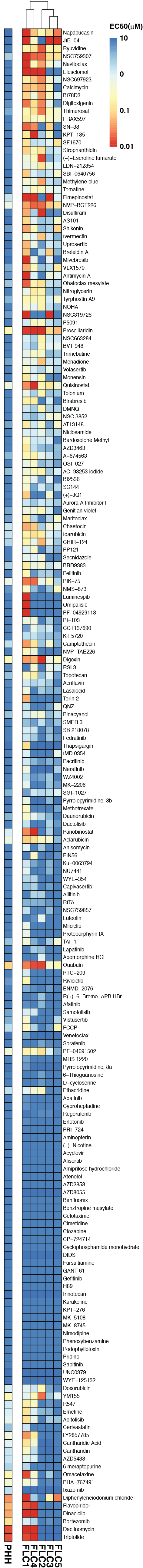
**Supplementary Material: Supplementary tables and Supplementary figures**

**Supplementary Figure 1: The validation screen.**

**(A)** Cells from FLC1, incubated with DMSO, were assessed for viability during the 72 hours of the screen with no detectable loss. **(B)** The efficacy of compounds was tested on FLC cells after 72 hours (red sensitive, blue resistant) and then ranked based on a composite response score of average –log10IC50 for FLC1-5 minus –log10IC50 against PHH. Unsupervised clustering of FLC1-5 PDXs based on drug response (FLC1,4 are from liver tumors; FLC 2,3,4 are from metastases).

**A.**  **B.**

**Supplementary Figure 2:** Normalized percent survival of cells from FLC1 treated with different drugs in the presence (red) or absence (blue) of N-acetylcysteine (NAC) 10mM

Chart

Description automatically generated

**Supplementary Figure 3: Dose response curve validation of drugs (next page)**

**(A-F)** Dose response curve of drugs tested in triplicate against cells from PDX (FLC1-6) and PHH. Error bars - standard deviation. Drugs were tested at 10μM-10nM with 2-fold serial dilution. The y-axis shows normalized percent survival calculated as 100–[(positive control–drug response)/(positive control-negative control)\*100]. **(A)** The Topoisomerase 1 inhibitors camptothecin and topisomerase 2 inhibitors doxorubicin, daunorubicin and aclarubicin. **(B)** Protein kinase A inhibitors H89 and A674563. **(C)** The Aurora kinase A inhibitor Aurora A Inhibitor I, and alisertib. **(D)** The EGFR/ERBB2 inhibitors Erlotinib and CP-724714. **(E)** The pan kinase inhibitor regorafenib. **(F)** CDK inhibitors: LY2857785, an inhibitor against CDK9 (IC50=11nM). Also inhibits CDK8(IC50=16nM) and CDK7 (IC50=0.246μM)**.** P276-00 a CDK1/4/9 inhibitor (IC50=79/63/20nM **(G)** PI3K/mTOR inhibitors: OSI-027, a dual mTORC1/mTORC2 inhibitor (IC50=22/65nM). WYE-125132, a selective mTOR inhibitor (IC50=0.19nM). AZD2014 - an mTOR inhibitor (IC50=2.8nM).**)** GDC-0980 a dual class I PI3Kα/β/δ/γ and mTOR inhibitor (IC50=5/27/7/14nM and 17nM). Drugs were tested in triplicate, at 10μM-10nM with 2-fold serial dilution. Error bars are standard deviation.

**Diagram

Description automatically generated**

S**upplementary Figure 4.**

1. Mice implanted with FLC6 were treated with CR-1-31-B (0.5 mg/kg) or vehicle (n=5, average±SE, \*p<0.025; \*\*p<0.01). **(B)** Mice implanted with FLC6 were treated with Sorafenib (30 mg/kg) or vehicle for 14 days. **(C,D)** Effect of quisinostat (10mg/kg) or vehicle control after 14 days. **(C)** Tumor volume in mice (n=7, average±SE, p<0.001) and quantification of IHC for TUNEL, Ki67 and pHH3. **(D** H&E of tumors for mitotic bodies and IHC for TUNEL, Ki67 and pHH3. Scale bar is 50M.

**Diagram

Description automatically generated**

Supplementary **Figure 5**

Images of the gross tumors from the quisinostat versus vehicle treated mice from the experiment shown in Supplementary figure S4C. Tumors were collected after the last measurement at 14 days. Scale bar is 1cm.

A close up of food

Description automatically generated

**Supplementary Figure 6: Direct from Patient Screening**

1. Flow chart for the direct from patient screening. **(B)** The dose response curve for 18 agents contrasted in cells dissociated directly from patient tumor, FLC.T6 and cells dissociated from its derived PDX FLC6.

**A picture containing sitting, traffic, light, dark

Description automatically generated**

**Supplementary Table 1 – Patient demographics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PDX number** | **Sex** | **Tumor** | **Prior Treatment** | **PDX Location** |
| FLC1 | Female | Liver (primary) | Naïve | Liver |
| FLC2 | Male | Metastasis | leucovorin, 5-fluorouracil, oxaliplatin | Subcutaneous |
| FLC3 | Male | Metastasis | Interferon a-2b , gemcitabine, oxaliplatin, everolimus | Subcutaneous |
| FLC4 | Female | Liver (recurrence) | sorafenib, bevacizumab, gemcitabine, oxaliplatin, 5-fluorouracil, Interferon a-2b | Sub renal capsule |
| FLC5 | Female | Metastasis | Naïve | Subcutaneous |
| FLC6 | Female | Metastasis | Naïve | Subcutaneous |

**Supplementary Table 2 – Transcripts for the Fibrolamellar Signature.**

|  |  |
| --- | --- |
| OVER EXPRESSED | |
| ENSEMBL\_ID | symbol |
| ENSG00000131016 | AKAP12 |
| ENSG00000038427 | VCAN |
| ENSG00000065154 | OAT |
| ENSG00000133636 | NTS |
| ENSG00000108821 | COL1A1 |
| ENSG00000187498 | COL4A1 |
| ENSG00000083857 | FAT1 |
| ENSG00000175426 | PCSK1 |
| ENSG00000134871 | COL4A2 |
| ENSG00000173702 | MUC13 |
| ENSG00000163053 | SLC16A14 |
| ENSG00000188257 | PLA2G2A |
| ENSG00000068366 | ACSL4 |
| ENSG00000185477 | GPRIN3 |
| ENSG00000264424 | MYH4 |
| ENSG00000172572 | PDE3A |
| ENSG00000183091 | NEB |
| ENSG00000077264 | PAK3 |
| ENSG00000113448 | PDE4D |
| ENSG00000110680 | CALCA |
| ENSG00000133110 | POSTN |
| ENSG00000272398 | CD24 |
| ENSG00000078687 | TNRC6C |
| ENSG00000213759 | UGT2B11 |
| ENSG00000185630 | PBX1 |
| ENSG00000165929 | TC2N |
| ENSG00000170921 | TANC2 |
| ENSG00000135052 | GOLM1 |
| ENSG00000135480 | KRT7 |
| ENSG00000122133 | PAEP |
| ENSG00000109472 | CPE |
| ENSG00000153395 | LPCAT1 |
| ENSG00000156687 | UNC5D |
| ENSG00000137265 | IRF4 |
| ENSG00000074410 | CA12 |
| ENSG00000069966 | GNB5 |
| ENSG00000071242 | RPS6KA2 |
| ENSG00000146038 | DCDC2 |
| ENSG00000154678 | PDE1C |
| ENSG00000144366 | GULP1 |
| ENSG00000112541 | PDE10A |
| ENSG00000150551 | LYPD1 |
| ENSG00000134827 | TCN1 |
| ENSG00000074181 | NOTCH3 |
| ENSG00000128567 | PODXL |
| ENSG00000148795 | CYP17A1 |
| ENSG00000154096 | THY1 |
| ENSG00000187957 | DNER |
| ENSG00000106541 | AGR2 |
| ENSG00000038002 | AGA |
| ENSG00000164171 | ITGA2 |
| ENSG00000053747 | LAMA3 |
| ENSG00000088992 | TESC |
| ENSG00000145920 | CPLX2 |
| ENSG00000237596 | Lnc-MTFR2-2 |
| ENSG00000165757 | JCAD |
| ENSG00000168398 | BDKRB2 |
| ENSG00000152128 | TMEM163 |
| ENSG00000144810 | COL8A1 |
| ENSG00000163993 | S100P |
| ENSG00000133962 | CATSPERB |
| ENSG00000109586 | GALNT7 |
| ENSG00000081181 | ARG2 |
| ENSG00000102359 | SRPX2 |
| ENSG00000223414 | NA |
| ENSG00000023171 | GRAMD1B |
| ENSG00000162849 | KIF26B |
| ENSG00000197461 | PDGFA |
| ENSG00000137869 | CYP19A1 |
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| ENSG00000141068 | KSR1 |
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| ENSG00000067057 | PFKP |
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| ENSG00000164114 | MAP9 |
| ENSG00000185565 | LSAMP |
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| ENSG00000116675 | DNAJC6 |
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| ENSG00000219438 | TAFA5 |
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| ENSG00000113319 | RASGRF2 |
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| ENSG00000182963 | GJC1 |
| ENSG00000140945 | CDH13 |
| ENSG00000164932 | CTHRC1 |
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| ENSG00000183160 | TMEM119 |
| ENSG00000125780 | TGM3 |
| ENSG00000169427 | KCNK9 |
| ENSG00000175497 | DPP10 |
| ENSG00000135324 | MRAP2 |
| ENSG00000272168 | CASC15 |
| ENSG00000181019 | NQO1 |
| ENSG00000147113 | DIPK2B |
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| ENSG00000165152 | PGAP4 |
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| ENSG00000130821 | SLC6A8 |
| ENSG00000256287 | LINC02398 |
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| ENSG00000019505 | SYT13 |
| ENSG00000163075 | CFAP221 |
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| ENSG00000008300 | CELSR3 |
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| ENSG00000079112 | CDH17 |
| ENSG00000267909 | CCDC177 |
| ENSG00000145244 | CORIN |
| ENSG00000239268 | Lnc-LSAMP-1 |
| ENSG00000157680 | DGKI |
| ENSG00000128266 | GNAZ |
| ENSG00000187545 | PRAMEF10 |
| ENSG00000128578 | STRIP2 |
| ENSG00000228651 | NA |
| ENSG00000137672 | TRPC6 |
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| ENSG00000132321 | IQCA1 |
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| ENSG00000163898 | LIPH |
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| ENSG00000184156 | KCNQ3 |
| ENSG00000196277 | GRM7 |
| ENSG00000214244 | SETP21 |
| ENSG00000251292 | ERVH-1 |
| ENSG00000184949 | FAM227A |
| ENSG00000199400 | RNY4P19 |
| ENSG00000102174 | PHEX |
| ENSG00000188958 | UTS2B |
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| ENSG00000235180 | LINC00601 |
| ENSG00000255794 | RMST |
| ENSG00000279286 | AL133373.2 |
| ENSG00000138798 | EGF |
| ENSG00000266835 | GAPLINC |
| ENSG00000248397 | LINC00498 |
| ENSG00000157470 | FAM81A |
| ENSG00000204669 | C9orf57 |
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| ENSG00000232082 | RPS6KA2-IT1 |
| ENSG00000253270 | Lnc-INTS10-2 |
| ENSG00000272068 | Lnc-NES-2 |
| ENSG00000178752 | ERFE |
| ENSG00000278988 | AL356490.1 |
| ENSG00000258412 | Lnc-BDKRB1-1 |
| ENSG00000204614 | TRIM40 |
| ENSG00000242715 | CCDC169 |
| ENSG00000174502 | SLC26A9 |
| ENSG00000168065 | SLC22A11 |
| ENSG00000250577 | Lnc-ELF2-1 |
| ENSG00000108001 | EBF3 |
| ENSG00000233491 | AC008163.1 |
| ENSG00000171658 | NMRAL2P |
| ENSG00000112218 | GPR63 |
| ENSG00000227471 | AKR1B15 |
| ENSG00000198758 | EPS8L3 |
| ENSG00000188452 | CERKL |
| ENSG00000264529 | LOC100421525 |
| ENSG00000165695 | AK8 |
| ENSG00000132031 | MATN3 |
| ENSG00000074211 | PPP2R2C |
| ENSG00000165807 | PPP1R36 |
| ENSG00000224034 | LINC02561 |
| ENSG00000265096 | C1QTNF1-AS1 |
| ENSG00000248187 | Lnc-PGRMC2-1 |
| ENSG00000213896 | AC109486.1 |
| ENSG00000243742 | RPLP0P2 |
| ENSG00000231542 | TAB3-AS1 |
| ENSG00000157766 | ACAN |
| ENSG00000139515 | PDX1 |
| ENSG00000256849 | TCP1P3 |
| ENSG00000221502 | MIR1245A |
| ENSG00000180730 | SHISA2 |
| ENSG00000230615 | Lnc-KLF17-1 |
| ENSG00000197085 | NPSR1-AS1 |
| ENSG00000255007 | LINC02489 |
| ENSG00000102468 | HTR2A |
| ENSG00000176887 | SOX11 |
| ENSG00000188916 | INSYN2A |
| ENSG00000253339 | Lnc-RDH10-1 |
| ENSG00000253227 | Lnc-FER1L6-1 |
| ENSG00000224189 | HAGLR |
| ENSG00000283538 | Lnc-MARCH10-1 |
| ENSG00000207951 | MIR561 |
| ENSG00000178776 | C5orf46 |
| ENSG00000188089 | PLA2G4E |
| ENSG00000137273 | FOXF2 |
| ENSG00000247381 | PLUT |
| ENSG00000202017 | RNU6-806P |
| ENSG00000250049 | Lnc-ADGRV1-4 |
| ENSG00000167332 | OR51E2 |
| ENSG00000272703 | Lnc-MPPE1-8 |

|  |  |
| --- | --- |
| UNDER EXPRESSED | |
| ENSEMBL\_ID | symbol |
| ENSG00000104938 | CLEC4M |
| ENSG00000109182 | CWH43 |
| ENSG00000146352 | CLVS2 |
| ENSG00000100362 | PVALB |
| ENSG00000237949 | LINC00844 |
| ENSG00000108231 | LGI1 |
| ENSG00000184611 | KCNH7 |
| ENSG00000095596 | CYP26A1 |
| ENSG00000099769 | IGFALS |
| ENSG00000244067 | GSTA2 |
| ENSG00000279444 | AC135584.1 |
| ENSG00000100012 | SEC14L3 |
| ENSG00000122787 | AKR1D1 |
| ENSG00000261058 | Lnc-ZFP1-1 |
| ENSG00000165682 | CLEC1B |
| ENSG00000163217 | BMP10 |
| ENSG00000249173 | LINC01093 |
| ENSG00000279159 | AC003681.1 |
| ENSG00000230921 | HAO2-IT1 |
| ENSG00000151365 | THRSP |
| ENSG00000116147 | TNR |
| ENSG00000227117 | HORMAD2-AS1 |
| ENSG00000170509 | HSD17B13 |
| ENSG00000250266 | LINC01612 |
| ENSG00000140465 | CYP1A1 |
| ENSG00000173930 | SLCO4C1 |
| ENSG00000128250 | RFPL1 |
| ENSG00000238099 | LINC01625 |
| ENSG00000256181 | AP001880.1 |
| ENSG00000237337 | ELAVL4-AS1 |
| ENSG00000042781 | USH2A |
| ENSG00000196553 | CCDC196 |
| ENSG00000254704 | AP002358.2 |
| ENSG00000118271 | TTR |
| ENSG00000278292 | RFPL4AP6 |
| ENSG00000163710 | PCOLCE2 |
| ENSG00000138315 | OIT3 |
| ENSG00000226622 | Lnc-TMEM17-2 |
| ENSG00000232131 | NCOA7-AS1 |
| ENSG00000248319 | LINC02275 |
| ENSG00000198670 | LPA |
| ENSG00000196549 | MME |
| ENSG00000142748 | FCN3 |
| ENSG00000162391 | FAM151A |
| ENSG00000228842 | PCDH9-AS2 |
| ENSG00000179914 | ITLN1 |
| ENSG00000134760 | DSG1 |
| ENSG00000232667 | Lnc-GNAT3-1 |
| ENSG00000263761 | GDF2 |
| ENSG00000279428 | AC087164.2 |
| ENSG00000229775 | LINC02624 |
| ENSG00000176635 | HORMAD2 |
| ENSG00000136011 | STAB2 |
| ENSG00000145708 | CRHBP |
| ENSG00000234223 | Lnc-GNAT3-2 |
| ENSG00000080709 | KCNN2 |
| ENSG00000100652 | SLC10A1 |
| ENSG00000251443 | LINC02160 |
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| ENSG00000111249 | CUX2 |
| ENSG00000223956 | LINC01767 |
| ENSG00000251637 | LINC02754 |
| ENSG00000184374 | COLEC10 |
| ENSG00000088386 | SLC15A1 |
| ENSG00000183230 | CTNNA3 |
| ENSG00000248884 | Lnc-CCDC125-6 |
| ENSG00000283342 | AC241584.2 |
| ENSG00000166148 | AVPR1A |
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| ENSG00000254042 | Lnc-FBLL1-2 |
| ENSG00000151892 | GFRA1 |
| ENSG00000109193 | SULT1E1 |
| ENSG00000145692 | BHMT |
| ENSG00000134612 | FOLH1B |
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| ENSG00000123496 | IL13RA2 |
| ENSG00000019169 | MARCO |
| ENSG00000258604 | Lnc-RNASE7-1 |
| ENSG00000121871 | SLITRK3 |
| ENSG00000144820 | ADGRG7 |
| ENSG00000163959 | SLC51A |
| ENSG00000237070 | Lnc-LRRC72-3 |
| ENSG00000110887 | DAO |
| ENSG00000164100 | NDST3 |
| ENSG00000171234 | UGT2B7 |
| ENSG00000167014 | TERB2 |
| ENSG00000165478 | HEPACAM |
| ENSG00000172828 | CES3 |
| ENSG00000237674 | GSTA7P |
| ENSG00000230333 | Lnc-PHF14-14 |
| ENSG00000194297 | RNU1-75P |
| ENSG00000168702 | LRP1B |
| ENSG00000073734 | ABCB11 |
| ENSG00000229740 | Lnc-ID2-2 |
| ENSG00000274736 | CCL23 |
| ENSG00000225792 | Lnc-HNRNPA2B1-15 |
| ENSG00000163586 | FABP1 |
| ENSG00000227242 | NBPF13P |
| ENSG00000009765 | IYD |
| ENSG00000248709 | Lnc-AP3S1-2 |
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| ENSG00000087237 | CETP |
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| ENSG00000188676 | IDO2 |
| ENSG00000144481 | TRPM8 |
| ENSG00000214855 | APOC1P1 |
| ENSG00000241224 | C3orf85 |
| ENSG00000282097 | Lnc-COA6-7 |
| ENSG00000163687 | DNASE1L3 |
| ENSG00000162897 | FCAMR |
| ENSG00000249364 | Lnc-MAST4-5 |
| ENSG00000183549 | ACSM5 |
| ENSG00000146233 | CYP39A1 |
| ENSG00000117594 | HSD11B1 |
| ENSG00000227712 | Lnc-WARS2-2 |
| ENSG00000146147 | MLIP |
| ENSG00000091831 | ESR1 |
| ENSG00000160870 | CYP3A7 |
| ENSG00000188488 | SERPINA5 |
| ENSG00000235200 | LINC01702 |
| ENSG00000146166 | LGSN |
| ENSG00000126262 | FFAR2 |
| ENSG00000243818 | Lnc-U2SURP-3 |
| ENSG00000149124 | GLYAT |
| ENSG00000113905 | HRG |
| ENSG00000138115 | CYP2C8 |
| ENSG00000213312 | RPL7AP34 |
| ENSG00000117601 | SERPINC1 |
| ENSG00000175003 | SLC22A1 |
| ENSG00000277893 | SRD5A2 |
| ENSG00000134042 | MRO |
| ENSG00000145850 | TIMD4 |
| ENSG00000254260 | Lnc-ATP6V1B2-4 |
| ENSG00000099937 | SERPIND1 |
| ENSG00000140263 | SORD |
| ENSG00000236136 | ADORA2BP1 |
| ENSG00000112246 | SIM1 |
| ENSG00000163581 | SLC2A2 |
| ENSG00000243955 | GSTA1 |
| ENSG00000090512 | FETUB |
| ENSG00000242220 | TCP10L |
| ENSG00000164742 | ADCY1 |
| ENSG00000199488 | RNU1-70P |
| ENSG00000167910 | CYP7A1 |
| ENSG00000114200 | BCHE |
| ENSG00000100665 | SERPINA4 |
| ENSG00000150656 | CNDP1 |
| ENSG00000120907 | ADRA1A |
| ENSG00000164344 | KLKB1 |
| ENSG00000259434 | Lnc-MEIS2-4 |
| ENSG00000188517 | COL25A1 |
| ENSG00000213512 | GBP7 |
| ENSG00000109576 | AADAT |
| ENSG00000248740 | LINC02428 |
| ENSG00000240935 | PLGLA |
| ENSG00000242097 | AC068647.1 |
| ENSG00000198515 | CNGA1 |
| ENSG00000176381 | PRR18 |
| ENSG00000279317 | Lnc-RPE-9 |
| ENSG00000145794 | MEGF10 |
| ENSG00000112293 | GPLD1 |
| ENSG00000163749 | CCDC158 |
| ENSG00000149742 | SLC22A9 |
| ENSG00000166840 | GLYATL1 |
| ENSG00000151726 | ACSL1 |
| ENSG00000135378 | PRRG4 |
| ENSG00000112964 | GHR |
| ENSG00000171772 | SYCE1 |
| ENSG00000214264 | KCTD9P4 |
| ENSG00000155380 | SLC16A1 |
| ENSG00000039537 | C6 |
| ENSG00000251074 | AC147055.3 |
| ENSG00000188001 | TPRG1 |
| ENSG00000110723 | EXPH5 |
| ENSG00000132837 | DMGDH |
| ENSG00000091513 | TF |
| ENSG00000005187 | ACSM3 |
| ENSG00000163293 | NIPAL1 |
| ENSG00000261701 | HPR |
| ENSG00000111713 | GYS2 |
| ENSG00000122824 | NUDT10 |
| ENSG00000148057 | IDNK |
| ENSG00000007933 | FMO3 |
| ENSG00000121691 | CAT |
| ENSG00000108924 | HLF |
| ENSG00000135917 | SLC19A3 |
| ENSG00000158125 | XDH |
| ENSG00000251685 | UGT2B27P |
| ENSG00000169252 | ADRB2 |
| ENSG00000172955 | ADH6 |
| ENSG00000107864 | CPEB3 |
| ENSG00000269976 | Lnc-LDAH-6 |
| ENSG00000134365 | CFHR4 |
| ENSG00000196083 | IL1RAP |
| ENSG00000158571 | PFKFB1 |
| ENSG00000179603 | GRM8 |
| ENSG00000231047 | GCNT1P3 |
| ENSG00000258168 | Lnc-KCNMB4-1 |
| ENSG00000170214 | ADRA1B |
| ENSG00000134532 | SOX5 |
| ENSG00000149476 | TKFC |
| ENSG00000076258 | FMO4 |
| ENSG00000177707 | NECTIN3 |
| ENSG00000186714 | CCDC73 |
| ENSG00000187546 | AGMO |
| ENSG00000120833 | SOCS2 |
| ENSG00000253525 | AC104966.1 |
| ENSG00000197580 | BCO2 |
| ENSG00000047457 | CP |
| ENSG00000025423 | HSD17B6 |
| ENSG00000273259 | AL049839.2 |
| ENSG00000205683 | DPF3 |
| ENSG00000169083 | AR |
| ENSG00000139597 | N4BP2L1 |
| ENSG00000116171 | SCP2 |
| ENSG00000125430 | HS3ST3B1 |
| ENSG00000152990 | ADGRA3 |
| ENSG00000134317 | GRHL1 |
| ENSG00000171723 | GPHN |

**Supplementary Table 3 – List of compounds in the primary screen.**

**Supplementary Table 4 – CDK inhibitors** Values for the IC40 for the agents are in nM unless specifically annotated

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name | CDK1 | CDK2 | CDK3 | CDK4 | CDK5 | CDK6 | CDK7 | CDK8 | CDK9 | Other |  |
| P276-00 | 79 |  |  | 63 |  |  |  |  | 20 |  |  |
| Ribociclib |  |  |  |  |  |  |  |  |  |  |  |
| NU6027 | 2.5 | 1.3 |  |  |  |  |  |  |  | ATR | DNA-PK |
| LY2835219 |  |  |  | 2 |  | 10 |  |  |  |  |  |
| Dinaciclib | 3 | 1 |  |  | 1 |  |  |  | 4 |  |  |
| PHA-848125 |  | 45 |  |  |  |  |  |  |  |  |  |
| AZD5438 | 16 | 6 |  |  |  |  |  |  | 20 |  |  |
| Flavopiridol | 40 | 40 |  | 40 |  | 40 | 300 |  |  | EGFR | PKA |
| PHA-767491 |  |  |  |  |  |  |  |  | 34 | Cdc7 |  |
| R547 | 2 | 3 |  | 1 |  |  |  |  |  |  |  |
| BMS-265246 | 6 | 9 |  |  |  |  |  |  |  |  |  |
| AT7519 | 210 | 47 | 360 | 100 | 13 | 170 |  |  | 10 |  |  |
| BS-181 |  |  |  |  |  |  | 21 |  |  |  |  |
| PHA-793887 |  | 8 |  |  | 5 |  | 10 |  |  |  |  |
| JNJ-7706621 | 9 | 4 |  |  |  |  |  |  |  | AURKA | AURKB |
| SNS-032 |  | 48 |  |  |  |  | 62 |  | 4 |  |  |
| Palbociclib |  |  |  | 11 |  | 15 |  |  |  |  |  |
| CDK4 inhibitor (Ryuvidine) |  |  |  | 6 μM |  |  |  |  |  |  |  |
| LY2857785 |  |  |  |  |  |  |  | 16 | 11 |  |  |
| MSC2530818 |  |  |  |  |  |  |  | 2.6 |  |  |  |
| LDC4297 |  |  |  |  |  |  | 0.13 |  |  |  |  |

**Supplementary Table 5: FLC tumors directly tested for drug response**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tumor number** | **Sex** | **Tumor** | **Prior treatment** |
| FLC.T6 | Female | Metastasis | Naïve |
| FLC.T7 | Male | Metastasis | Naïve |
| FLC.T8 | Female | Metastasis | ENMD-2076, 5-fluorouracil, interferon a-2b, nivolumab |
| FLC.T9 | Male | Ascites | panobinostat |
| FLC.T10 | Female | Metastasis | sorafenib, cis-platinum, doxorubicin |
| FLC.T11 | Male | Metastasis | cisplatin, Interferon a-2b, doxorubicin, 5-fluorouracil, gemcitabine, oxaliplatin |