture was degassed for 5 min and then $Pd(dppf)Cl_2$ (16 mg, 0.02 mmol) was added. The reaction flask was stirred at 75 ^oC for 5 hr. After cooling to room temperature, the reaction mixture was filtered through a pad of celite and and concentrated. Purification by HPLC gave 55 mg (TFA salt, 77% yield) of the title compound as a pale yellow solid. ^1H NMR 600 MHz (DMSO-d6, TFA salt) δ10.53 (s, 1H), 10.30 (s, 1H), 9.34 (br, 1H), 9.06 (s, 1H), 8.97 (s, 1H), 8.50 (s, 1H), 8.38 (s, 1H), 8.23 (s, 1H), 8.13 (d, J = 8.1 Hz, 1H), 8.08 (s, 1H), 8.04 (s, 1H), 7.87 (d, J = 7.8 Hz, 1H), 7.72 (d, J = 8.4 Hz, 1H), 7.50 (d, J = 8.4 Hz, 1H), 3.92 (s, 1H), 3.70 (s, 1H), 3.47 (m, 2H), 3.15 (m, 2H), 2.90-3.06 (m, 4H), 2.40 (m, 2H), 2.37 (s, 3H), 1.22 (t, J = 8.4 Hz, 3H). MS m/z 606 [M+1].

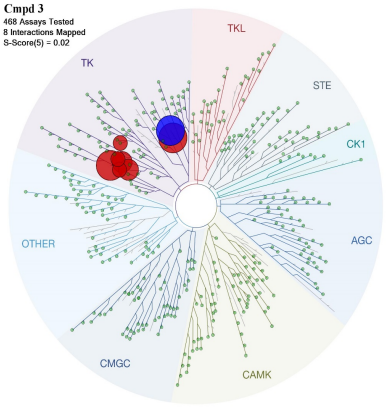
Supplementary Figure 1. Characterization of compound 1-6.



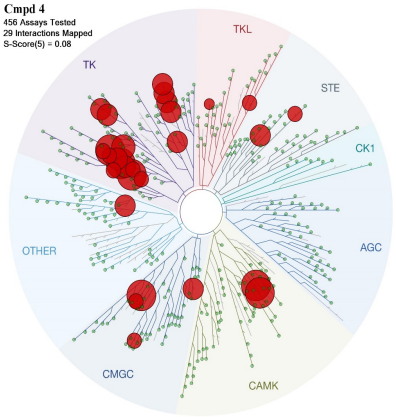
Selectivity Score Type	Non-Mutant Hits	Number of Assays	Screening Concentration (nM)	Selectivity Score
S(10)	22	353	1000	0.07
S(5)	17	353	1000	0.06
S(1)	6	353	1000	0.02



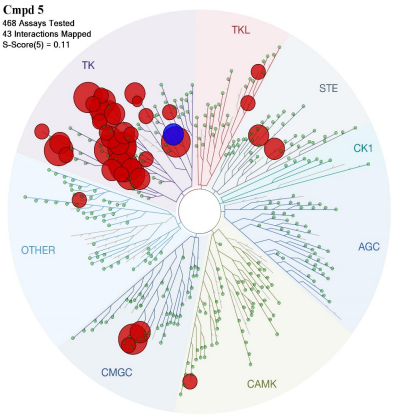
Selectivity Score Type	Non-Mutant Hits	Number of Assays	Screening Concentration (nM)	Selectivity Score
S(10)	9	468	1000	0.02
S(5)	8	468	1000	0.02
S(1)	3	468	1000	0.01



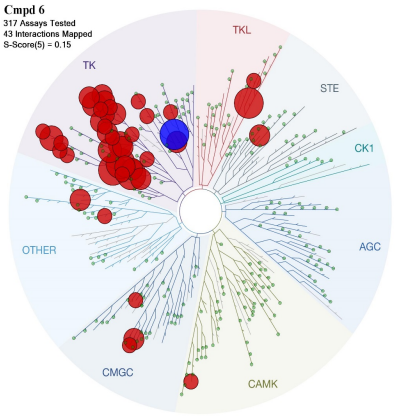
Selectivity Score Type	Non-Mutant Hits	Number of Assays	Screening Concentration (nM)	Selectivity Score
S(10)	9	468	1000	0.02
S(5)	8	468	1000	0.02
S(1)	6	468	1000	0.02



Selectivity Score Type	Non-Mutant Hits	Number of Assays	Screening Concentration (nM)	Selectivity Score
S(10)	41	456	1000	0.11
S(5)	29	456	1000	0.08
S(1)	21	456	1000	0.06



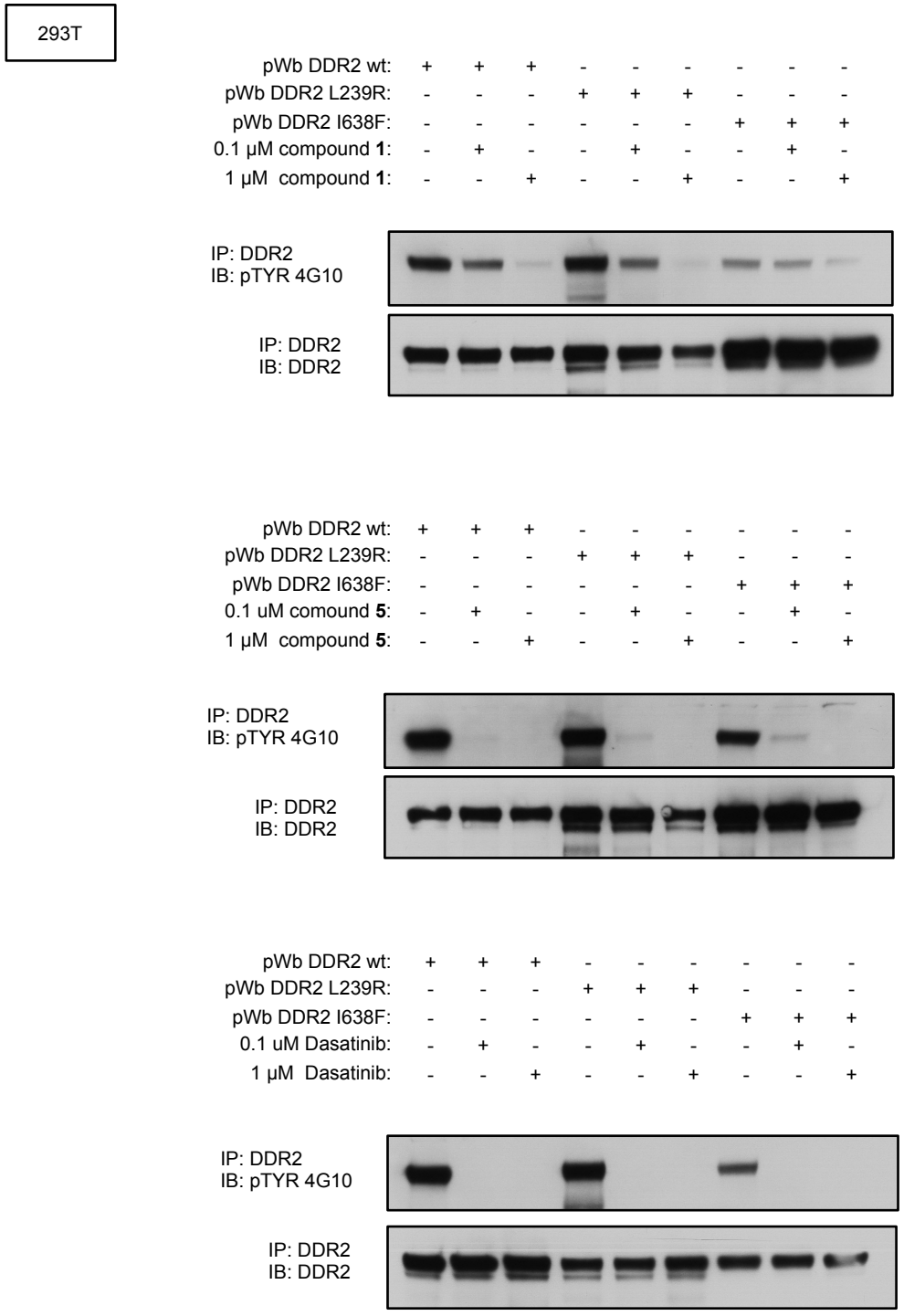
Selectivity Score Type	Non-Mutant Hits	Number of Assays	Screening Concentration (nM)	Selectivity Score
S(10)	53	468	1000	0.14
S(5)	43	468	1000	0.11
S(1)	26	468	1000	0.07



Selectivity Score Type	Non-Mutant Hits	Number of Assays	Screening Concentration (nM)	Selectivity Score
S(10)	49	317	1000	0.17
S(5)	43	317	1000	0.15
S(1)	27	317	1000	0.1

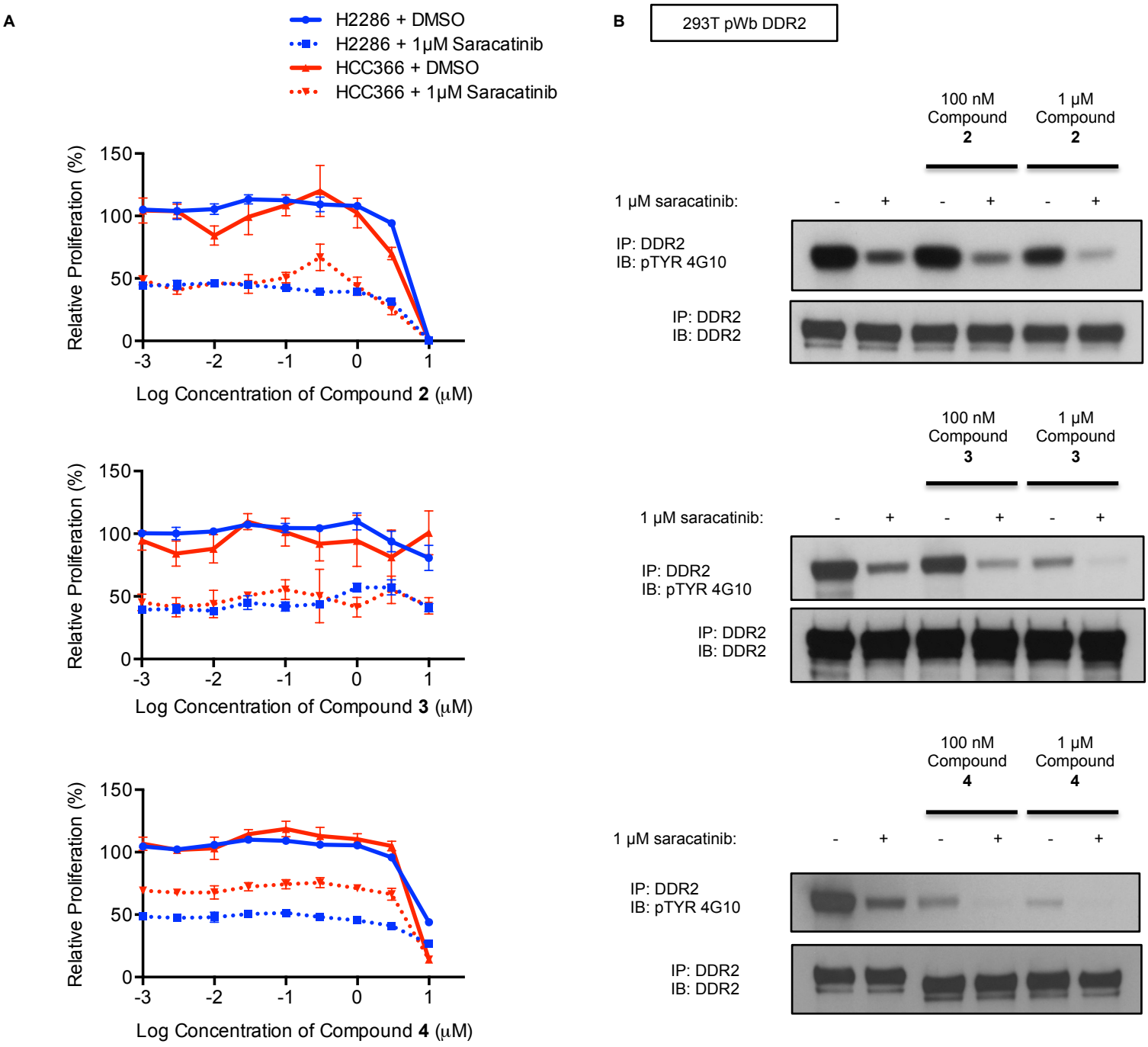
KinomeScan™ kinase selectivity profiles, S(1), S(5) and S(10) scores for **1-6**. These compounds were profiled at a concentration of 1 µM against a diverse panel of 353 kinases by DiscoverX.

Supplementary Figure 2. Comparison of the potency of DDR2 inhibitors against wild-type and mutant DDR2.



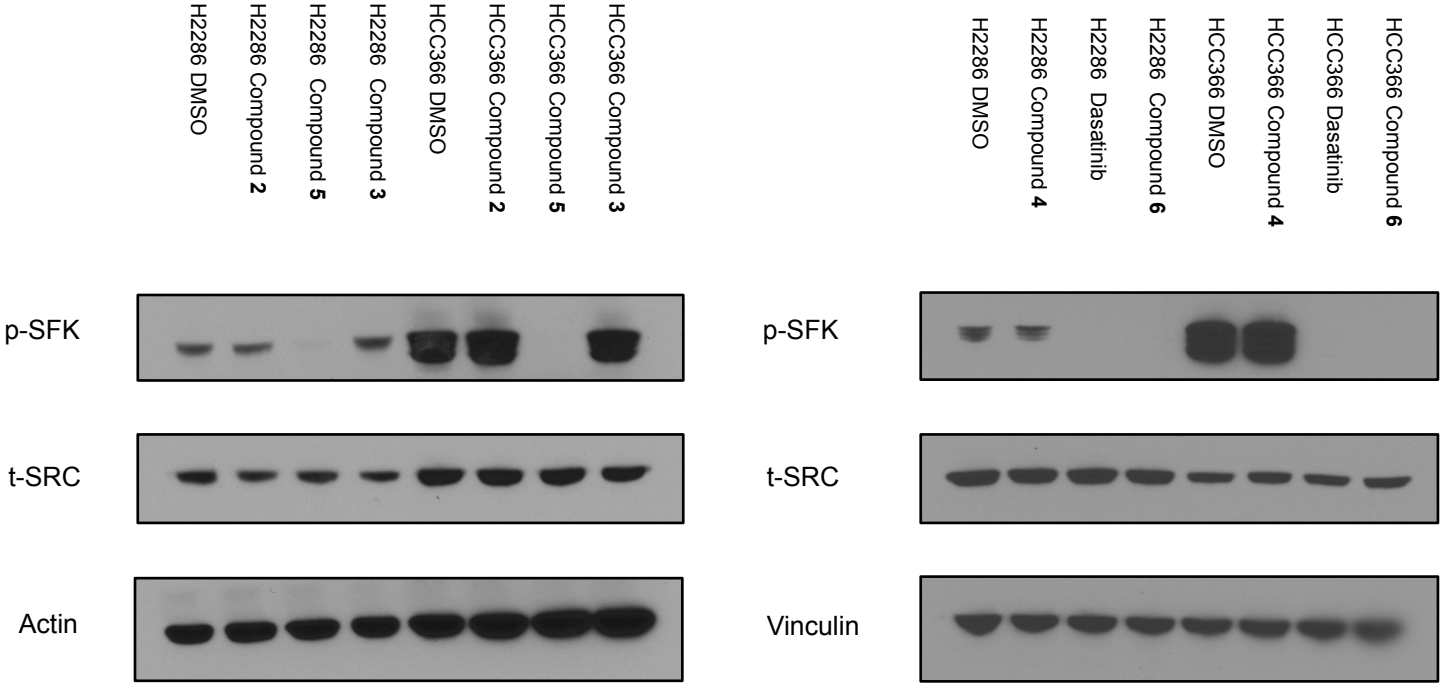
Western blotting for anti-phosphotyrosine after immunoprecipitation for anti-DDR2 with cell lysates of 293T cells. These cells ectopically expressed DDR2 WT, DDR2 L239R or DDR2 I638F. Cells were treated with the indicated concentration of **1**, **5** or dasatinib.

Supplementary Figure 3. Characterization of selective DDR2 inhibitors compounds 2, 3 and 4.



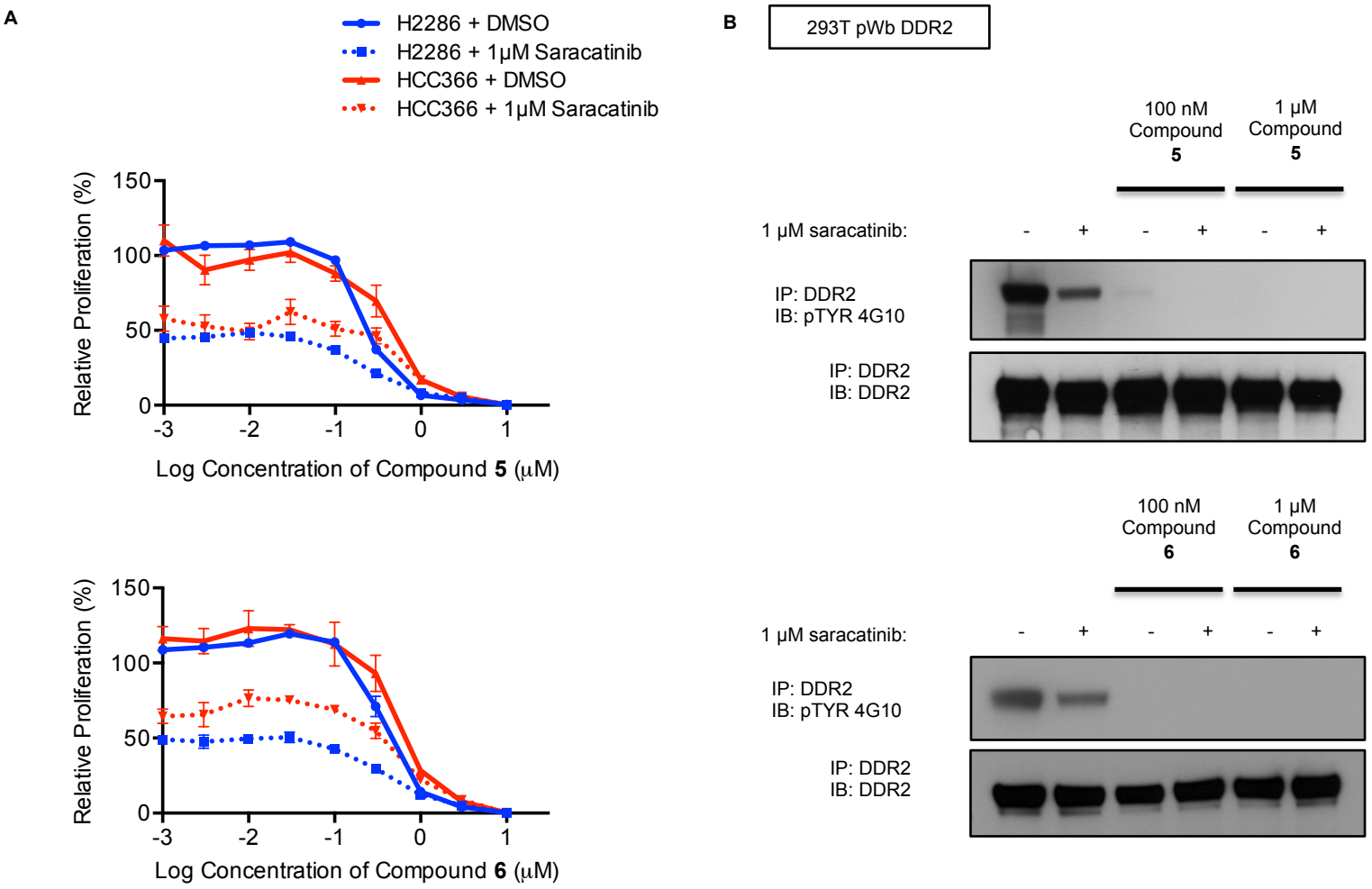
A, Proliferation of NCI-H2286 and HCC-366 cells grown for 5 days in the presence of each selective DDR2 inhibitor in combination with or without 1 μM of saracatinib. Error bars represent mean ± SD.
B, DDR2 was ectopically expressed in 293T cells with and phosphorylation was measured by Western blotting with anti-phosphotyrosine (4G10) after immunoprecipitation with an anti-DDR2 antibody. Cells were treated with the indicated concentration of **2**, **3** or **4** in combination with or without 1 μM of saracatinib.

Supplementary Figure 4. SFK phosphorylation is suppressed by dual DDR2/SRC inhibitors and not selective DDR2 inhibitors.



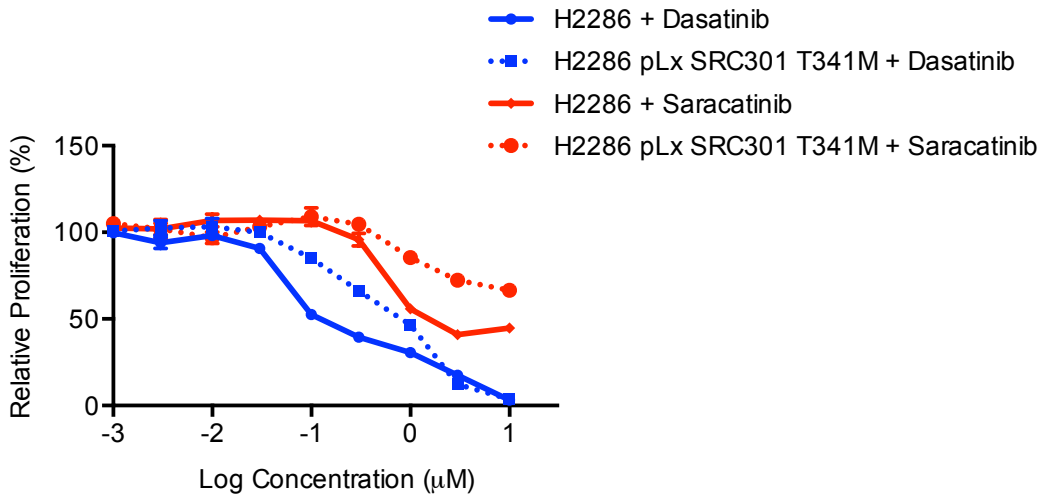
Western blotting was performed with lysates from NCI-H2286 and HCC-366. Cells were treated for 3 hrs with 0.5 μM of each drug.

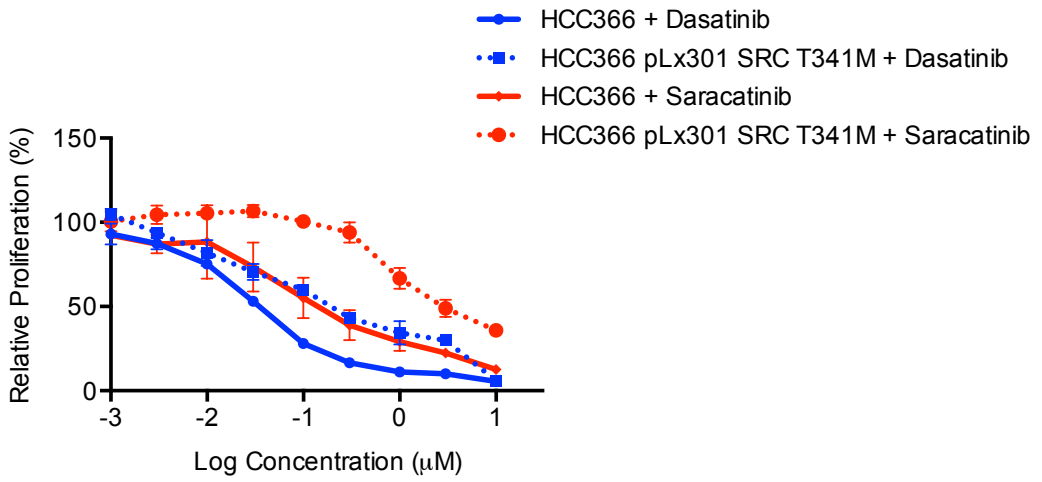
Supplementary Figure 5. Dual DDR2/SRC inhibitors inhibit both DDR2 and SFK phosphorylation as well as proliferation of *DDR2* mutated cell lines.



A, Proliferation of NCI-H2286 and HCC-366 cells grown for 5 days in the presence of each DDR2/SRC dual inhibitor in combination with or without 1 μM of saracatinib. Error bars represent mean ± SD.
B, Phosphorylation of DDR2 was measured by Western blotting with anti-phosphotyrosine after immunoprecipitation with an anti-DDR2 antibody. Cells were treated with the indicated concentration of compounds **5** or **6** in combination with or without 1 μM of saracatinib.

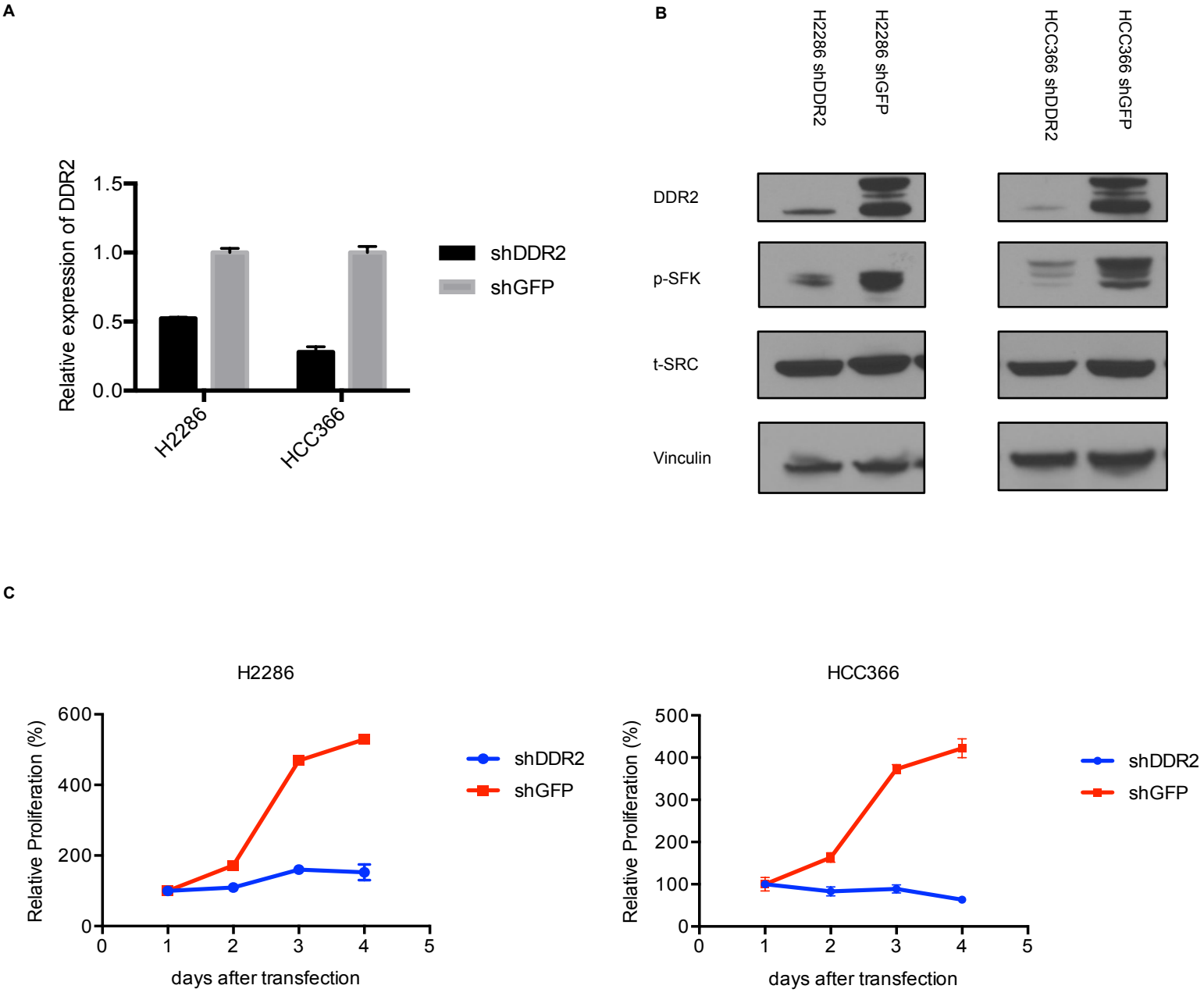
Supplementary Figure 6. DDR2 mutated cell lines are rescued from saracatinib treatment by SRC gatekeeper mutation.





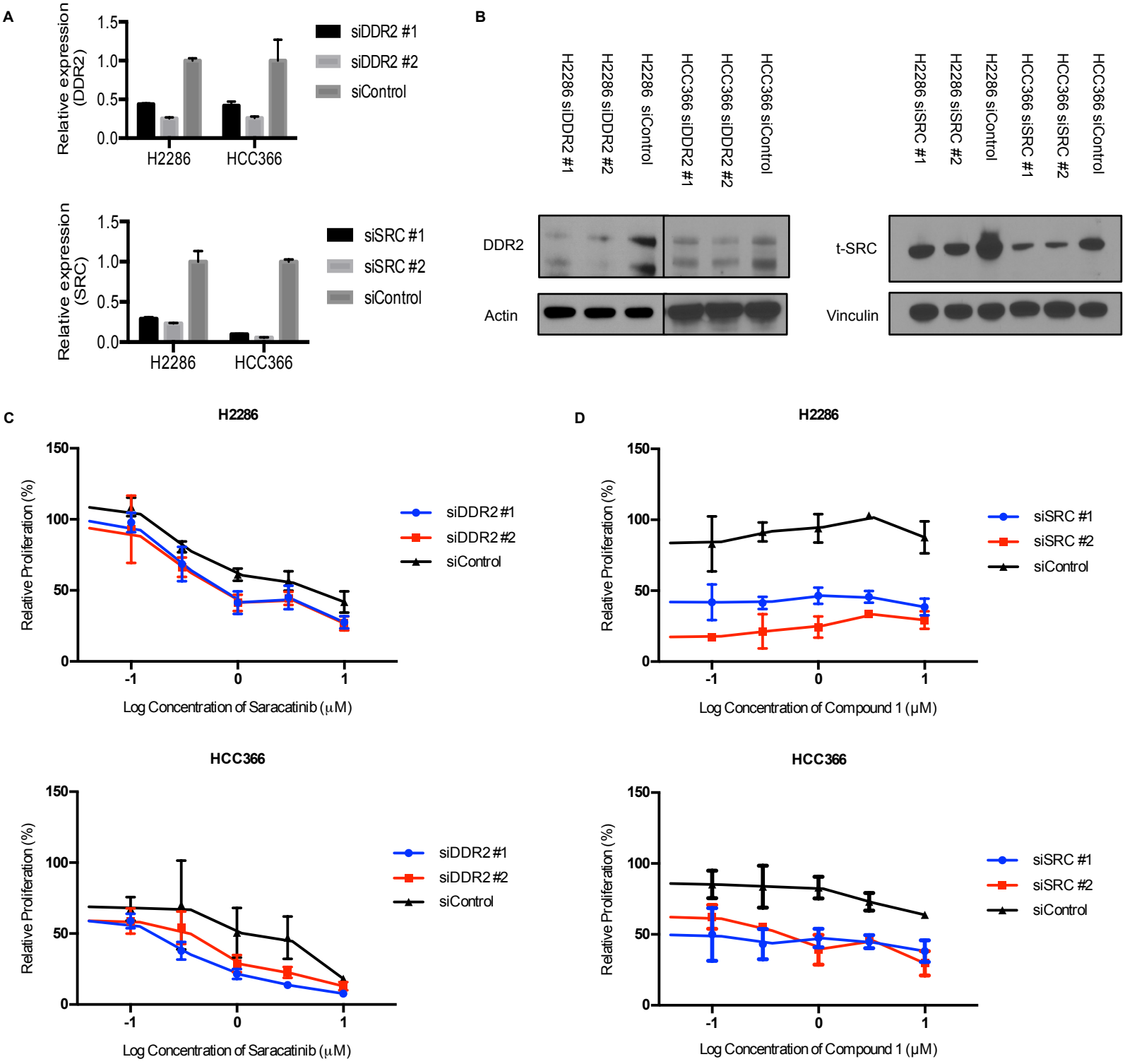
Cell proliferation assay was performed with ectopically expressed SRC GK mutation in lung cancer cell lines and compared to parental cell lines. Error bars represent mean ± SD.

Supplementary Figure 7. shRNA depletion of DDR2 strongly inhibits DDR2 expression, cell proliferation and moderately inhibits SRC kinase activity.



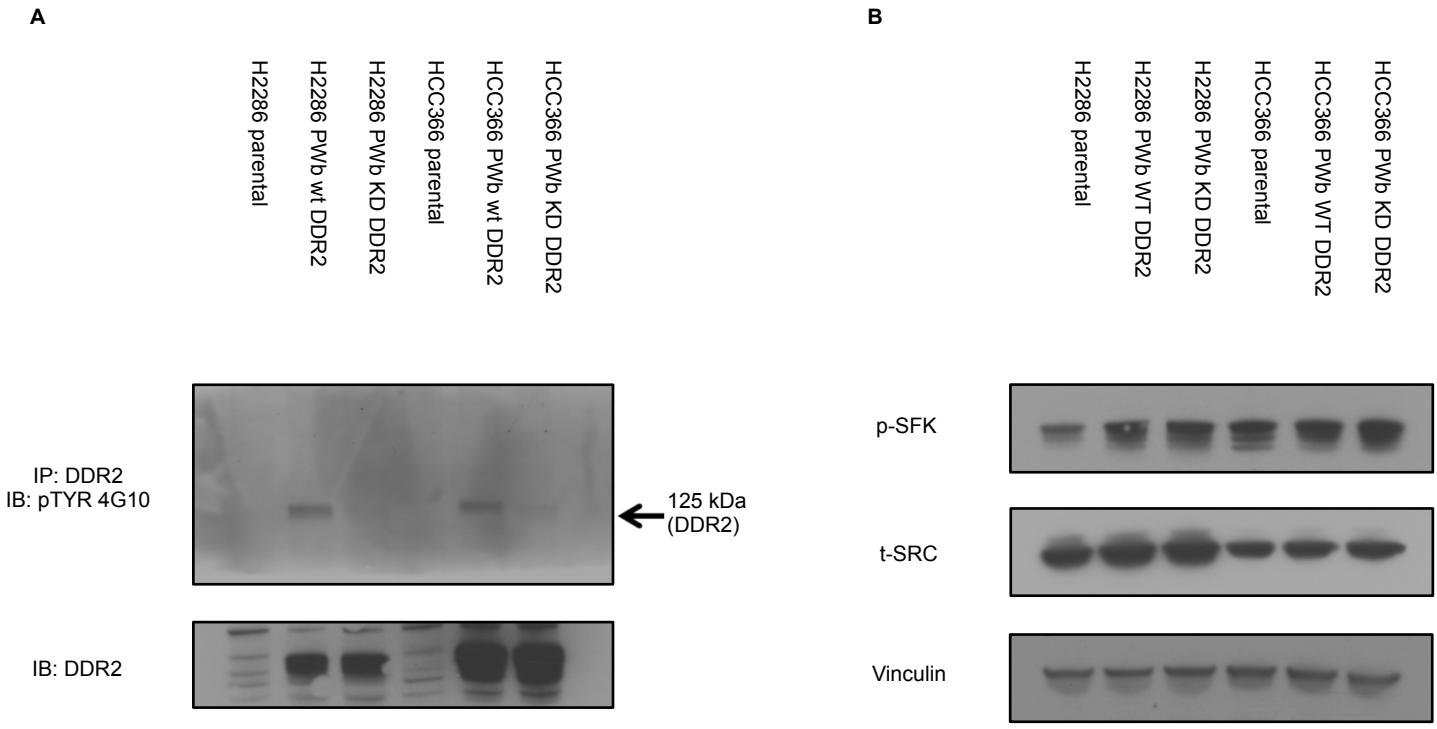
A, Cell proliferation was measured after transfected with shRNA for DDR2 with NCI-H2286 and HCC-366 cells. shRNA for GFP was used as a control. All data were normalized to the value of day 1 respectively. Error bars represent mean ± SD. B, Western blotting was performed with the lysates of shRNA for DDR2 or GFP transfected cells.

Supplementary Figure 8. Biochemical SRC inhibition or RNAi-mediated depletion decreases proliferation of *DDR2* mutated lines which is potentiated DDR2 inhibition



A, Expression level of DDR2 and SRC following siRNA treatment measured by real-time PCR. **B,** Protein levels of SRC and DDR2 following siRNA depletion. **C, D,** Proliferation of NCI-H2286 and HCC-366 cells transfected with siRNA against DDR2 or the control siRNA in combination with saracatinib treatment (**C**). Proliferation of NCI-H2286 cells and HCC-366 cells transfected with siRNA against SRC or with the control siRNA in combination with treatment of compound **1 (D)**. All data were normalized to untreated control siRNA transfected cells. Graph shows mean ± S.D. from a single experiment representative of three independent experiments with 3 replicates per treatment per experiment.

Supplementary Figure 9. Expression of wild-type or kinase dead DDR2 stabilizes p-SRC.



A,B Western blotting for anti-phosphotyrosine after immunoprecipitation for anti-DDR2 with cell lysates of NCI-H2286 or HCC-366 cells. These cells ectopically expressed DDR2 WT or DDR2 KD. Western blotting for anti-DDR2, anti-t-SRC, anti-p-SFK and anti-actin were performed with same lysate.

Supplementary Table 1. KinomeScan™ kinase selectivity profiles for compound 1-6.

Compound **1-6** were profiled at a concentration of 1 μM against a diverse panel of more than 450 kinases by DiscoverX. Table shows the subset of kinases that exhibited a score of 10 or below (score is percent relative to DMSO control, smaller numbers indicate stronger binding).

A) KinomeScan profiling data of **1**

Kinases	Percent Control at 1 uM
AAK1	No Hit
ABL1	No Hit
ABL1(E255K)	No Hit
ABL1(F317I)	13
ABL1(F317L)	22
ABL1(H396P)	No Hit
ABL1(M351T)	27
ABL1(Q252H)	No Hit
ABL1(T315I)	No Hit
ABL1(Y253F)	No Hit
ABL2	21
ACVR1	No Hit
ACVR1B	No Hit
ACVR2A	No Hit
ACVR2B	No Hit
ACVRL1	No Hit
ADCK3	No Hit
ADCK4	No Hit
AKT1	No Hit
AKT2	No Hit
AKT3	No Hit
ALK	No Hit
AMPK-alpha1	No Hit
AMPK-alpha2	No Hit
ANKK1	No Hit
ARK5	No Hit
AURKA	No Hit
AURKB	No Hit
AURKC	No Hit
AXL	No Hit
BIKE	No Hit
BLK	No Hit
BMPR1A	No Hit
BMPR1B	No Hit

BMPR2	No Hit
BMX	No Hit
BRAF	2
BRAF(V600E)	0.15
BRSK1	No Hit
BRSK2	No Hit
BTK	No Hit
CAMK1	No Hit
CAMK1D	No Hit
CAMK1G	No Hit
CAMK2A	No Hit
CAMK2B	No Hit
CAMK2D	No Hit
CAMK2G	No Hit
CAMK4	No Hit
CAMKK1	No Hit
CAMKK2	No Hit
CDC2L1	No Hit
CDC2L2	No Hit
CDK11	25
CDK2	No Hit
CDK3	No Hit
CDK5	No Hit
CDK7	No Hit
CDK8	No Hit
CDK9	No Hit
CDKL2	No Hit
CHEK1	No Hit
CHEK2	No Hit
CIT	No Hit
CLK1	No Hit
CLK2	No Hit
CLK3	No Hit
CLK4	No Hit
CSF1R	1.4
CSK	No Hit
CSNK1A1L	No Hit
CSNK1D	No Hit
CSNK1E	No Hit
CSNK1G1	No Hit
CSNK1G2	No Hit
CSNK1G3	No Hit
CSNK2A1	No Hit
CSNK2A2	No Hit
DAPK1	No Hit
DAPK2	No Hit
DAPK3	No Hit
DCAMKL1	No Hit
DCAMKL2	No Hit

DCAMKL3	No Hit
DDR1	0.1
DDR2	0
DLK	No Hit
DMPK	No Hit
DMPK2	No Hit
DRAK1	No Hit
DRAK2	No Hit
DYRK1B	No Hit
EGFR	No Hit
EGFR(E746-A750del)	No Hit
EGFR(G719C)	No Hit
EGFR(G719S)	No Hit
EGFR(L747-E749del, A750P)	No Hit
EGFR(L747-S752del, P753S)	No Hit
EGFR(L747-T751del,Sins)	No Hit
EGFR(L858R)	No Hit
EGFR(L861Q)	No Hit
EGFR(S752-I759del)	No Hit
EPHA1	No Hit
EPHA2	2.2
EPHA3	8.8
EPHA4	6.8
EPHA5	1.1
EPHA6	No Hit
EPHA7	No Hit
EPHA8	0.35
EPHB1	1.8
EPHB2	1.6
EPHB3	3.3
EPHB4	6.9
ERBB2	No Hit
ERBB4	No Hit
ERK1	No Hit
ERK2	No Hit
ERK3	No Hit
ERK4	No Hit
ERK5	No Hit
ERK8	No Hit
FER	No Hit
FES	No Hit
FGFR1	No Hit
FGFR2	No Hit
FGFR3	No Hit
FGFR3(G697C)	No Hit
FGFR4	No Hit
FGR	No Hit

FLT1	33
FLT3	No Hit
FLT3(D835H)	No Hit
FLT3(D835Y)	No Hit
FLT3(ITD)	No Hit
FLT3(K663Q)	No Hit
FLT3(N841I)	No Hit
FLT4	No Hit
FRK	1.3
FYN	No Hit
GAK	No Hit
GCN2(Kin.Dom.2,S808G)	No Hit
GSK3A	No Hit
GSK3B	No Hit
HCK	No Hit
HIPK1	No Hit
IGF1R	No Hit
IKK-alpha	No Hit
IKK-beta	No Hit
IKK-epsilon	No Hit
INSR	No Hit
INSRR	No Hit
IRAK3	No Hit
ITK	No Hit
JAK1(Kin.Dom.1)	No Hit
JAK1(Kin.Dom.2)	No Hit
JAK2(Kin.Dom.2)	No Hit
JAK3(Kin.Dom.2)	No Hit
JNK1	No Hit
JNK2	No Hit
JNK3	No Hit
KIT	0
KIT(D816V)	No Hit
KIT(V559D)	0
KIT(V559D,T670I)	No Hit
KIT(V559D,V654A)	18
LATS1	No Hit
LATS2	No Hit
LCK	1.9
LIMK1	No Hit
LIMK2	No Hit
LKB1	No Hit
LOK	No Hit
LTK	No Hit
LYN	9.4
MAP3K3	No Hit
MAP3K4	No Hit
MAP3K5	No Hit
MAP4K1	No Hit

MAP4K2	No Hit
MAP4K3	No Hit
MAP4K4	No Hit
MAP4K5	No Hit
MAPKAPK2	No Hit
MAPKAPK5	No Hit
MARK1	No Hit
MARK2	No Hit
MARK3	No Hit
MARK4	No Hit
MEK1	No Hit
MEK2	No Hit
MEK3	No Hit
MEK4	No Hit
MEK6	No Hit
MELK	No Hit
MERTK	No Hit
MET	No Hit
MINK	No Hit
MKNK1	No Hit
MKNK2	No Hit
MLCK	No Hit
MLK1	No Hit
MLK2	No Hit
MLK3	No Hit
MRCKA	No Hit
MRCKB	No Hit
MST1	No Hit
MST1R	No Hit
MST2	No Hit
MST3	No Hit
MST4	No Hit
MUSK	No Hit
MYLK	No Hit
MYLK2	No Hit
MYO3A	No Hit
MYO3B	No Hit
NDR2	No Hit
NEK1	No Hit
NEK2	No Hit
NEK5	No Hit
NEK6	No Hit
NEK7	No Hit
NEK9	No Hit
NLK	No Hit
p38-alpha	5
p38-beta	No Hit
p38-delta	No Hit
p38-gamma	No Hit

PAK1	No Hit
PAK2	No Hit
PAK3	No Hit
PAK4	No Hit
PAK6	No Hit
PAK7/PAK5	No Hit
PCTK1	No Hit
PCTK2	No Hit
PCTK3	No Hit
PDGFRA	0.2
PDGFRB	0.05
PDPK1	No Hit
PFTAIRE2	No Hit
PFTK1	No Hit
PHKG1	No Hit
PHKG2	No Hit
PIK3C2B	No Hit
PIK3CA	No Hit
PIK3CA(E545K)	No Hit
PIK3CB	No Hit
PIK3CD	No Hit
PIK3CG	No Hit
PIM1	No Hit
PIM2	No Hit
PIM3	No Hit
PIP5K1A	No Hit
PIP5K2B	No Hit
PKAC-alpha	No Hit
PKAC-beta	No Hit
PKMYT1	No Hit
PKN1	No Hit
PKN2	No Hit
PLK1	No Hit
PLK3	No Hit
PLK4	No Hit
PRKCD	No Hit
PRKCE	No Hit
PRKCH	No Hit
PRKCQ	No Hit
PRKD1	No Hit
PRKD2	No Hit
PRKD3	No Hit
PRKG1	No Hit
PRKG2	No Hit
PRKR	No Hit
PRKX	No Hit
PTK2	No Hit
PTK2B	No Hit
PTK6	No Hit

RAF1	4.5
RET	No Hit
RET(M918T)	No Hit
RET(V804L)	No Hit
RET(V804M)	No Hit
RIOK1	No Hit
RIOK2	No Hit
RIOK3	No Hit
RIPK1	No Hit
RIPK2	No Hit
RIPK4	No Hit
ROCK2	No Hit
ROS1	No Hit
RPS6KA1(Kin.Dom.1)	No Hit
RPS6KA1(Kin.Dom.2)	No Hit
RPS6KA2(Kin.Dom.1)	No Hit
RPS6KA2(Kin.Dom.2)	No Hit
RPS6KA3(Kin.Dom.1)	No Hit
RPS6KA4(Kin.Dom.1)	No Hit
RPS6KA4(Kin.Dom.2)	No Hit
RPS6KA5(Kin.Dom.1)	No Hit
RPS6KA5(Kin.Dom.2)	No Hit
RPS6KA6(Kin.Dom.1)	No Hit
RPS6KA6(Kin.Dom.2)	No Hit
SgK085	No Hit
SgK110	No Hit
SLK	No Hit
SNARK	No Hit
SNF1LK	No Hit
SNF1LK2	No Hit
SRC	No Hit
SRMS	No Hit
SRPK1	No Hit
SRPK2	No Hit
SRPK3	No Hit
STK16	No Hit
STK33	No Hit
STK35	No Hit
STK36	No Hit
SYK	No Hit
TAK1	No Hit
TAOK1	No Hit
TAOK3	No Hit
TEC	No Hit
TESK1	No Hit
TGFBR1	No Hit
TGFBR2	No Hit
TIE1	No Hit
TIE2	No Hit

TLK1	No Hit
TLK2	No Hit
TNIK	No Hit
TNK1	No Hit
TNK2	No Hit
TNNI3K	12
TRKA	No Hit
TRKB	32
TRKC	15
TSSK1	No Hit
TTK	No Hit
TXK	No Hit
TYK2(Kin.Dom.1)	No Hit
TYK2(Kin.Dom.2)	No Hit
TYRO3	No Hit
ULK1	No Hit
ULK2	No Hit
ULK3	No Hit
VEGFR2	No Hit
WEE1	No Hit
WEE2	No Hit
YANK2	No Hit
YANK3	No Hit
YES	No Hit
YSK1	No Hit
ZAK	6.9
ZAP70	No Hit

B) KinomeScan profiling data of **2**.

Kinases	Percent Control at 1 uM
AAK1	97
ABL1(E255K)-phosphorylated	88
ABL1(F317I)-nonphosphorylated	5.9
ABL1(F317I)-phosphorylated	54
ABL1(F317L)-nonphosphorylated	21
ABL1(F317L)-phosphorylated	16
ABL1(H396P)-nonphosphorylated	26
ABL1(H396P)-phosphorylated	90
ABL1(M351T)-phosphorylated	65
ABL1(Q252H)-nonphosphorylated	6.5
ABL1(Q252H)-phosphorylated	100
ABL1(T315I)-nonphosphorylated	100
ABL1(T315I)-phosphorylated	93
ABL1(Y253F)-phosphorylated	72

ABL1-nonphosphorylated	1.1
ABL1-phosphorylated	43
ABL2	47
ACVR1	91
ACVR1B	81
ACVR2A	100
ACVR2B	69
ACVRL1	99
ADCK3	85
ADCK4	93
AKT1	100
AKT2	89
AKT3	86
ALK	100
ALK(C1156Y)	100
ALK(L1196M)	100
AMPK-alpha1	92
AMPK-alpha2	100
ANKK1	100
ARK5	100
ASK1	98
ASK2	100
AURKA	98
AURKB	100
AURKC	87
AXL	89
BIKE	85
BLK	60
BMPR1A	86
BMPR1B	100
BMPR2	100
BMX	93
BRAF	60
BRAF(V600E)	23
BRK	94
BRSK1	88
BRSK2	84
BTK	100
BUB1	95
CAMK1	79
CAMK1B	97
CAMK1D	83
CAMK1G	95
CAMK2A	100
CAMK2B	95
CAMK2D	96
CAMK2G	100
CAMK4	84
CAMKK1	74

CAMKK2	94
CASK	90
CDC2L1	100
CDC2L2	100
CDC2L5	100
CDK11	91
CDK2	99
CDK3	92
CDK4	100
CDK4-cyclinD1	100
CDK4-cyclinD3	100
CDK5	100
CDK7	96
CDK8	78
CDK9	100
CDKL1	49
CDKL2	68
CDKL3	86
CDKL5	99
CHEK1	100
CHEK2	82
CIT	43
CLK1	100
CLK2	91
CLK3	96
CLK4	82
CSF1R	0.95
CSF1R-autoinhibited	100
CSK	85
CSNK1A1	100
CSNK1A1L	99
CSNK1D	100
CSNK1E	99
CSNK1G1	93
CSNK1G2	100
CSNK1G3	92
CSNK2A1	100
CSNK2A2	100
CTK	90
DAPK1	98
DAPK2	95
DAPK3	73
DCAMKL1	87
DCAMKL2	100
DCAMKL3	82
DDR1	0.1
DDR2	1.5
DLK	88
DMPK	96

DMPK2	100
DRAK1	100
DRAK2	100
DYRK1A	100
DYRK1B	97
DYRK2	93
EGFR	87
EGFR(E746-A750del)	97
EGFR(G719C)	90
EGFR(G719S)	89
EGFR(L747-E749del, A750P)	88
EGFR(L747-S752del, P753S)	100
EGFR(L747-T751del,Sins)	80
EGFR(L858R)	100
EGFR(L858R,T790M)	76
EGFR(L861Q)	71
EGFR(S752-I759del)	76
EGFR(T790M)	100
EIF2AK1	100
EPHA1	96
EPHA2	96
EPHA3	95
EPHA4	100
EPHA5	91
EPHA6	100
EPHA7	100
EPHA8	92
EPHB1	95
EPHB2	91
EPHB3	100
EPHB4	98
EPHB6	100
ERBB2	100
ERBB3	87
ERBB4	100
ERK1	100
ERK2	91
ERK3	97
ERK4	94
ERK5	100
ERK8	85
ERN1	82
FAK	96
FER	100
FES	100
FGFR1	82
FGFR2	99
FGFR3	98
FGFR3(G697C)	89

FGFR4	96
FGR	87
FLT1	57
FLT3	63
FLT3(D835H)	85
FLT3(D835V)	99
FLT3(D835Y)	84
FLT3(ITD)	93
FLT3(ITD,D835V)	93
FLT3(ITD,F691L)	70
FLT3(K663Q)	86
FLT3(N841I)	84
FLT3(R834Q)	88
FLT3-autoinhibited	100
FLT4	44
FRK	60
FYN	96
GAK	99
GCN2(Kin.Dom.2,S808G)	100
GRK1	88
GRK2	100
GRK3	97
GRK4	91
GRK7	100
GSK3A	100
GSK3B	92
HASPIN	100
HCK	84
HIPK1	53
HIPK2	100
HIPK3	100
HIPK4	83
HPK1	100
HUNK	74
ICK	100
IGF1R	100
IKK-alpha	100
IKK-beta	83
IKK-epsilon	100
INSR	99
INSRR	93
IRAK1	100
IRAK3	95
IRAK4	99
ITK	100
JAK1(JH1domain-catalytic)	97
JAK1(JH2domain-pseudokinase)	68
JAK2(JH1domain-catalytic)	100
JAK3(JH1domain-catalytic)	100

JNK1	92
JNK2	60
JNK3	89
KIT	2.1
KIT(A829P)	100
KIT(D816H)	93
KIT(D816V)	92
KIT(L576P)	0.65
KIT(V559D)	0.75
KIT(V559D,T670I)	54
KIT(V559D,V654A)	12
KIT-autoinhibited	90
LATS1	100
LATS2	100
LCK	60
LIMK1	83
LIMK2	97
LKB1	90
LOK	4.2
LRRK2	100
LRRK2(G2019S)	68
LTK	90
LYN	43
LZK	73
MAK	88
MAP3K1	99
MAP3K15	100
MAP3K2	99
MAP3K3	81
MAP3K4	100
MAP4K2	100
MAP4K3	87
MAP4K4	64
MAP4K5	100
MAPKAPK2	91
MAPKAPK5	100
MARK1	87
MARK2	99
MARK3	100
MARK4	87
MAST1	100
MEK1	100
MEK2	93
MEK3	100
MEK4	100
MEK5	100
MEK6	100
MELK	100
MERTK	100

MET	100
MET(M1250T)	88
MET(Y1235D)	95
MINK	94
MKK7	99
MKNK1	100
MKNK2	95
MLCK	95
MLK1	94
MLK2	68
MLK3	100
MRCKA	98
MRCKB	98
MST1	91
MST1R	100
MST2	100
MST3	100
MST4	100
MTOR	100
MUSK	90
MYLK	100
MYLK2	100
MYLK4	86
MYO3A	89
MYO3B	79
NDR1	67
NDR2	88
NEK1	100
NEK10	100
NEK11	100
NEK2	95
NEK3	77
NEK4	77
NEK5	98
NEK6	86
NEK7	100
NEK9	100
NIK	78
NIM1	100
NLK	89
OSR1	88
p38-alpha	0.45
p38-beta	5.5
p38-delta	80
p38-gamma	76
PAK1	77
PAK2	67
PAK3	39
PAK4	78

PAK6	91
PAK7	96
PCTK1	98
PCTK2	100
PCTK3	89
PDGFRA	34
PDGFRB	1.2
PDPK1	100
PFCDPK1(P.falciparum)	14
PFPK5(P.falciparum)	100
PFTAIRE2	100
PFTK1	93
PHKG1	87
PHKG2	81
PIK3C2B	98
PIK3C2G	100
PIK3CA	100
PIK3CA(C420R)	100
PIK3CA(E542K)	89
PIK3CA(E545A)	50
PIK3CA(E545K)	61
PIK3CA(H1047L)	100
PIK3CA(H1047Y)	83
PIK3CA(I800L)	67
PIK3CA(M1043I)	100
PIK3CA(Q546K)	100
PIK3CB	100
PIK3CD	100
PIK3CG	100
PIK4CB	100
PIKFYVE	84
PIM1	74
PIM2	93
PIM3	84
PIP5K1A	89
PIP5K1C	100
PIP5K2B	89
PIP5K2C	100
PKAC-alpha	81
PKAC-beta	89
PKMYT1	78
PKN1	100
PKN2	100
PKNB(M.tuberculosis)	79
PLK1	100
PLK2	100
PLK3	79
PLK4	99
PRKCD	80

PRKCE	83
PRKCH	93
PRKCI	95
PRKCQ	79
PRKD1	87
PRKD2	86
PRKD3	95
PRKG1	94
PRKG2	100
PRKR	74
PRKX	77
PRP4	69
PYK2	75
QSK	89
RAF1	45
RET	13
RET(M918T)	20
RET(V804L)	81
RET(V804M)	37
RIOK1	100
RIOK2	100
RIOK3	89
RIPK1	96
RIPK2	87
RIPK4	100
RIPK5	97
ROCK1	100
ROCK2	46
ROS1	100
RPS6KA4(Kin.Dom.1-N-terminal)	94
RPS6KA4(Kin.Dom.2-C-terminal)	100
RPS6KA5(Kin.Dom.1-N-terminal)	82
RPS6KA5(Kin.Dom.2-C-terminal)	94
RSK1(Kin.Dom.1-N-terminal)	100
RSK1(Kin.Dom.2-C-terminal)	96
RSK2(Kin.Dom.1-N-terminal)	100
RSK2(Kin.Dom.2-C-terminal)	100
RSK3(Kin.Dom.1-N-terminal)	84
RSK3(Kin.Dom.2-C-terminal)	63
RSK4(Kin.Dom.1-N-terminal)	100
RSK4(Kin.Dom.2-C-terminal)	89
S6K1	100
SBK1	98
SGK	100
SgK110	79
SGK2	100
SGK3	100
SIK	93
SIK2	77

SLK	85
SNARK	100
SNRK	100
SRC	92
SRMS	89
SRPK1	70
SRPK2	91
SRPK3	73
STK16	96
STK33	94
STK35	92
STK36	89
STK39	100
SYK	73
TAK1	27
TAOK1	100
TAOK2	63
TAOK3	87
TBK1	59
TEC	100
TESK1	80
TGFBR1	92
TGFBR2	97
TIE1	32
TIE2	82
TLK1	94
TLK2	93
TNIK	90
TNK1	97
TNK2	97
TNNI3K	74
TRKA	76
TRKB	100
TRKC	94
TRPM6	100
TSSK1B	92
TSSK3	100
TTK	91
TXK	92
TYK2(JH1domain-catalytic)	100
TYK2(JH2domain-pseudokinase)	95
TYRO3	100
ULK1	99
ULK2	100
ULK3	98
VEGFR2	49
VPS34	100
VRK2	100
WEE1	83

WEE2	100
WNK1	82
WNK2	100
WNK3	95
WNK4	100
YANK1	100
YANK2	80
YANK3	95
YES	82
YSK1	100
YSK4	98
ZAK	84
ZAP70	100

C) KinomeScan profiling data of **3.**

Kinases	Percent Control at 1 uM
AAK1	95
ABL1-nonphosphorylated	3.3
ABL1-phosphorylated	64
ABL1(E255K)-phosphorylated	54
ABL1(F317I)-nonphosphorylated	53
ABL1(F317I)-phosphorylated	51
ABL1(F317L)-nonphosphorylated	12
ABL1(F317L)-phosphorylated	95
ABL1(H396P)-nonphosphorylated	34
ABL1(H396P)-phosphorylated	88
ABL1(M351T)-phosphorylated	93
ABL1(Q252H)-nonphosphorylated	2.6
ABL1(Q252H)-phosphorylated	86
ABL1(T315I)-nonphosphorylated	100
ABL1(T315I)-phosphorylated	100
ABL1(Y253F)-phosphorylated	78
ABL2	37
ACVR1	98
ACVR1B	88
ACVR2A	99
ACVR2B	93
ACVRL1	86
ADCK3	99
ADCK4	85
AKT1	95
AKT2	94
AKT3	100
ALK	100

ALK(C1156Y)	100
ALK(L1196M)	100
AMPK-alpha1	100
AMPK-alpha2	89
ANKK1	100
ARK5	99
ASK1	72
ASK2	100
AURKA	100
AURKB	82
AURKC	85
AXL	100
BIKE	100
BLK	56
BMPR1A	91
BMPR1B	100
BMPR2	100
BMX	100
BRAF	36
BRAF(V600E)	7.9
BRK	100
BRSK1	92
BRSK2	89
BTK	73
BUB1	100
CAMK1	84
CAMK1B	98
CAMK1D	83
CAMK1G	99
CAMK2A	93
CAMK2B	96
CAMK2D	97
CAMK2G	97
CAMK4	56
CAMKK1	88
CAMKK2	96
CASK	100
CDC2L1	93
CDC2L2	100
CDC2L5	100
CDK11	87
CDK2	84
CDK3	94
CDK4	100
CDK4-cyclinD1	100
CDK4-cyclinD3	100
CDK5	100
CDK7	95
CDK8	100

CDK9	100
CDKL1	91
CDKL2	100
CDKL3	84
CDKL5	100
CHEK1	100
CHEK2	96
CIT	99
CLK1	95
CLK2	93
CLK3	83
CLK4	88
CSF1R	0.75
CSF1R-autoinhibited	100
CSK	86
CSNK1A1	87
CSNK1A1L	93
CSNK1D	97
CSNK1E	81
CSNK1G1	79
CSNK1G2	97
CSNK1G3	100
CSNK2A1	96
CSNK2A2	100
CTK	100
DAPK1	100
DAPK2	90
DAPK3	73
DCAMKL1	100
DCAMKL2	100
DCAMKL3	71
DDR1	0
DDR2	0
DLK	100
DMPK	100
DMPK2	92
DRAK1	100
DRAK2	100
DYRK1A	100
DYRK1B	81
DYRK2	100
EGFR	84
EGFR(E746-A750del)	100
EGFR(G719C)	100
EGFR(G719S)	97
EGFR(L747-E749del, A750P)	88
EGFR(L747-S752del, P753S)	84
EGFR(L747-T751del,Sins)	96
EGFR(L858R,T790M)	100

EGFR(L858R)	100
EGFR(L861Q)	83
EGFR(S752-I759del)	100
EGFR(T790M)	100
EIF2AK1	100
EPHA1	97
EPHA2	2.4
EPHA3	48
EPHA4	13
EPHA5	12
EPHA6	100
EPHA7	52
EPHA8	0
EPHB1	22
EPHB2	11
EPHB3	52
EPHB4	22
EPHB6	91
ERBB2	86
ERBB3	44
ERBB4	98
ERK1	95
ERK2	100
ERK3	100
ERK4	92
ERK5	91
ERK8	90
ERN1	100
FAK	90
FER	97
FES	100
FGFR1	100
FGFR2	100
FGFR3	100
FGFR3(G697C)	100
FGFR4	99
FGR	81
FLT1	88
FLT3	94
FLT3-autoinhibited	99
FLT3(D835H)	93
FLT3(D835V)	92
FLT3(D835Y)	82
FLT3(ITD,D835V)	59
FLT3(ITD,F691L)	88
FLT3(ITD)	100
FLT3(K663Q)	97
FLT3(N841I)	95
FLT3(R834Q)	100

FLT4	100
FRK	39
FYN	95
GAK	94
GCN2(Kin.Dom.2,S808G)	100
GRK1	100
GRK2	100
GRK3	100
GRK4	98
GRK7	91
GSK3A	91
GSK3B	100
HASPIN	100
HCK	94
HIPK1	87
HIPK2	100
HIPK3	100
HIPK4	58
HPK1	96
HUNK	93
ICK	100
IGF1R	92
IKK-alpha	100
IKK-beta	100
IKK-epsilon	93
INSR	100
INSRR	97
IRAK1	100
IRAK3	100
IRAK4	100
ITK	100
JAK1(JH1domain-catalytic)	97
JAK1(JH2domain-pseudokinase)	76
JAK2(JH1domain-catalytic)	100
JAK3(JH1domain-catalytic)	100
JNK1	97
JNK2	100
JNK3	100
KIT	1
KIT-autoinhibited	100
KIT(A829P)	54
KIT(D816H)	100
KIT(D816V)	92
KIT(L576P)	1.1
KIT(V559D,T670I)	99
KIT(V559D,V654A)	41
KIT(V559D)	0.5
LATS1	100
LATS2	98

LCK	70
LIMK1	100
LIMK2	94
LKB1	91
LOK	89
LRRK2	100
LRRK2(G2019S)	100
LTK	87
LYN	48
LZK	77
MAK	100
MAP3K1	100
MAP3K15	100
MAP3K2	99
MAP3K3	97
MAP3K4	98
MAP4K2	100
MAP4K3	89
MAP4K4	83
MAP4K5	98
MAPKAPK2	90
MAPKAPK5	96
MARK1	94
MARK2	99
MARK3	100
MARK4	93
MAST1	100
MEK1	94
MEK2	83
MEK3	100
MEK4	100
MEK5	66
MEK6	99
MELK	68
MERTK	100
MET	84
MET(M1250T)	95
MET(Y1235D)	76
MINK	93
MKK7	100
MKNK1	100
MKNK2	100
MLCK	94
MLK1	83
MLK2	91
MLK3	100
MRCKA	100
MRCKB	100
MST1	83

MST1R	100
MST2	83
MST3	98
MST4	100
MTOR	90
MUSK	72
MYLK	98
MYLK2	58
MYLK4	100
MYO3A	98
MYO3B	100
NDR1	92
NDR2	94
NEK1	100
NEK10	100
NEK11	100
NEK2	100
NEK3	100
NEK4	100
NEK5	97
NEK6	93
NEK7	91
NEK9	100
NIK	100
NIM1	100
NLK	88
OSR1	100
p38-alpha	30
p38-beta	21
p38-delta	85
p38-gamma	88
PAK1	100
PAK2	100
PAK3	98
PAK4	98
PAK6	85
PAK7	76
PCTK1	100
PCTK2	96
PCTK3	93
PDGFRA	30
PDGFRB	0.5
PDPK1	99
PFCDPK1(P.falciparum)	100
PFPK5(P.falciparum)	100
PFTAIRE2	100
PFTK1	95
PHKG1	83
PHKG2	85

PIK3C2B	100
PIK3C2G	91
PIK3CA	100
PIK3CA(C420R)	100
PIK3CA(E542K)	100
PIK3CA(E545A)	100
PIK3CA(E545K)	100
PIK3CA(H1047L)	100
PIK3CA(H1047Y)	100
PIK3CA(I800L)	73
PIK3CA(M1043I)	99
PIK3CA(Q546K)	100
PIK3CB	100
PIK3CD	100
PIK3CG	99
PIK4CB	100
PIKFYVE	92
PIM1	100
PIM2	100
PIM3	96
PIP5K1A	100
PIP5K1C	50
PIP5K2B	80
PIP5K2C	98
PKAC-alpha	96
PKAC-beta	99
PKMYT1	100
PKN1	89
PKN2	100
PKNB(M.tuberculosis)	100
PLK1	100
PLK2	100
PLK3	100
PLK4	100
PRKCD	88
PRKCE	93
PRKCH	87
PRKCI	94
PRKCQ	80
PRKD1	100
PRKD2	100
PRKD3	100
PRKG1	94
PRKG2	93
PRKR	100
PRKX	99
PRP4	100
PYK2	93
QSK	100

RAF1	43
RET	91
RET(M918T)	100
RET(V804L)	92
RET(V804M)	97
RIOK1	98
RIOK2	100
RIOK3	100
RIPK1	93
RIPK2	99
RIPK4	100
RIPK5	98
ROCK1	100
ROCK2	100
ROS1	96
RPS6KA4(Kin.Dom.1-N-terminal)	100
RPS6KA4(Kin.Dom.2-C-terminal)	100
RPS6KA5(Kin.Dom.1-N-terminal)	96
RPS6KA5(Kin.Dom.2-C-terminal)	100
RSK1(Kin.Dom.1-N-terminal)	99
RSK1(Kin.Dom.2-C-terminal)	100
RSK2(Kin.Dom.1-N-terminal)	100
RSK2(Kin.Dom.2-C-terminal)	99
RSK3(Kin.Dom.1-N-terminal)	89
RSK3(Kin.Dom.2-C-terminal)	97
RSK4(Kin.Dom.1-N-terminal)	100
RSK4(Kin.Dom.2-C-terminal)	92
S6K1	100
SBK1	100
SGK	100
SgK110	94
SGK2	100
SGK3	89
SIK	89
SIK2	100
SLK	100
SNARK	100
SNRK	100
SRC	96
SRMS	95
SRPK1	99
SRPK2	99
SRPK3	100
STK16	79
STK33	92
STK35	100
STK36	100
STK39	100
SYK	100

TAK1	96
TAOK1	100
TAOK2	61
TAOK3	100
TBK1	100
TEC	94
TESK1	100
TGFBR1	98
TGFBR2	100
TIE1	100
TIE2	77
TLK1	84
TLK2	100
TNIK	100
TNK1	100
TNK2	100
TNNI3K	46
TRKA	28
TRKB	23
TRKC	7.4
TRPM6	100
TSSK1B	89
TSSK3	100
TTK	97
TXK	72
TYK2(JH1domain-catalytic)	100
TYK2(JH2domain-pseudokinase)	100
TYRO3	100
ULK1	100
ULK2	100
ULK3	100
VEGFR2	100
VPS34	100
VRK2	100
WEE1	86
WEE2	88
WNK1	100
WNK2	100
WNK3	100
WNK4	98
YANK1	95
YANK2	90
YANK3	83
YES	100
YSK1	94
YSK4	100
ZAK	33
ZAP70	100

D) KinomeScan profiling data of **4.**

Kinases	Percent Control at 1 uM
AAK1	100
ABL1(E255K)-phosphorylated	22
ABL1(F317I)-nonphosphorylated	0
ABL1(F317I)-phosphorylated	7.8
ABL1(F317L)-nonphosphorylated	0.5
ABL1(F317L)-phosphorylated	17
ABL1(H396P)-nonphosphorylated	1.8
ABL1(H396P)-phosphorylated	23
ABL1(M351T)-phosphorylated	13
ABL1(Q252H)-nonphosphorylated	0.55
ABL1(Q252H)-phosphorylated	27
ABL1(T315I)-nonphosphorylated	0
ABL1(T315I)-phosphorylated	4.4
ABL1(Y253F)-phosphorylated	22
ABL1-nonphosphorylated	0.1
ABL1-phosphorylated	8.8
ABL2	15
ACVR1	100
ACVR1B	100
ACVR2A	93
ACVR2B	97
ACVRL1	100
ADCK3	99
ADCK4	100
AKT1	100
AKT2	100
AKT3	100
ALK	50
ALK(C1156Y)	97
ALK(L1196M)	68
AMPK-alpha1	100
AMPK-alpha2	90
ANKK1	5

ARK5	100
ASK1	96
ASK2	60
AURKA	80
AURKB	71
AURKC	40
AXL	58
BIKE	78
BLK	0.95
BMPR1A	100
BMPR1B	79
BMPR2	76
BMX	100
BRAF	31
BRAF(V600E)	12
BRK	100
BRSK1	95
BRSK2	92
BTK	68
BUB1	87
CAMK1	100
CAMK1D	100
CAMK1G	95
CAMK2A	100
CAMK2B	96
CAMK2D	100
CAMK2G	100
CAMK4	100
CAMKK1	100
CAMKK2	100
CASK	94
CDC2L1	100
CDC2L2	100
CDC2L5	48
CDK11	1.2
CDK2	98
CDK3	67
CDK4-cyclinD1	93

CDK4-cyclinD3	90
CDK5	100
CDK7	27
CDK8	0
CDK9	100
CDKL1	77
CDKL2	0.2
CDKL3	10
CDKL5	95
CHEK1	95
CHEK2	79
CIT	58
CLK1	62
CLK2	94
CLK3	95
CLK4	31
CSF1R	0.65
CSF1R-autoinhibited	84
CSK	99
CSNK1A1	96
CSNK1A1L	96
CSNK1D	100
CSNK1E	100
CSNK1G1	92
CSNK1G2	100
CSNK1G3	93
CSNK2A1	99
CSNK2A2	76
CTK	97
DAPK1	100
DAPK2	88
DAPK3	89
DCAMKL1	53
DCAMKL2	72
DCAMKL3	99
DDR1	0.2
DDR2	6.6
DLK	100

DMPK	100
DMPK2	84
DRAK1	100
DRAK2	100
DYRK1A	88
DYRK1B	46
DYRK2	45
EGFR	83
EGFR(E746-A750del)	77
EGFR(G719C)	62
EGFR(G719S)	61
EGFR(L747-E749del, A750P)	66
EGFR(L747-S752del, P753S)	95
EGFR(L747-T751del,Sins)	66
EGFR(L858R)	91
EGFR(L858R,T790M)	100
EGFR(L861Q)	78
EGFR(S752-I759del)	90
EGFR(T790M)	71
EIF2AK1	85
EPHA1	100
EPHA2	30
EPHA3	31
EPHA4	67
EPHA5	52
EPHA6	100
EPHA7	96
EPHA8	2.4
EPHB1	74
EPHB2	47
EPHB3	100
EPHB4	100
EPHB6	85
ERBB2	90
ERBB3	93
ERBB4	86
ERK1	91
ERK2	89

ERK3	76
ERK4	100
ERK5	91
ERK8	15
ERN1	92
FAK	98
FER	100
FES	100
FGFR1	88
FGFR2	86
FGFR3	100
FGFR3(G697C)	99
FGFR4	100
FGR	23
FLT1	4.6
FLT3	2
FLT3(D835H)	0.3
FLT3(D835Y)	0.5
FLT3(ITD)	5.6
FLT3(K663Q)	0.1
FLT3(N841I)	0
FLT3(R834Q)	0
FLT3-autoinhibited	11
FLT4	0.9
FRK	20
FYN	71
GAK	77
GCN2(Kin.Dom.2,S808G)	100
GRK1	99
GRK4	99
GRK7	97
GSK3A	98
GSK3B	80
HASPIN	75
HCK	38
HIPK1	20
HIPK2	39
HIPK3	11

HIPK4	49
HPK1	70
HUNK	75
ICK	87
IGF1R	96
IKK-alpha	0.55
IKK-beta	7.8
IKK-epsilon	87
INSR	64
INSRR	79
IRAK1	55
IRAK3	77
IRAK4	68
ITK	100
JAK1(JH1domain-catalytic)	88
JAK1(JH2domain-pseudokinase)	100
JAK2(JH1domain-catalytic)	41
JAK3(JH1domain-catalytic)	40
JNK1	71
JNK2	5.3
JNK3	50
KIT	0.05
KIT(A829P)	0
KIT(D816H)	21
KIT(D816V)	12
KIT(L576P)	0
KIT(V559D)	0.05
KIT(V559D,T670I)	0.55
KIT(V559D,V654A)	2.4
KIT-autoinhibited	55
LATS1	89
LATS2	49
LCK	0.95
LIMK1	100
LIMK2	78
LKB1	100
LOK	0.9
LRRK2	92

LRRK2(G2019S)	97
LTK	98
LYN	22
LZK	88
MAK	93
MAP3K1	59
MAP3K15	97
MAP3K2	87
MAP3K3	100
MAP3K4	88
MAP4K2	79
MAP4K3	57
MAP4K4	2.6
MAP4K5	87
MAPKAPK2	90
MAPKAPK5	64
MARK1	97
MARK2	95
MARK3	96
MARK4	93
MAST1	74
MEK1	84
MEK2	72
MEK3	97
MEK4	100
MEK5	15
MEK6	100
MELK	9.7
MERTK	59
MET	90
MET(M1250T)	91
MET(Y1235D)	89
MINK	5.1
MKK7	88
MKNK1	0
MKNK2	0
MLCK	81
MLK1	91

MLK2	92
MLK3	100
MRCKA	100
MRCKB	100
MST1	85
MST1R	99
MST2	70
MST3	100
MST4	95
MTOR	82
MUSK	0.15
MYLK	91
MYLK2	100
MYLK4	94
MYO3A	50
MYO3B	86
NDR1	47
NDR2	58
NEK1	94
NEK10	86
NEK11	100
NEK2	92
NEK3	86
NEK4	97
NEK5	88
NEK6	95
NEK7	93
NEK9	91
NIK	78
NIM1	73
NLK	22
OSR1	68
p38-alpha	1
p38-beta	7.6
p38-delta	68
p38-gamma	14
PAK1	100
PAK2	86

PAK3	56
PAK4	96
PAK6	100
PAK7	100
PCTK1	94
PCTK2	86
PCTK3	82
PDGFRA	1
PDGFRB	0
PDPK1	100
PFCDPK1(P.falciparum)	0.45
PFPK5(P.falciparum)	91
PFTAIRE2	89
PFTK1	95
PHKG1	100
PHKG2	93
PIK3C2B	100
PIK3C2G	68
PIK3CA	95
PIK3CA(C420R)	58
PIK3CA(E542K)	80
PIK3CA(E545A)	81
PIK3CA(E545K)	78
PIK3CA(H1047L)	76
PIK3CA(H1047Y)	52
PIK3CA(I800L)	66
PIK3CA(M1043I)	50
PIK3CA(Q546K)	86
PIK3CB	87
PIK3CD	69
PIK3CG	100
PIK4CB	100
PIM1	93
PIM2	93
PIM3	92
PIP5K1A	98
PIP5K1C	71
PIP5K2B	97

PIP5K2C	97
PKAC-alpha	46
PKAC-beta	36
PKMYT1	100
PKN1	100
PKN2	92
PKNB(M.tuberculosis)	70
PLK1	64
PLK2	69
PLK3	62
PLK4	72
PRKCD	96
PRKCE	89
PRKCH	90
PRKCI	86
PRKCQ	87
PRKD1	100
PRKD2	91
PRKD3	97
PRKG1	92
PRKG2	96
PRKR	84
PRKX	92
PRP4	100
PYK2	87
QSK	90
RAF1	62
RET	0
RET(M918T)	0
RET(V804L)	0.25
RET(V804M)	0.15
RIOK1	83
RIOK2	18
RIOK3	76
RIPK1	74
RIPK2	10
RIPK4	78
RIPK5	66

ROCK1	76
ROCK2	7.6
ROS1	100
RPS6KA4(Kin.Dom.1-N-terminal)	100
RPS6KA4(Kin.Dom.2-C-terminal)	72
RPS6KA5(Kin.Dom.1-N-terminal)	82
RPS6KA5(Kin.Dom.2-C-terminal)	70
RSK1(Kin.Dom.1-N-terminal)	80
RSK1(Kin.Dom.2-C-terminal)	100
RSK2(Kin.Dom.1-N-terminal)	77
RSK2(Kin.Dom.2-C-terminal)	100
RSK3(Kin.Dom.1-N-terminal)	68
RSK3(Kin.Dom.2-C-terminal)	74
RSK4(Kin.Dom.1-N-terminal)	85
RSK4(Kin.Dom.2-C-terminal)	76
S6K1	76
SBK1	69
SGK	73
SgK110	98
SGK2	79
SGK3	60
SIK	86
SIK2	100
SLK	100
SNARK	85
SNRK	98
SRC	90
SRMS	52
SRPK1	62
SRPK2	100
SRPK3	94
STK16	93
STK33	79
STK35	100
STK36	79
STK39	79
SYK	100
TAK1	5.8

TAOK1	74
TAOK2	78
TAOK3	83
TBK1	71
TEC	100
TESK1	100
TGFBR1	100
TGFBR2	99
TIE1	7.8
TIE2	14
TLK1	100
TLK2	100
TNIK	21
TNK1	100
TNK2	100
TNNI3K	43
TRKA	0.3
TRKB	0.4
TRKC	0.8
TRPM6	84
TSSK1B	100
TTK	85
TXK	100
TYK2(JH1domain-catalytic)	70
TYK2(JH2domain-pseudokinase)	88
TYRO3	100
ULK1	68
ULK2	70
ULK3	72
VEGFR2	1.9
VRK2	91
WEE1	93
WEE2	97
WNK1	80
WNK3	71
YANK1	96
YANK2	85
YANK3	100

YES	84
YSK1	99
YSK4	67
ZAK	3.4
ZAP70	95

E) KinomeScan profiling data of **5.**

Kinases	Percent Control at 1 uM
AAK1	82
ABL1(E255K)-phosphorylated	0.1
ABL1(F317I)-nonphosphorylated	0.15
ABL1(F317I)-phosphorylated	3.1
ABL1(F317L)-nonphosphorylated	6.7
ABL1(F317L)-phosphorylated	1.6
ABL1(H396P)-nonphosphorylated	0
ABL1(H396P)-phosphorylated	0
ABL1(M351T)-phosphorylated	0.4
ABL1(Q252H)-nonphosphorylated	0.15
ABL1(Q252H)-phosphorylated	0.3
ABL1(T315I)-nonphosphorylated	8
ABL1(T315I)-phosphorylated	73
ABL1(Y253F)-phosphorylated	0.1
ABL1-nonphosphorylated	0.05
ABL1-phosphorylated	0
ABL2	0.45
ACVR1	100
ACVR1B	93
ACVR2A	100
ACVR2B	92
ACVRL1	79
ADCK3	100
ADCK4	94
AKT1	85
AKT2	89
AKT3	87
ALK	100
ALK(C1156Y)	100
ALK(L1196M)	100
AMPK-alpha1	71
AMPK-alpha2	91
ANKK1	43
ARK5	100
ASK1	89

ASK2	97
AURKA	85
AURKB	94
AURKC	84
AXL	94
BIKE	97
BLK	0
BMPR1A	92
BMPR1B	100
BMPR2	100
BMX	3.7
BRAF	6.4
BRAF(V600E)	1.1
BRK	77
BRSK1	95
BRSK2	86
BTK	0.55
BUB1	90
CAMK1	58
CAMK1B	100
CAMK1D	76
CAMK1G	92
CAMK2A	99
CAMK2B	91
CAMK2D	92
CAMK2G	99
CAMK4	79
CAMKK1	77
CAMKK2	90
CASK	92
CDC2L1	27
CDC2L2	33
CDC2L5	100
CDK11	31
CDK2	100
CDK3	100
CDK4	100
CDK4-cyclinD1	100
CDK4-cyclinD3	100
CDK5	98
CDK7	95
CDK8	53
CDK9	100
CDKL1	56
CDKL2	55
CDKL3	32
CDKL5	100
CHEK1	100
CHEK2	90

CIT	64
CLK1	100
CLK2	90
CLK3	100
CLK4	80
CSF1R	0
CSF1R-autoinhibited	81
CSK	2.9
CSNK1A1	54
CSNK1A1L	91
CSNK1D	88
CSNK1E	85
CSNK1G1	90
CSNK1G2	100
CSNK1G3	85
CSNK2A1	100
CSNK2A2	100
CTK	49
DAPK1	88
DAPK2	94
DAPK3	78
DCAMKL1	68
DCAMKL2	100
DCAMKL3	73
DDR1	0.05
DDR2	0.2
DLK	49
DMPK	96
DMPK2	100
DRAK1	100
DRAK2	94
DYRK1A	99
DYRK1B	80
DYRK2	91
EGFR	5
EGFR(E746-A750del)	18
EGFR(G719C)	1.1
EGFR(G719S)	5.3
EGFR(L747-E749del, A750P)	3.2
EGFR(L747-S752del, P753S)	8.5
EGFR(L747-T751del,Sins)	7.1
EGFR(L858R)	2.7
EGFR(L858R,T790M)	32
EGFR(L861Q)	0.85
EGFR(S752-I759del)	1.2
EGFR(T790M)	29
EIF2AK1	100
EPHA1	41
EPHA2	1.6

EPHA3	31
EPHA4	0.15
EPHA5	1.3
EPHA6	100
EPHA7	100
EPHA8	0.5
EPHB1	3.6
EPHB2	0
EPHB3	48
EPHB4	17
EPHB6	78
ERBB2	0.25
ERBB3	85
ERBB4	2.2
ERK1	100
ERK2	91
ERK3	97
ERK4	83
ERK5	86
ERK8	79
ERN1	76
FAK	92
FER	71
FES	76
FGFR1	23
FGFR2	39
FGFR3	100
FGFR3(G697C)	100
FGFR4	90
FGR	0.85
FLT1	6.5
FLT3	0.5
FLT3(D835H)	5.9
FLT3(D835V)	19
FLT3(D835Y)	30
FLT3(ITD)	4.1
FLT3(ITD,D835V)	100
FLT3(ITD,F691L)	9.9
FLT3(K663Q)	7.3
FLT3(N841I)	0.05
FLT3(R834Q)	3.3
FLT3-autoinhibited	59
FLT4	5.1
FRK	4.9
FYN	6.6
GAK	12
GCN2(Kin.Dom.2,S808G)	16
GRK1	80
GRK2	100

GRK3	100
GRK4	93
GRK7	100
GSK3A	100
GSK3B	84
HASPIN	100
HCK	1.4
HIPK1	62
HIPK2	100
HIPK3	95
HIPK4	72
HPK1	14
HUNK	84
ICK	100
IGF1R	100
IKK-alpha	15
IKK-beta	29
IKK-epsilon	100
INSR	72
INSRR	85
IRAK1	100
IRAK3	97
IRAK4	100
ITK	91
JAK1(JH1domain-catalytic)	79
JAK1(JH2domain-pseudokinase)	49
JAK2(JH1domain-catalytic)	39
JAK3(JH1domain-catalytic)	5.2
JNK1	77
JNK2	0.8
JNK3	80
KIT	0.1
KIT(A829P)	12
KIT(D816H)	12
KIT(D816V)	19
KIT(L576P)	0
KIT(V559D)	0.1
KIT(V559D,T670I)	1.4
KIT(V559D,V654A)	1.4
KIT-autoinhibited	75
LATS1	100
LATS2	100
LCK	0.4
LIMK1	98
LIMK2	96
LKB1	99
LOK	0.15
LRRK2	100
LRRK2(G2019S)	63

LTK	96
LYN	0
LZK	81
MAK	97
MAP3K1	72
MAP3K15	100
MAP3K2	16
MAP3K3	11
MAP3K4	90
MAP4K2	52
MAP4K3	100
MAP4K4	18
MAP4K5	54
MAPKAPK2	100
MAPKAPK5	100
MARK1	88
MARK2	90
MARK3	100
MARK4	89
MAST1	100
MEK1	97
MEK2	87
MEK3	99
MEK4	97
MEK5	0.5
MEK6	95
MELK	82
MERTK	100
MET	92
MET(M1250T)	84
MET(Y1235D)	100
MINK	45
MKK7	96
MKNK1	100
MKNK2	95
MLCK	83
MLK1	100
MLK2	54
MLK3	96
MRCKA	99
MRCKB	100
MST1	76
MST1R	88
MST2	100
MST3	79
MST4	75
MTOR	98
MUSK	2
MYLK	92

MYLK2	100
MYLK4	93
MYO3A	69
MYO3B	92
NDR1	57
NDR2	75
NEK1	96
NEK10	100
NEK11	45
NEK2	99
NEK3	88
NEK4	48
NEK5	100
NEK6	92
NEK7	98
NEK9	95
NIK	89
NIM1	100
NLK	12
OSR1	96
p38-alpha	0
p38-beta	3.6
p38-delta	75
p38-gamma	20
PAK1	87
PAK2	80
PAK3	23
PAK4	89
PAK6	86
PAK7	97
PCTK1	90
PCTK2	97
PCTK3	100
PDGFRA	0.7
PDGFRB	0
PDPK1	92
PFCDPK1(P.falciparum)	0.6
PFPK5(P.falciparum)	100
PFTAIRE2	93
PFTK1	96
PHKG1	95
PHKG2	94
PIK3C2B	87
PIK3C2G	100
PIK3CA	100
PIK3CA(C420R)	98
PIK3CA(E542K)	93
PIK3CA(E545A)	47
PIK3CA(E545K)	68

PIK3CA(H1047L)	100
PIK3CA(H1047Y)	50
PIK3CA(I800L)	56
PIK3CA(M1043I)	100
PIK3CA(Q546K)	100
PIK3CB	100
PIK3CD	100
PIK3CG	100
PIK4CB	60
PIKFYVE	78
PIM1	84
PIM2	94
PIM3	96
PIP5K1A	96
PIP5K1C	86
PIP5K2B	82
PIP5K2C	96
PKAC-alpha	46
PKAC-beta	43
PKMYT1	100
PKN1	100
PKN2	91
PKNB(M.tuberculosis)	100
PLK1	100
PLK2	97
PLK3	78
PLK4	96
PRKCD	10
PRKCE	39
PRKCH	88
PRKCI	42
PRKCQ	12
PRKD1	97
PRKD2	100
PRKD3	100
PRKG1	80
PRKG2	98
PRKR	77
PRKX	83
PRP4	87
PYK2	42
QSK	70
RAF1	17
RET	0
RET(M918T)	0.1
RET(V804L)	2.5
RET(V804M)	0.4
RIOK1	100
RIOK2	100

RIOK3	85
RIPK1	69
RIPK2	38
RIPK4	100
RIPK5	92
ROCK1	100
ROCK2	100
ROS1	100
RPS6KA4(Kin.Dom.1-N-terminal)	52
RPS6KA4(Kin.Dom.2-C-terminal)	100
RPS6KA5(Kin.Dom.1-N-terminal)	55
RPS6KA5(Kin.Dom.2-C-terminal)	100
RSK1(Kin.Dom.1-N-terminal)	100
RSK1(Kin.Dom.2-C-terminal)	66
RSK2(Kin.Dom.1-N-terminal)	96
RSK2(Kin.Dom.2-C-terminal)	98
RSK3(Kin.Dom.1-N-terminal)	87
RSK3(Kin.Dom.2-C-terminal)	70
RSK4(Kin.Dom.1-N-terminal)	100
RSK4(Kin.Dom.2-C-terminal)	43
S6K1	70
SBK1	91
SGK	100
SgK110	81
SGK2	100
SGK3	100
SIK	1.6
SIK2	36
SLK	45
SNARK	100
SNRK	100
SRC	0.1
SRMS	0.6
SRPK1	26
SRPK2	84
SRPK3	75
STK16	91
STK33	84
STK35	86
STK36	2.3
STK39	100
SYK	27
TAK1	1.4
TAOK1	100
TAOK2	55
TAOK3	69
TBK1	59
TEC	7.2
TESK1	100

TGFBR1	91
TGFBR2	26
TIE1	8.4
TIE2	34
TLK1	82
TLK2	96
TNIK	51
TNK1	49
TNK2	58
TNNI3K	25
TRKA	16
TRKB	53
TRKC	6.6
TRPM6	100
TSSK1B	91
TSSK3	100
TTK	54
TXK	1.9
TYK2(JH1domain-catalytic)	100
TYK2(JH2domain-pseudokinase)	99
TYRO3	58
ULK1	100
ULK2	100
ULK3	14
VEGFR2	5.9
VPS34	100
VRK2	100
WEE1	95
WEE2	100
WNK1	77
WNK2	100
WNK3	100
WNK4	100
YANK1	100
YANK2	81
YANK3	90
YES	1.6
YSK1	74
YSK4	100
ZAK	4.5
ZAP70	100

F) KinomeScan profiling data of **6.**

Kinases	Percent Control at 1 uM

AAK1	No Hit
ABL1	0.3
ABL1(E255K)	0.75
ABL1(H396P)	0.5
ABL1(M351T)	0.4
ABL1(Q252H)	0.45
ABL1(T315I)	9.4
ABL1(Y253F)	0.25
ABL2	0.1
ACVR1	No Hit
ACVR1B	No Hit
ACVR2A	No Hit
ACVR2B	No Hit
ACVRL1	No Hit
ADCK3	No Hit
ADCK4	No Hit
AKT1	No Hit
AKT2	No Hit
AKT3	No Hit
ALK	No Hit
AMPK-alpha1	No Hit
AMPK-alpha2	No Hit
ANKK1	No Hit
ARK5	No Hit
AURKA	No Hit
AURKB	No Hit
AURKC	No Hit
AXL	No Hit
BIKE	No Hit
BLK	2.3
BMPR1A	No Hit
BMPR2	No Hit
BMX	0.35
BRAF	No Hit
BRAF(V600E)	15
BRSK1	No Hit
BRSK2	No Hit
BTK	1
CAMK1	No Hit
CAMK1D	No Hit
CAMK1G	No Hit
CAMK2A	No Hit
CAMK2B	No Hit
CAMK2D	No Hit
CAMK2G	No Hit
CAMK4	No Hit
CAMKK1	No Hit
CAMKK2	No Hit
CDC2L1	No Hit

CDC2L2	36
CDK11	1.2
CDK2	No Hit
CDK3	No Hit
CDK5	No Hit
CDK7	No Hit
CDK8	5.6
CDK9	No Hit
CHEK1	No Hit
CIT	No Hit
CLK1	No Hit
CLK2	No Hit
CLK3	No Hit
CLK4	No Hit
CSF1R	0.35
CSK	1.6
CSNK1A1L	No Hit
CSNK1D	No Hit
CSNK1E	No Hit
CSNK1G1	No Hit
CSNK1G2	No Hit
CSNK1G3	No Hit
CSNK2A1	No Hit
CSNK2A2	No Hit
DAPK1	No Hit
DAPK2	No Hit
DAPK3	No Hit
DCAMKL1	No Hit
DCAMKL2	No Hit
DCAMKL3	No Hit
DDR1	0.4
DDR2	0
DLK	No Hit
DMPK	No Hit
DMPK2	No Hit
DRAK1	No Hit
DRAK2	No Hit
DYRK1B	No Hit
EGFR	1.1
EGFR(E746-A750del)	0.9
EGFR(G719C)	0.1
EGFR(G719S)	0.3
EGFR(L747-E749del, A750P)	0.1
EGFR(L747-S752del, P753S)	0.3
EGFR(L747-T751del,Sins)	0.15
EGFR(L858R)	0.7
EGFR(L861Q)	0.1

EGFR(S752-I759del)	0
EPHA1	No Hit
EPHA2	1.5
EPHA3	0.1
EPHA4	2.7
EPHA5	4.8
EPHA6	No Hit
EPHA7	No Hit
EPHA8	0
EPHB1	3.6
EPHB2	3.8
EPHB3	27
EPHB4	13
ERBB2	No Hit
ERBB4	1.9
ERK1	No Hit
ERK2	No Hit
ERK3	No Hit
ERK4	No Hit
ERK5	No Hit
ERK8	No Hit
FER	No Hit
FES	22
FGFR1	32
FGFR2	27
FGFR3	No Hit
FGFR3(G697C)	No Hit
FGFR4	No Hit
FGR	0.45
FLT1	9
FLT3	0.65
FLT3(D835H)	3.2
FLT3(D835Y)	15
FLT3(ITD)	2.2
FLT3(N841I)	0
FLT4	11
FRK	1.3
FYN	1.4
GAK	1
GCN2(Kin.Dom.2,S808G)	5.8
GSK3A	No Hit
GSK3B	No Hit
HCK	0.1
IGF1R	No Hit
IKK-epsilon	No Hit
INSR	No Hit
INSRR	No Hit
IRAK3	No Hit
ITK	No Hit

JAK1(Kin.Dom.1)	No Hit
JAK2(Kin.Dom.2)	No Hit
JAK3(Kin.Dom.2)	33
JNK1	No Hit
JNK2	24
JNK3	No Hit
KIT	0
KIT(D816V)	11
KIT(V559D)	0
KIT(V559D,T670I)	1
KIT(V559D,V654A)	6.8
LATS1	No Hit
LATS2	No Hit
LCK	1
LIMK1	No Hit
LIMK2	No Hit
LKB1	No Hit
LOK	0.15
LTK	No Hit
LYN	0.65
MAP3K4	No Hit
MAP3K5	No Hit
MAP4K1	7.6
MAP4K3	No Hit
MAP4K4	7.2
MAP4K5	27
MAPKAPK2	No Hit
MAPKAPK5	No Hit
MARK1	No Hit
MARK2	No Hit
MARK3	No Hit
MARK4	No Hit
MEK1	No Hit
MEK2	No Hit
MEK3	No Hit
MEK4	No Hit
MEK6	No Hit
MELK	No Hit
MERTK	36
MET	No Hit
MKNK1	No Hit
MKNK2	No Hit
MLCK	No Hit
MLK1	No Hit
MLK2	No Hit
MLK3	No Hit
MRCKA	No Hit
MRCKB	No Hit
MST1	No Hit

MST2	No Hit
MST3	No Hit
MST4	No Hit
MUSK	3
MYLK	No Hit
MYLK2	No Hit
MYO3A	No Hit
MYO3B	No Hit
NDR2	No Hit
NEK1	No Hit
NEK2	No Hit
NEK5	No Hit
NEK6	No Hit
NEK7	No Hit
NEK9	No Hit
NLK	20
p38-alpha	0.7
p38-beta	1
p38-gamma	28
PAK1	No Hit
PAK2	No Hit
PAK3	No Hit
PAK4	No Hit
PAK6	No Hit
PAK7/PAK5	No Hit
PCTK1	No Hit
PCTK2	No Hit
PCTK3	No Hit
PDGFRA	0.9
PDGFRB	0.05
PDPK1	No Hit
PFTK1	No Hit
PHKG1	No Hit
PHKG2	No Hit
PIK3CA	21
PIK3CA(E545K)	No Hit
PIM1	No Hit
PIM2	No Hit
PIM3	No Hit
PIP5K1A	No Hit
PIP5K2B	No Hit
PKAC-alpha	No Hit
PKAC-beta	No Hit
PKMYT1	No Hit
PKN1	No Hit
PKN2	No Hit
PLK1	No Hit
PLK3	No Hit
PLK4	No Hit

PRKCD	14
PRKCE	No Hit
PRKCH	No Hit
PRKCQ	30
PRKD1	No Hit
PRKD2	No Hit
PRKD3	No Hit
PRKG1	No Hit
PRKG2	No Hit
PRKR	No Hit
PRKX	No Hit
PTK2	No Hit
PTK2B	26
PTK6	No Hit
RAF1	28
RET	0.1
RET(M918T)	0.1
RIOK1	No Hit
RIOK3	No Hit
RIPK1	37
RIPK2	16
ROS1	No Hit
RPS6KA1(Kin.Dom.1)	No Hit
RPS6KA1(Kin.Dom.2)	No Hit
RPS6KA2(Kin.Dom.1)	No Hit
RPS6KA2(Kin.Dom.2)	No Hit
RPS6KA3(Kin.Dom.1)	No Hit
RPS6KA4(Kin.Dom.1)	25
RPS6KA4(Kin.Dom.2)	No Hit
RPS6KA5(Kin.Dom.1)	No Hit
RPS6KA5(Kin.Dom.2)	No Hit
RPS6KA6(Kin.Dom.1)	No Hit
RPS6KA6(Kin.Dom.2)	No Hit
SgK085	No Hit
SLK	23
SNARK	No Hit
SNF1LK	1.3
SNF1LK2	32
SRC	0.3
SRMS	14
SRPK1	No Hit
SRPK2	No Hit
STK16	No Hit
STK33	36
STK36	0.75
SYK	No Hit
TEC	4.8
TESK1	No Hit
TGFBR1	No Hit

TGFBR2	25
TIE1	6.3
TIE2	11
TLK1	No Hit
TLK2	No Hit
TNIK	18
TNK1	No Hit
TNK2	30
TNNI3K	3.1
TRKA	No Hit
TRKB	No Hit
TRKC	20
TSSK1	No Hit
TTK	No Hit
TXK	0.65
TYK2(Kin.Dom.2)	No Hit
TYRO3	No Hit
VEGFR2	16
WEE1	No Hit
YANK2	No Hit
YANK3	No Hit
YES	0.55
YSK1	No Hit
ZAK	0
ZAP70	No Hit