**Supplementary Information**

**Supplementary Text**

*Data Requirements and Reproducibility*

In order to test the data requirements of the modulatory profiles, we calculated the potency and efficacy shifts using only half of the data points (7-point, 4-fold dilution series). The correlation between these parameters and those calculated with the full data set (Spearman correlation = 0.809) was deemed too low to allow for the use of fewer data points in such experiments (see Fig. S3a), since these sets of parameters were calculated from the same biological data.

To determine the reproducibility of the parameters, 5 compounds were repeated in separate batches (camptothecin, daunorubicin, vinblastine, MG132, and erastin). The comparison between the changes in potency and efficacy between batches are shown in Figure S3b. Consistency between batches was high (Spearman correlation for potency 0.799, for efficacy 0.709) and replicates clustered together within the larger dataset (see Fig. 2b and 4c). The parameters calculated from the same modulator used in different cell lines were related but different (Fig. S3c, Spearman correlation 0.417). If the correlation were perfect, it would not be useful to include both cell lines. Thus, this positive correlation demonstrated that while the two cell lines provide non-redundant information, we are identifying aspects of cell death pathways that are consistent across cell lines. We also repeated a subset of compounds using both Alamar blue and CellTiterGlo as the viability detection reagent (Fig. S3d). The correlation between the parameters calculated was high (Spearman correlation for potency 0.710, for efficacy 0.847), similar to the difference between replicates of the same compound using Alamar blue. This allowed for the use of exclusively Alamar blue in the bulk of the experiments. The modulators had very little effect on the Alamar blue signal in the absence of cells (Fig. S3e), although some modulators did affect cell viability (Fig. S3f). These effects were subtracted and normalized, respectively, and therefore have no impact on the calculated changes in potency and efficacy.

*Clustering of Compounds Based on Individual Modulators*

Concentration-response curves for 6 lethal compounds in the presence and absence of 4 different modulators are depicted in Fig. S2. The use any one of these four modulators is generally poor at clustering compounds together that have the same known mechanism of action. This is demonstrated in the dendrograms shown in Fig. S4. While individual modulators can differentiate specific compound classes (most notably deferoxamine and microtubule destabilizers in Fig. S4), a broad modulatory profile is required to accurately cluster all of the compound classes.

*Clustering of Compounds Based on Chemical Structure*

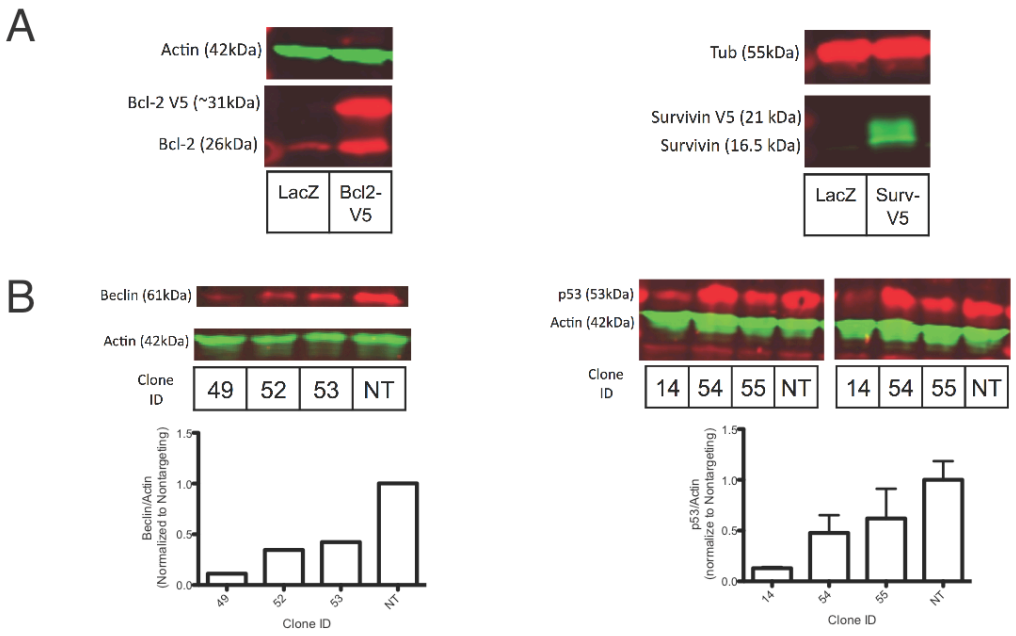
There is a great deal of interest in using informatics tools to predict small molecule bioactivities and targets(1, 2). We clustered the compounds in our set of characterized compounds based on a modified Tanimoto coefficient(3) to determine if the clusters of compounds with the same biological activity that we identified using modulatory profiling could have been predicted based purely on the compounds' structures. The resulting dendrogram (Fig. S7) shows that apart from a small number of

similarly acting analogs (e.g. vincristine and vinblastine), mechanistic classes are not broadly related structurally. In conclusion, modulatory profiles demonstrate biological activity relationships between compounds that would not be predicted based on their structures.

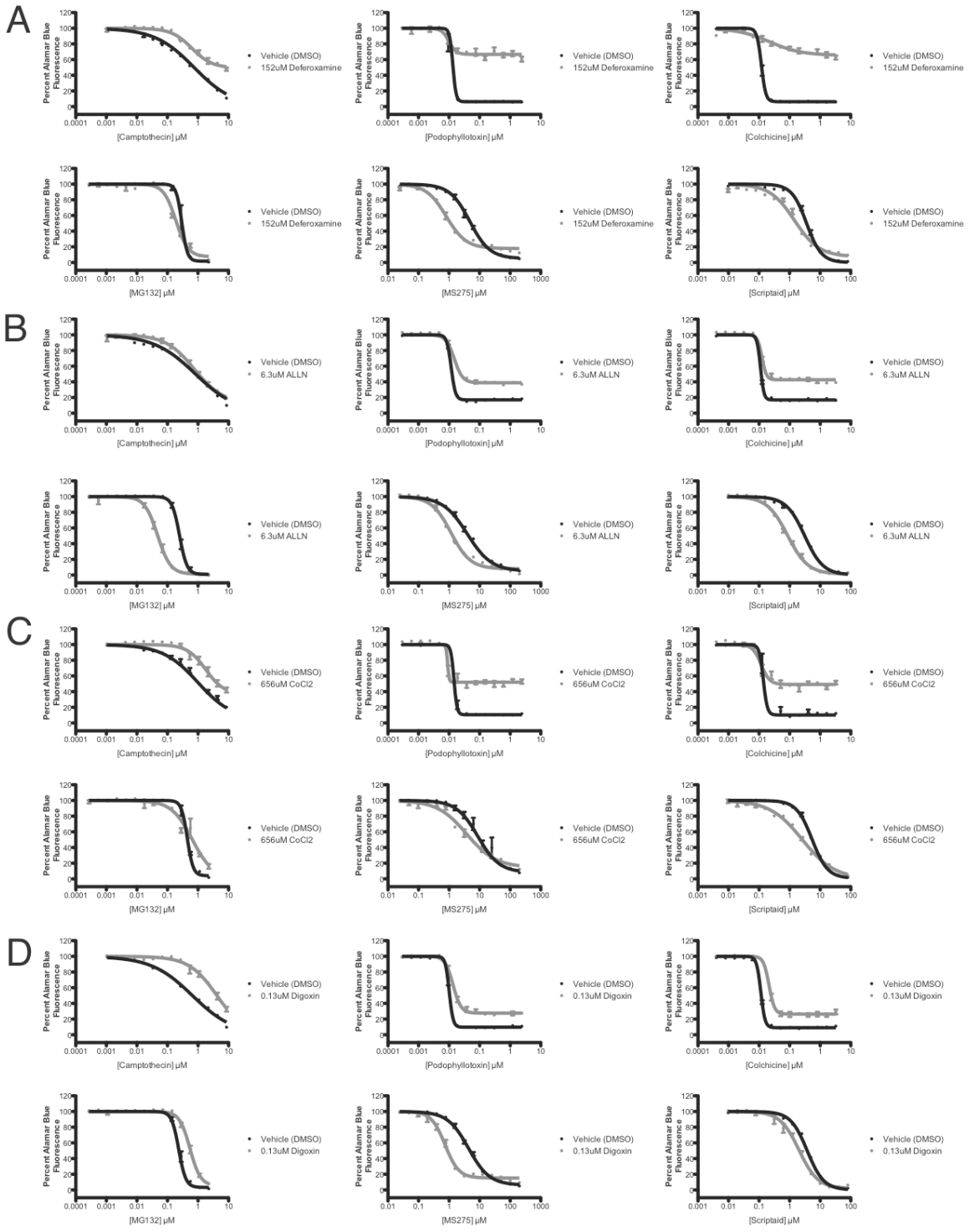
*Compound Reactivity Required for Lethality of Some Lethal Compounds*

We examined one member of cluster B further to test the importance of reactivity on lethality. NPC17 is a 14-hydroxy analog of codeinone, an opiate containing an α,β-unsaturated carbonyl group. Opiates, widely used as analgesics, have been tested previously for lethality in cell culture. Most studies have found codeinone, the only analog tested with an electrophilic α,β-unsaturated carbonyl group, to be the only substantially cytotoxic opiate derivative(4). We tested the opiates morphine, codeine, codeinone, oxycodone, and hydrocodone for toxicity in HT-1080 and BJ-TERT/LT/ST/RAS$^{V12}$ cells. Consistent with previous reports, NPC17 and codeinone both killed cells at concentrations of approximately 1 μM, while none of the other analogs killed cells at the highest concentration tested (300 μM, see Fig. S10a and b). These data support the hypothesis that members of cluster B are lethal largely due to their chemical reactivity.

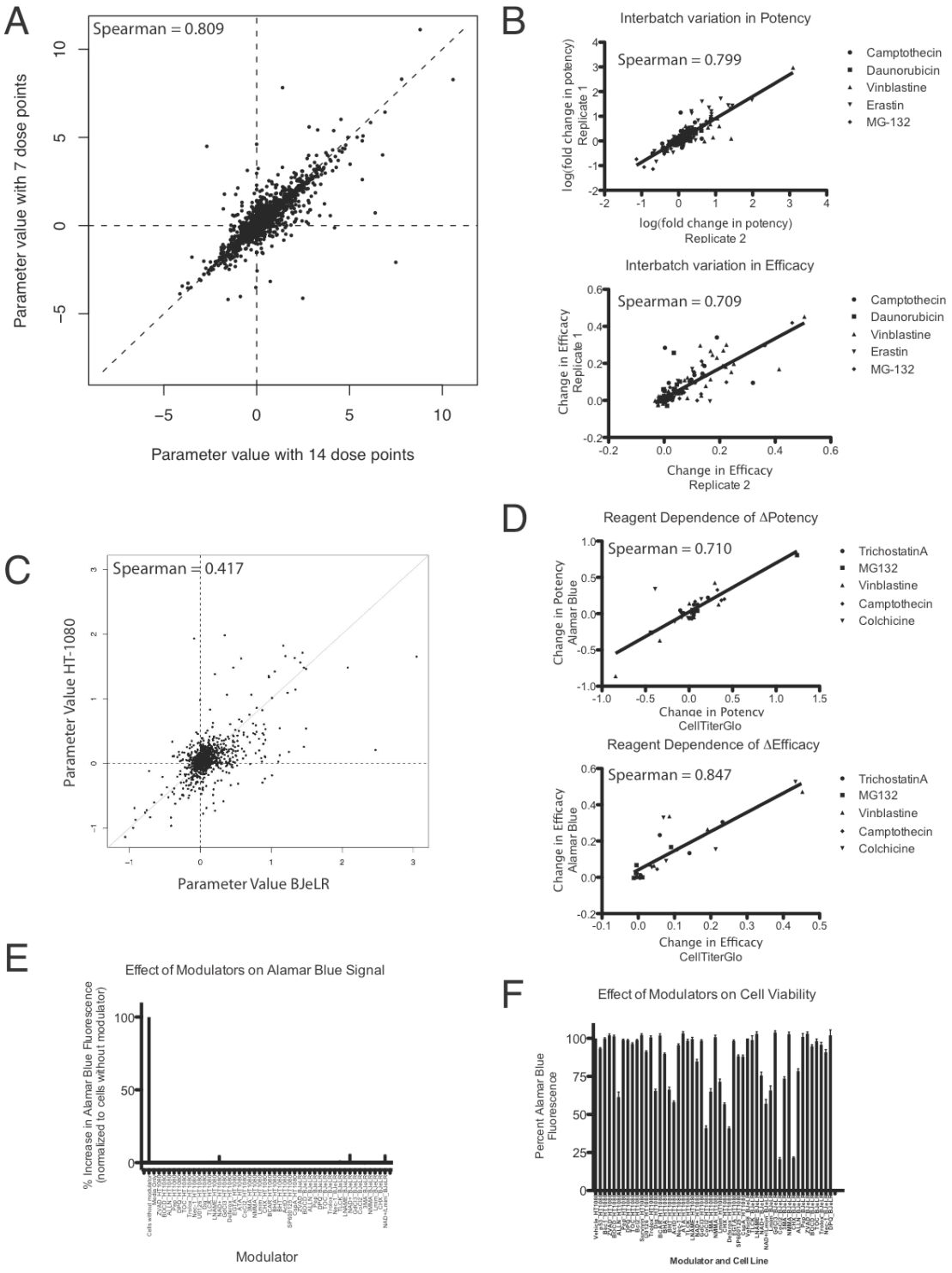
**Supplementary Figures**




**Supplementary Figure 1: Validation of Genetic Modulators**
(a) Protein expression of Bcl-2 (left) and Survivin (right) after infection with the indicated cDNA. Infection with a LacZ expressing cDNA was used as a control.
(b) Protein expression of Beclin (left) and p53 (right) after infection with the indicated shRNA clones. A non-targeting shRNA (NT) was used as a control. Quantification of knockdown relative to the non-targeting is shown below each blot.



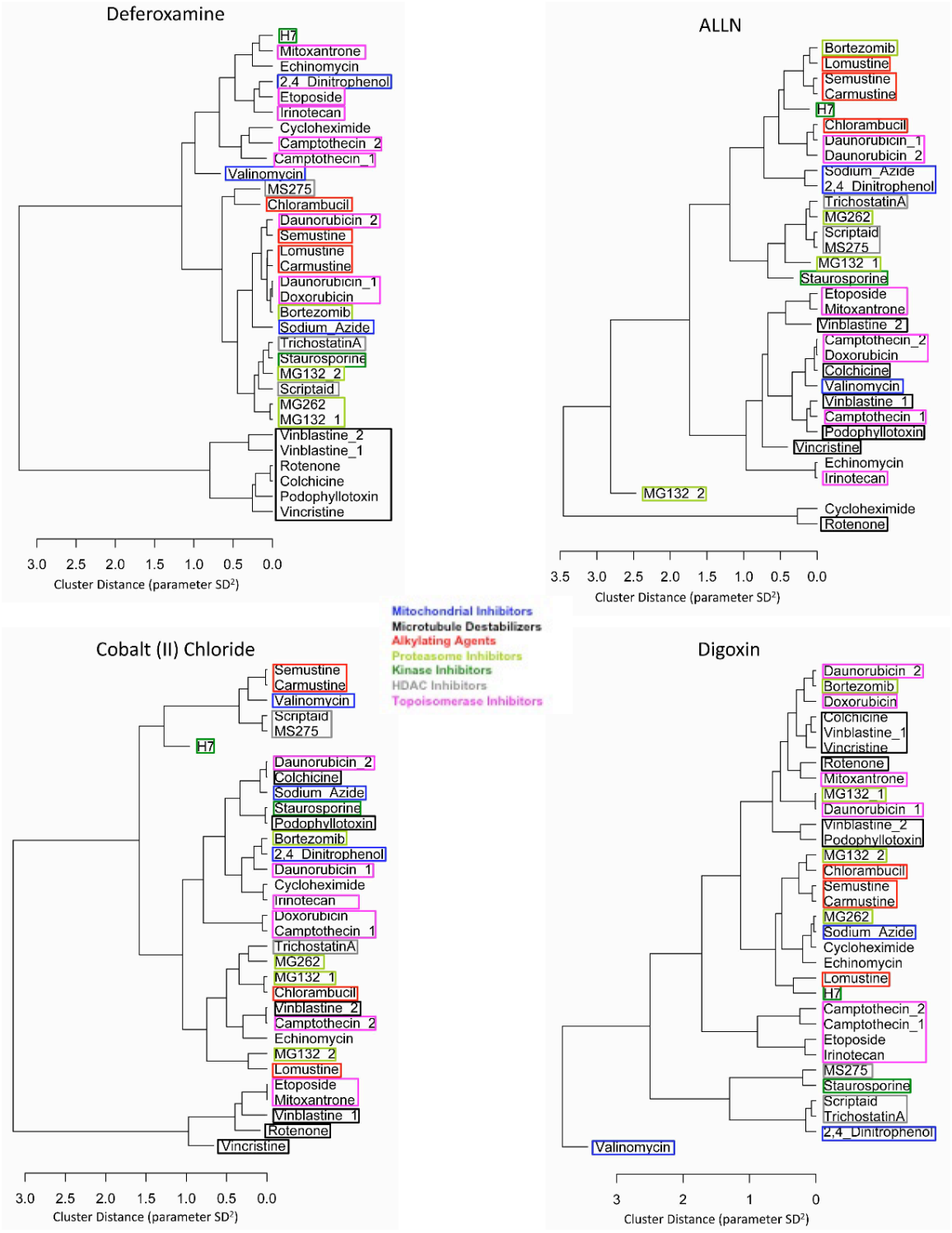

**Supplementary Figure 2: Additional Examples of Concentration-Response Curves**
Concentration-response curves for the topoisomerase I inhibitor camptothecin, the microtubule destabilizers podophyllotoxin and colchicine, the proteasome inhibitor MG132, and the HDAC inhibitors MS275 and scriptaid in HT-1080 cells in the presence and absence of the indicated concentrations of (a) deferoxamine, (b) ALLN, (c) $CoCl_2$, and (d) digoxin.




**Supplementary Figure 3: Data Requirements, Reproducibility, and Detection Reagent Dependence**

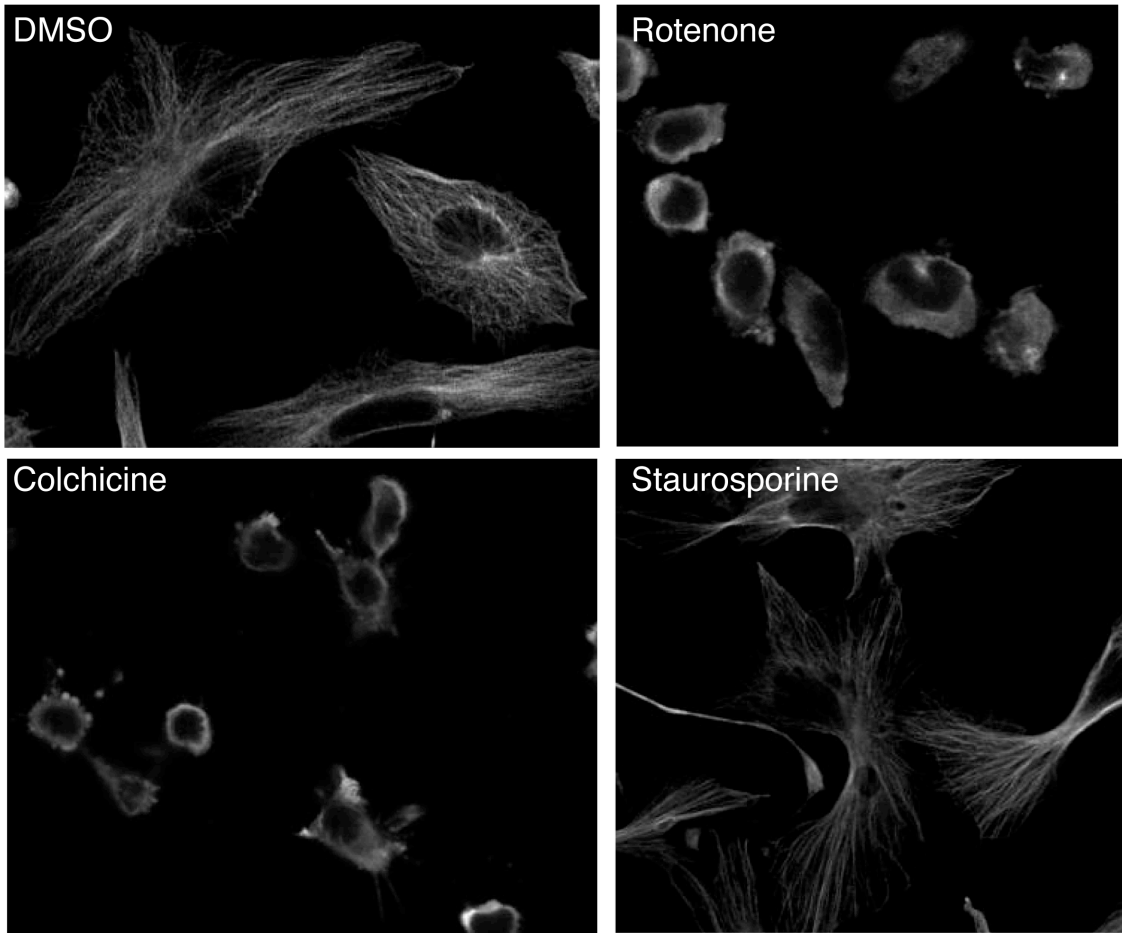
(a) Dot plot showing the difference in the modulatory profile parameters calculated using the entire 14 dose-point data set compared to the parameters calculated using 7 dose

points. Potency and efficacy changes were normalized so that both had a standard deviation of one (for all compounds, not for each compound).
(b) Inter-batch comparison of potency and efficacy parameters for compounds that were replicated in separate batches. The Spearman correlation between the parameters was 0.799 for potency and 0.709 for efficacy.
(c) Comparison of the parameter values (potency, efficacy) calculated for the same modulator in the two different cell lines. The Spearman correlation between the cell lines is 0.417.
(d) Comparison of parameters determined using Alamar blue as the detection reagent and those calculated using CellTiterGlo for 5 lethal compounds in the presence and absence of $CoCl_2$, cycloheximide, or ZVAD in BJ-TERT/LT/ST/$RAS^{V12}$ cells or SP600125, NAD+, or TOC in HT-1080 cells. The Spearman correlation between the parameters was 0.710 for potency and 0.847 for efficacy.
(e) Effect of the modulators on Alamar blue signal in the absence of cells. The indicated modulators were incubated in the media used for the indicated cell lines for 48 hours before the addition of Alamar blue. Fluorescence counts obtained from a well without the modulator was subtracted from the counts with the modulator. This difference was then divided by the counts from a well of cells without modulator in order to produce a percent increase in signal caused by the modulator. Values represent the mean of 12 replicates ±SEM.
(f) Effect of the modulators on cell viability. The indicated cell lines were grown in the presence of the indicated modulators. Values were normalized to cells grown in the absence of the modulators. Values represent the mean of 6 replicates ±SEM.

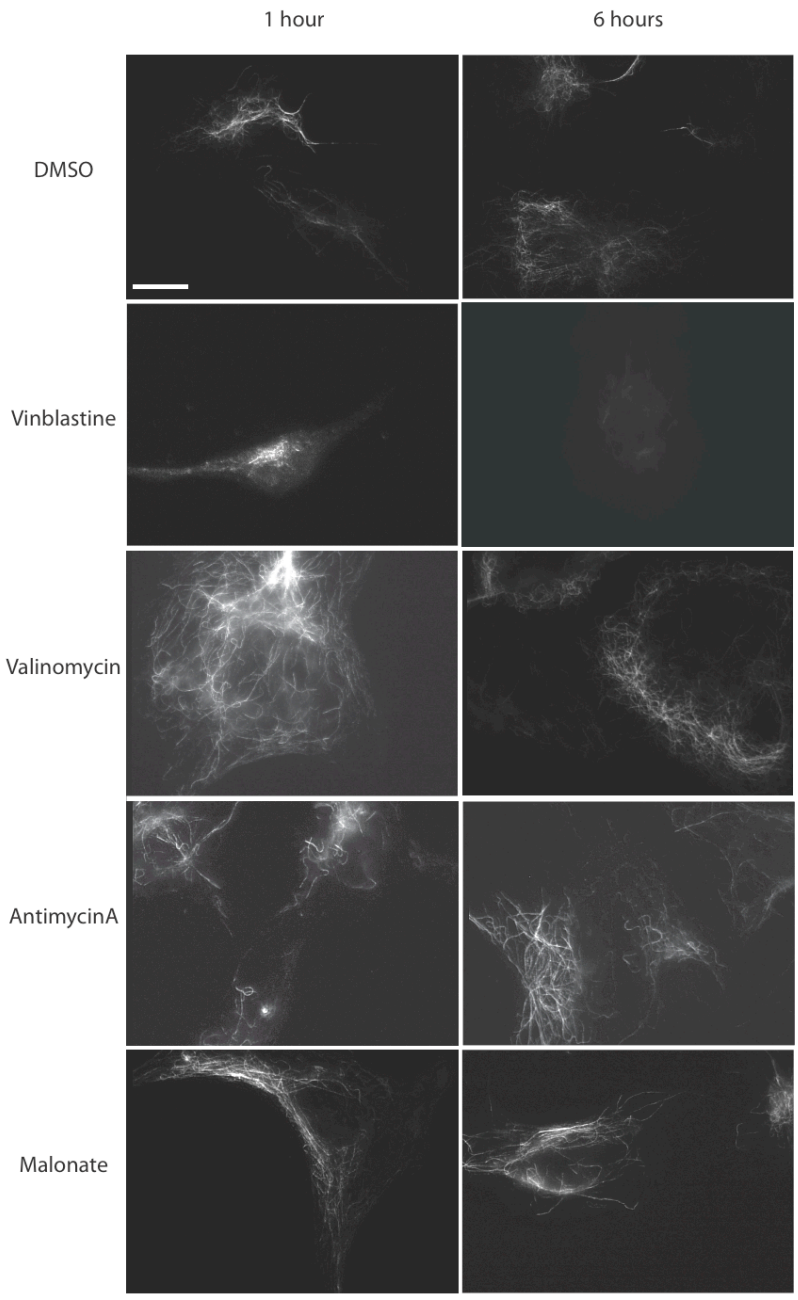



**Supplementary Figure 4: Dendrograms from Clustering Based on a Single Modulator**

Dendrograms derived from clustering the lethal compounds based only on the indicated modulators used in HT-1080 cells.

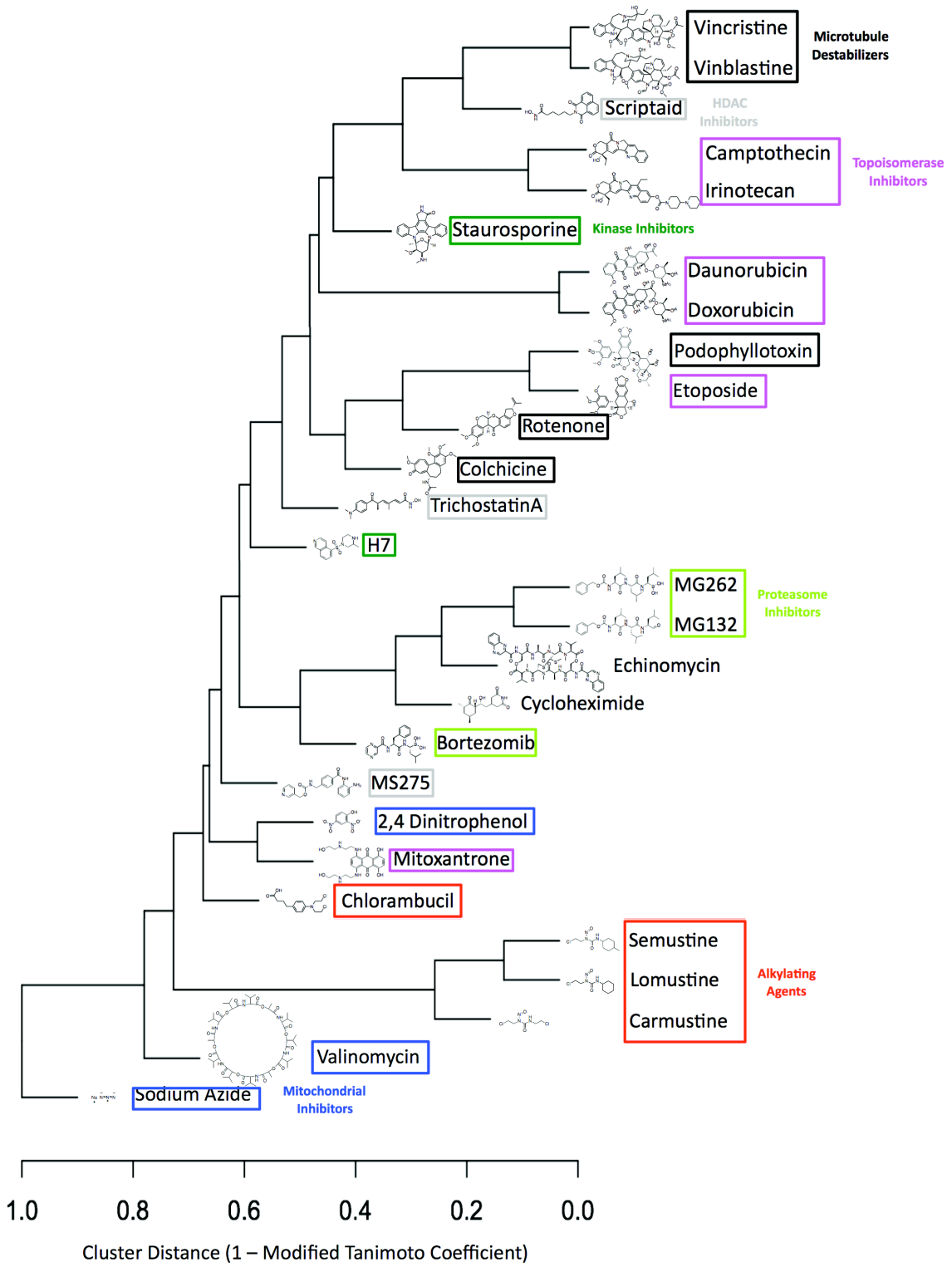



**Supplementary Figure 5: Tubulin Immunofluorescence in HT-1080 Cells**
Anti-tubulin immunofluorescence images in HT-1080 cells after 90-minute treatment with DMSO vehicle, 5 μM rotenone, 0.25 μM colchicine, or 1 μM staurosporine.

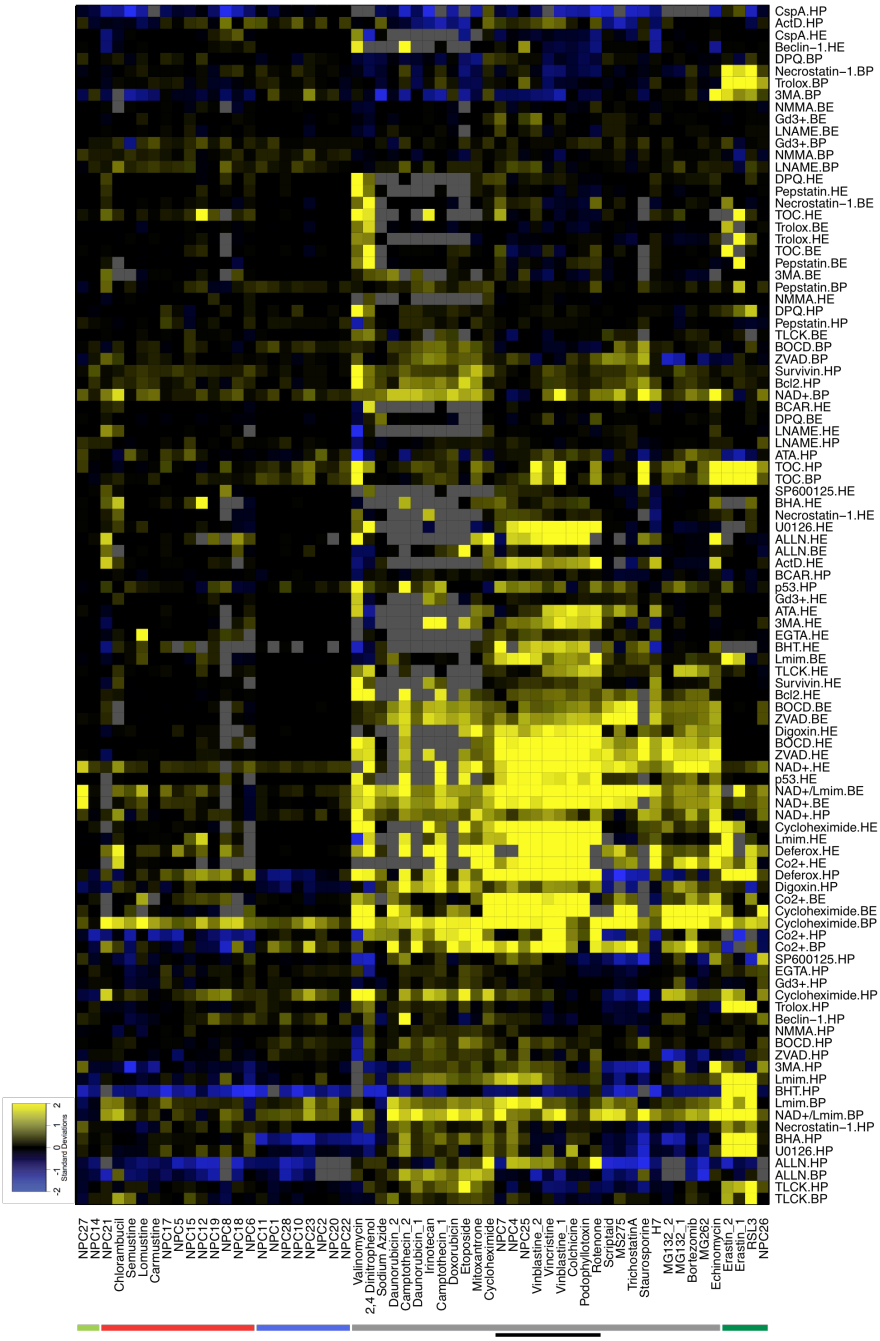



**Supplementary Figure 6: Acetylated Tubulin Immunofluorescence with Mitochondrial Inhibitors**

TC-7 cells stained for acetylated tubulin after a 1 or 6 hour treatment with vehicle (DMSO), 20 nM vinblastine, 200 nM valinomycin, 10 μM antimycin A, or 1mM disodium malonate. Representative images were chosen for each treatment. The scale bar in the upper left panel is 10 μm and is the same in each panel.

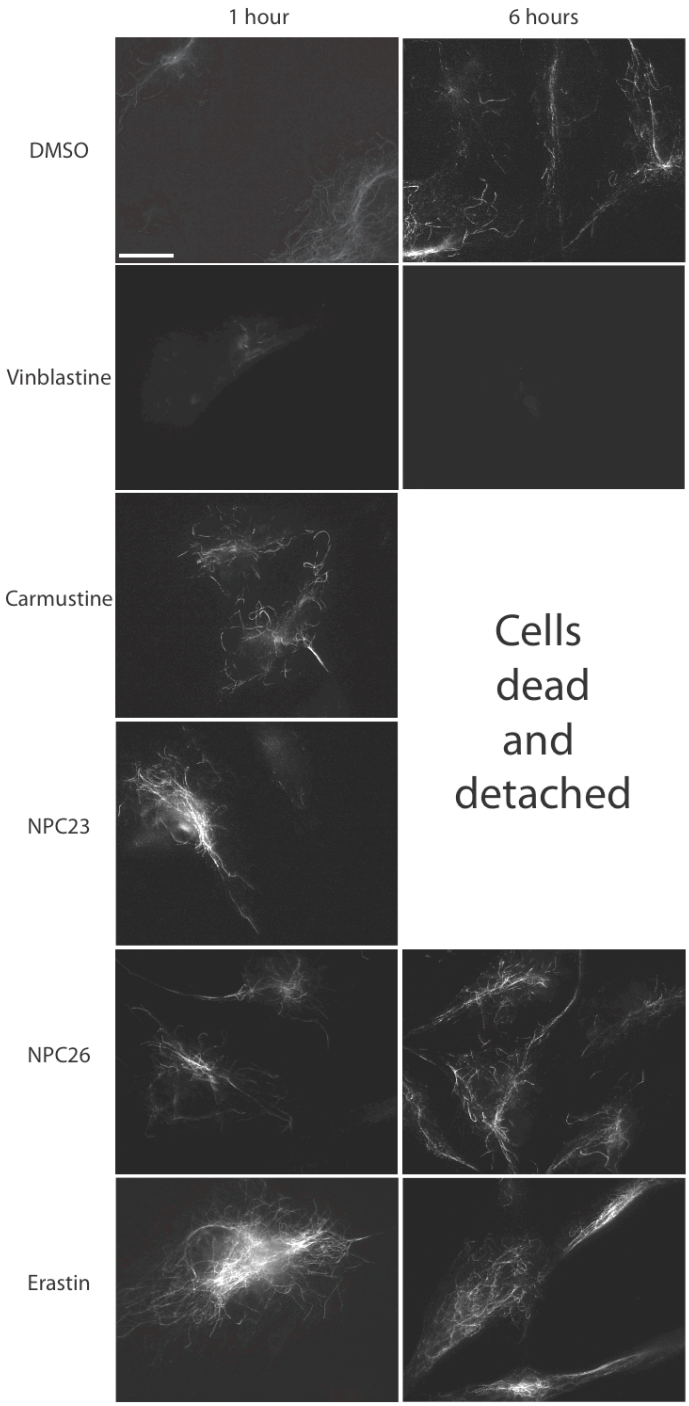



**Supplementary Figure 7: Structure-based Clustering of Lethal Compounds**
Dendrogram produced from hierarchical clustering of compounds based on structure. A modified Tanimoto coefficient was used as a similarity metric.

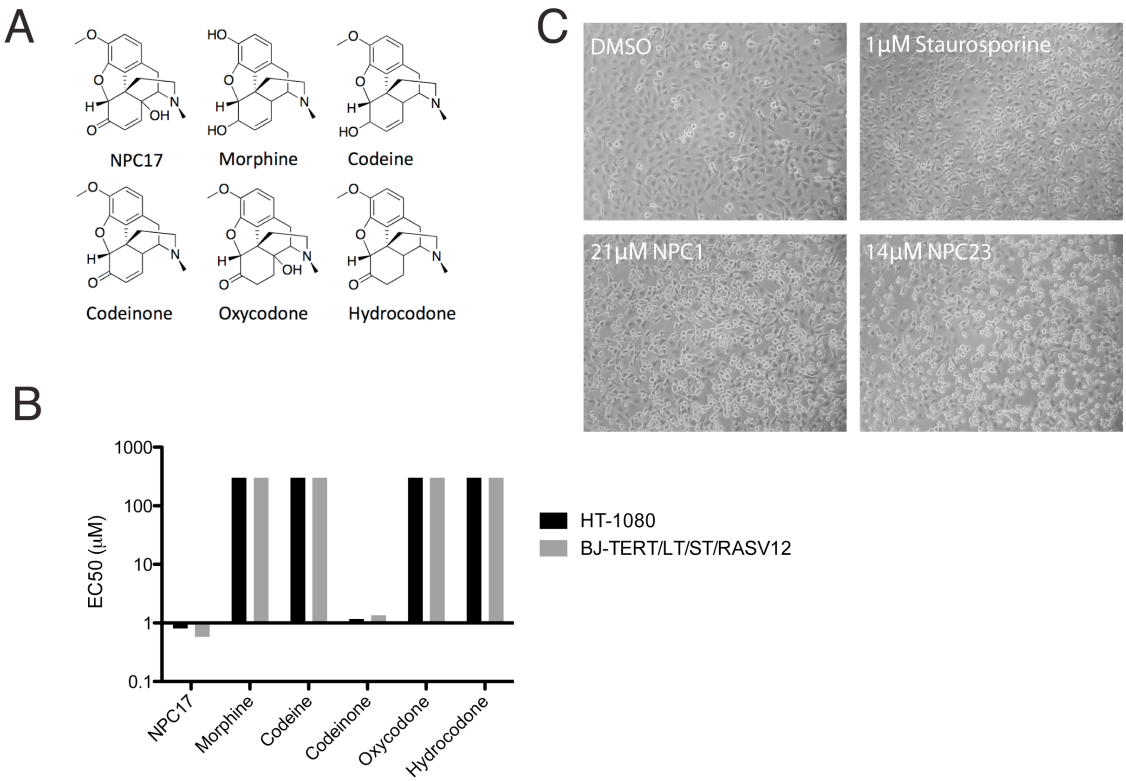



**Supplementary Figure 8: Heat Map of Modulatory Profiles for Characterized and Uncharacterized Compounds**

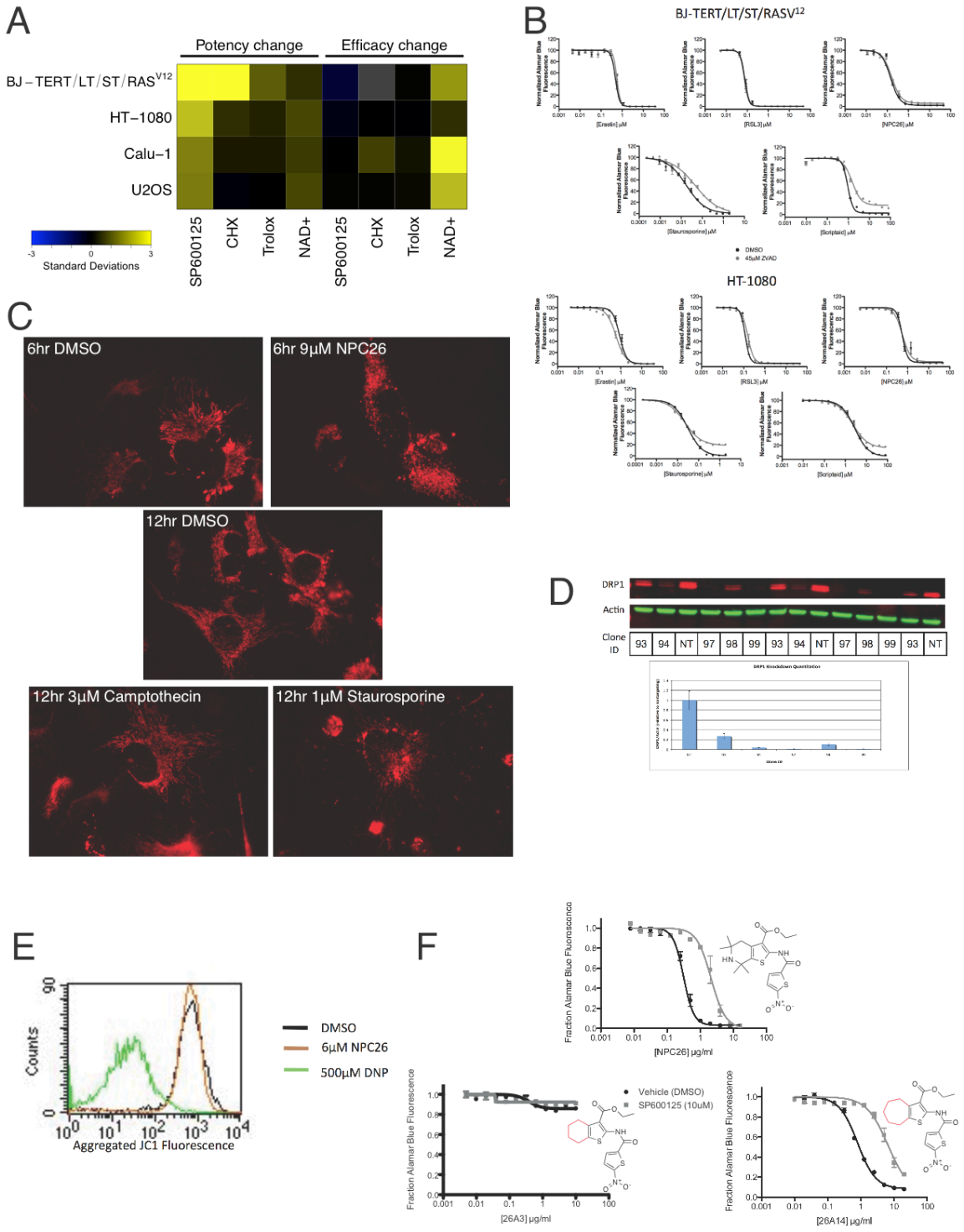
Heat map depicting the modulatory profile of 45 compounds (and 5 repeated compounds). Both axes are clustered using the Spearman correlation as the metric. Colored bars on the left side of the heat map correspond to the clusters highlighted in Fig. 4c. From top to bottom, these are cluster A (light green, uncharacterized), cluster B (red, reactive compounds), cluster C (blue, hydrophobic amines), cluster D (gray, characterized targeted mechanisms), and cluster E (green, uncharacterized Bax/Bak independent mitochondrial death). The microtubule destabilizers within cluster D are highlighted in black.




**Supplementary Figure 9: Acetylated Tubulin Immunofluorescence with Compounds from Clusters B, C, and E**
TC-7 cells stained for acetylated tubulin after a 1 or 6 hour treatment with vehicle (DMSO), 20 nM vinblastine, 1mM carmustine, 30 μM NPC23, 10 μM NPC26, or 20 μM erastin. The scale bar in the upper left panel is 10 μm and is the same in each panel.




**Supplementary Figure 10: Novel Compounds Act Nonspecifically**
(a) Structures of NPC17 and the other opiates tested.
(b) $EC_{50}$ values in μM of the compounds shown in (a). Compounds that were not lethal are shown with an $EC_{50}$ equal to the highest concentration tested (300 μM).
(c) Phase contrast microscopy images of HT-1080 cells treated for 40 minutes with the indicated compounds.




**Supplementary Figure 11: Novel Compounds Induce Bax/Bak-Independent Mitochondrial Cell Death**

(a) Heat map depicting the potency and efficacy changes obtained for NPC26 with the indicated modulators (x-axis) in the indicated cell lines (y-axis).

(b) Concentration-response curves of erastin, RSL3, NPC26, Staurosporine, and Scriptaid in HT-1080 and BJ-TERT/LT/ST/RAS$^{V12}$ cells co-treated with vehicle or 45 μM ZVAD.

(c) Fluorescence images of HT-1080 cells expressing a mitochondrially targeted dsRed construct, treated with the indicated compounds for the indicated amounts of time.
(d) Protein expression of DRP1 after infection with lentivirus encoding one of five different shRNAs targeting DRP1 or a control non-targeting shRNA (NT). DRP1/Actin ratio relative to the non-targeting construct is quantitated below. The mean of two replicates ±SEM is graphed.
(e) Mitochondrial membrane potential as measured by aggregated JC-1 fluorescence. Cells were treated with compounds for one hour prior to analysis by FACS.
(f) Concentration-response curves for NPC26 and two NPC26 analogs (26A3 and 26A14) in BJ-TERT/LT/ST/RAS$^{V12}$ cells in the presence and absence of the kinase inhibitor SP600125.

**Supplementary Methods**

*Cell lines, reagents, and clones*

BJ-TERT/LT/ST/RAS$^{V12}$, HT-1080, Calu-1, and U-2-OS cells were cultured as described previously(5, 6). The wild-type and *Bax*$^{-/-}$*Bak*$^{-/-}$ mouse embryonic fibroblasts were kindly provided by Dr. Craig Thompson and were cultured in DMEM supplemented with 10% calf serum. For sources of chemicals, please see Supplementary Tables 1 and 2.

Clones for shRNAs were purchased from Sigma-Aldrich and the most effective clone by western blot chosen for use in modulatory profiling (p53 - TRCN0000010814, Beclin - TRCN0000033549, see supplementary figure 1B; Drp1 - TRCN0000001099, see Supplementary Fig. 5c). Lentivirus was prepared as described previously(7, 8). cDNAs were purchased from the Harvard Institute of Proteomics (Bcl2 clone ID - HsCD00040340, Survivin clone ID - HsCD00004976) and moved into pLenti6/V5-DEST Gateway™ Vector (Invitrogen V496-10) using the Invitrogen LR recombination system (11824-026). Virus was then prepared and utilized in the same manner as with the shRNA clones.

*Cell survival assays*

Cells were trypsinized, counted, and combined with modulators or with vehicle and seeded into 384-well plates (600/well for BJ-TERT/LT/ST/RAS$^{V12}$, 1000/well for HT-1080 cells). Cell-death-inducing agents were dissolved in DMSO and arrayed in 14-point dilution series in 384-well polypropylene plates (Greiner, cat. #781280) and stored at −80°C. These plates were diluted 1:25 into cell culture media in polypropylene plates, then 1:10 into the assay plates approximately one hour after cells were seeded. After 48 hours, a 50% Alamar blue solution was added to a final concentration of 10% Alamar blue. After 16 hours of incubation, the fluorescence intensity was determined using a Victor 3 plate reader (Perkin Elmer) with a 535 nm excitation filter and a 590 nm emission filter. All assays were done in at least triplicate.

*Determination of changes in potency and efficacy*

Background was subtracted from raw fluorescence measurements (media only, modulator only, and lethal compound only background). Values were normalized to vehicle or modulator-only controls and values above 1 and below 0 were soft-thresholded by reducing the amount above the cutoff by 80%. Four parameter logistic best-fit concentration-response curves (parameters are Top, Bottom, logEC50, and HillSlope) were constructed for each of the replicates using GraphPad Prism$^{TM}$ software with constraints of Top=1 and Bottom>0. Outliers were removed using Prism's built-in ROUT algorithm(9). The change in potency was defined as the log ratio of the concentration of compound in the presence of modulator to the concentration in the absence of modulator required to produce a level of cell survival equal to the half maximal reduction in viability produced in the absence of the modulator. Efficacy changes were defined as the difference between the curves in the presence versus the absence of modulator at the highest concentration of lethal compound tested.

The efficacy measurement was deemed unreliable when no measurement was taken at a concentration close to the bottom of the curve and a missing value was assigned in its place. This occurred primarily due to (i) large shifts in potency that

shifted the bottom of the curve outside of the concentration range tested and (ii) solubility limits of compounds that prevented reliable determination of the bottom of the curve. Missing values were inserted for efficacy when the difference between the control and modulator curves at the highest concentration tested (dEff) differed greatly from the difference in the Bottom parameter fit for the curves (dBot). The following criteria were applied:

-Only accept opposite signs if very close
    if dEff*dBot<0, max(abs(dEff,dBot))>0.5% → missing value
-Throw out values with large difference (unless both large)
    if abs(dEff-dBot)> 5%, min(dEff, dPot)< 5% → missing value
-Throw out values if ratio is large (unless both very small)
    if dEff/dBot>10 or <0.1, max(dEff, dPot)>0.5% → missing value
    if dEff/dBot>5 or <0.2, max(dEff, dPot)>2% → missing value

Topoisomerase inhibitors can produce biphasic concentration-response curves due to inhibition of the religation function of topoisomerases at low concentrations (leading to large scale DNA damage) but inhibition of topo-DNA complex formation at higher concentrations (preventing the DNA damage)(10-12). We were unable to fit these biphasic curves with our standard four-parameter logistic fit. For curves with these features, we calculated potency shifts based solely on the first phase of the curve and inserted missing values for the change in efficacy.

To remove the decreasing trend in the potency that occurred in the chronological course of each experiment, one assay plate without modulator was treated with each set of triplicates of the modulators. The potency of all the modulator-free plates were plotted and fit with a linear regression. This linear regression was used to calculate the potency value for each modulator based on the position that modulator triplicate set had with respect to the modulator-free plates.

*Comparing and clustering modulatory profiles*

Potency and efficacy changes were normalized so that both had a standard deviation of one (for all compounds, not for each compound). Spearman correlation coefficients were calculated between each pair of lethal compounds to give a similarity matrix. The similarity matrix was clustered using the R functions agnes or hclust with the group average method for defining new clusters(13).

*Preprocessing and clustering based on gene expression profiles*

Microarray data were downloaded from the Broad's Connectivity Map website (http://www.broadinstitute.org/cmap/) as CEL files. For the experiments included in our analysis, cells were treated with compound for 6 hours before lysis and mRNA collection. More detailed description of the experimental protocols are available on the website and in the publication about the project(14). We performed probeset summarization using the MAS5 algorithm(15). Values were converted to a log2 scale and those under 5 were thresholded to 5. Probesets that were very low (average < 5.02) or invariant (standard deviation < 0.15) across the entire 281-array dataset were removed. When multiple probesets were present for the same gene, these probesets were compared

to each other to determine their reliability. If all probesets correlated with each other above the threshold (Pearson correlation 0.5), all were kept. If not, a series of procedures were applied to eliminate the less reliable probeset(s). These included (i) excluding single data points that significantly reduced the correlation between probesets, (ii) excluding consistently low probesets (probeset average is more than 2 standard deviations less than the average of all probesets), (iii) identifying a subset of the probesets that were well-correlated with each other and discarding the others. If none of these procedures were successful in identifying the most reliable probesets, all probesets for that gene were removed from the dataset. Each treatment array was normalized to the average of the batch-matched vehicle-only controls and all remaining redundant probesets for the same gene were averaged together.

Spearman correlations were calculated between each pair of compounds based on their expression profiles across MCF7 and PC3 cells (PC3 data was available for a subset of the compounds; when not available, the correlation was calculated based only on the MCF7 data). Multiple concentrations of the same compound were treated as independent instances. Clustering was performed as described for modulatory profiles.

*Immunofluorescence*

Cells were grown on coverslips and then treated with the appropriate compounds for the indicated length of time. Cells were fixed in methanol (-20°C) and slips were blocked in 10% horse serum. Cells were stained with mouse monoclonal anti-acetylated tubulin antibody clone 6-11-B1 (Sigma T7451, 1:200) and rabbit polyclonal anti-tubulin antibody (anti-tyrosinated and anti-detyrosinated(16), 1:200) and an appropriate alexa-conjugated secondary, mounted on slides with Fluoromount-G (Southern Biotech, 0100-01) containing DAPI (Sigma), and imaged with the 60x lens of an epifluorescence microscope. Microtubules can be acetylated post-translationally, a modification found only on tubulin polymers and not on monomers(16). Staining for acetylated tubulin allowed us to visualize only the remaining polymerized tubulin as the microtubules were broken down.

*Caspase Activity*

Caspase activity was measured using the Apo-ONE Homogenous Caspase-3/7 Assay (Promega G7791). HT-1080 cells were seeded in 384-well plates and treated with lethal compounds as described above for cell survival assays. After 12-15 hours, 10 μL of substrate solution/lysis buffer mix were added to each well. Plates were shaken and then incubated at room temperature for 15 hours. Fluorescence intensity was measured using a Victor 3 plate reader (Perkin Elmer) with a 490 nm excitation filter and a 535 nm emission filter. A cell survival assay was performed using Alamar blue on plates treated in parallel but after 48 hours of lethal compound treatment.

*Chemical Informatics and statistics*

Compounds were clustered based on structure using the software ChemmineR(17). Structures in structure definition file (SDF) format were imported into ChemmineR and converted into atom pair descriptors. Similarities between each pairwise combination of structures were calculated using a modified Tanimoto coefficient which is robust to changes in molecular size(3) and assembled into a similarity matrix.

This similarity matrix was clustered as described for modulatory profiles and gene expression profiles within the R environment.

Reactivity filtering and analysis of fraction nonpolar van der Waals surface area were performed with the MOE software. Most basic pKa was determined using the web-based software SPARC(18). For one compound, 2,4 dinitrophenol, no pKa could be calculated for the most basic residue. This compound was therefore omitted from the graph in figure 6b but included in the table since its polarity alone defined it as outside of the shaded quadrant.

Statistical comparison between groups was performed using a one-way ANOVA and Tukey's multiple comparison test.

*Fluorescent imaging of mitochondria*

Cells were transfected with pDsRed2-mito (Clontech 632421) using FuGENE 6 transfection reagent and selected with G418 (500 ug/ml) for at least one week in culture. Cells were plated on coverslips and treated with compounds for the indicated length of time. After fixation with 3.7% paraformaldehyde in PBS, coverslips were mounted on slides with Fluoromount mounting media with 10 μg/ml Hoescht 33342 (Molecular Probes H3570) and visualized with the 100x lens of an inverted epifluorescence microscope.

*Western Blots*

After aspiration of the medium, cells were washed twice with ice cold PBS. Cells were then treated on ice for 10 minutes with lysis buffer (50mM HEPES, 40mM NaCl, 2mM EDTA, 0.5% Triton-X, 1.5mM sodium orthovanadate, 50mM NaF, 10mM sodium pyrophosphate, 10mM sodium β-glycerophosphate, and protease inhibitor tablet (Roche 11836170001), pH 7.4). Samples were separated using SDS-polyacrylamide gel electrophoresis and transferred to a polyvinylidene difluoride membrane, blocked for 1 hour at room temperature in Licor Odyssey Blocking Buffer (927-40000) and then incubated with the appropriate primary and secondary antibodies: anti-Bcl-2 (Santa Cruz sc-7382), anti-survivin (Novus Biologicals NB500-201), anti-p53 (Calbiochem OP43), anti-Beclin (BD Transduction Laboratories 612112), anti-actin (Santa Cruz sc-1616), anti-tubulin (Santa Cruz sc-32293), anti-DLP1 (DRP1) (BD Transduction Laboratories 611112). Membranes were scanned using the Licor Odyssey Imaging System.

*Electron Microscopy*

Cells were incubated for 3 or 6 hours in the presence of DMSO or 9μM NPC26, fixed with 2.5% glutaraldehyde in 0.1M Sorenson's buffer (0.1 M $H_2PO_4$, 0.1 M $HPO_4$ (pH 7.2)) for at least 1 h, and then treated with 1% $OsO_4$ in 0.1 M Sorenson's buffer for 1 h. Enblock staining used 1% tannic acid. After dehydration through an ethanol series, cells were embedded in Lx-112 (Ladd Research Industries) and Embed-812 (EMS). Thin sections were cut on an MT-7000 ultramicrotome, stained with 1% uranyl acetate and 0.4% lead citrate, and examined under a Jeol JEM-1200 EXII electron microscope. Pictures were taken on an ORCA-HR digital camera (Hamamatsu) at the indicated magnification, and measurements were made using the AMT Image Capture Engine.

*Measurement of change in mitochondrial membrane potential ($\Delta\Psi_{mito}$)*

Procedure was performed using the MitoProbe™ JC-1 Assay Kit (M34152) following the manufacturers protocol. Briefly, HT-1080 cells were trypsinized and resuspended in 1 ml of media with 2 μM JC-1 and with or without appropriate compound treatment. After incubation for 20 minutes at 37°C, cells were spun down and resuspended in PBS without JC-1 but containing appropriate compound treatment. Cells were strained through a 40 μm cell strainer to remove clumps and analyzed by flow cytometry (FACSCalibur; Becton Dickinson).

*Chemical Identity*

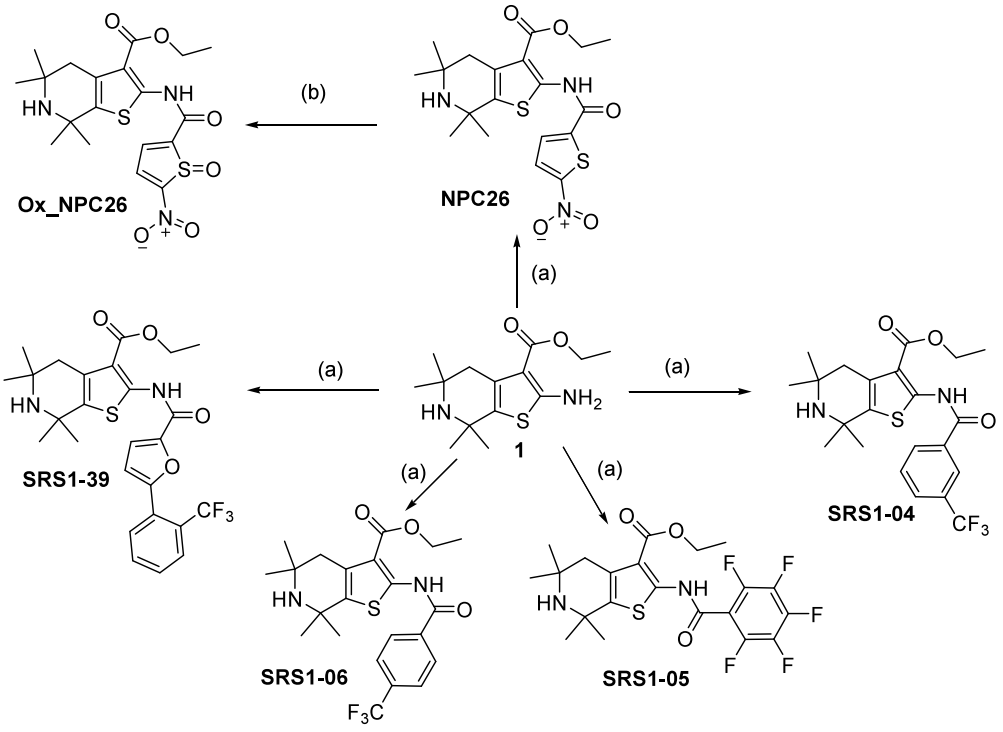
For commercial compounds explored in depth (NPC4, 7, 25), molecular formulas were confirmed by high-resolution mass spectroscopy.

*Synthesis and Characterization of NPC26 analogs*

**General Information:**

Chemicals: Solvents, inorganic salts, and organic reagents were purchased from commercial sources and used without further purification unless otherwise mentioned. Chromatography: Merck pre-coated 0.25 mm silica plates containing a 254 nm fluorescence indicator were used for analytical thin-layer chromatography. Flash chromatography was performed on 230-400 mesh silica (SiliaFlash® P60) from Silicycle. Spectroscopy: NMR spectra were obtained on a Bruker DPX 300 or 400 MHz spectrometer. CI-MS spectra were taken on a Nermag R-10-10 instrument.

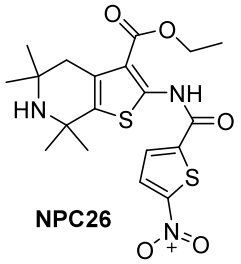
**Synthesis of various NPC26 analogs**




**Scheme 1**: Synthesis of NPC26 and analogs, (a): amine **1**, various acyl chlorides (RCOCl), diisopropylethylamine (DIPEA), DCM, r.t., 17h. (b): 3-chloroperbenzoic acid (mCPBA), $Na_2CO_3$, DCM, r.t., 1h.

**Preparation of NPC26 and analogs: general protocol**

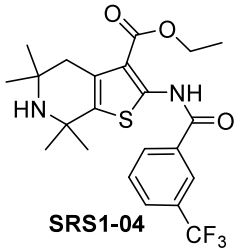
To the ethyl 2-amino-5,5,7,7-tetramethyl-4,5,6,7-tetrahydrothieno[2,3-c]pyridine-3-carboxylate (**1**), which was prepared following known procedure(19), in dry dichloromethane (DCM) was added diisopropylethylamine (DIPEA) (1.1 equiv) under nitrogen. At $0^{o}$C various acyl chlorides (1.1 equiv) were added and the mixtures were stirred for 17 h at room temperature. Aqueous bicarbonate was added and the organic phases were separated. The aqueous phases were extracted three times with Dichloromethane (DCM). After drying with anhydrous magnesium sulfate the solvents were removed under vacuum. The crudes were purified by silica gel.



NPC26

**Ethyl 5,5,7,7-tetramethyl-2-(2-nitrothiophene-5-carboxamido)-4,5,6,7 tetrahydrothieno [2,3-c]pyridine-3-carboxylate (NPC26)**.

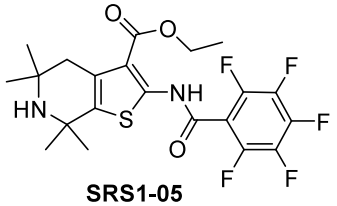
Following the above general procedure with the amine (**1**) (550 mg, 1.947 mmol), DIPEA (332 μL, 4.284 mmol) and 5-nitrothiophene-2-carbonyl chloride (555 mg, 2.920 mmol), the crude reaction mixture was purified by column chromatography (DCM/MeOH) to provide the solid **NPC26** (610 mg, 1.396 mmol, 72%). $^{1}$H NMR ($CDCl_3$, 400MHz, ppm) $\delta$ 12.49 (b, NH), 7.90 (d, $J$ = 4 Hz, 1H), 7.61 (d, $J$ = 4 Hz, 1H), 4,42 (q, $J$ = 7.2 Hz, 2H), 2.69 (s, 2H), 1.50 (s, 6H), 1,43 (t, $J$ = 7.2 Hz, 3H), 1.22 (s, 6H); MS (APCI+, $M+1$) 437.71.



SRS1-04

**Ethyl 5,5,7,7-tetramethyl-2-(3-(trifluoromethyl)benzamido)-4,5,6,7-tetrahydro-thieno[2,3-c]pyridine-3-carboxylate (SRS1-04)**.

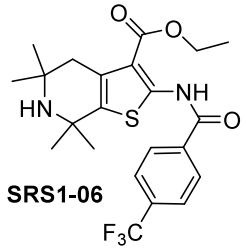
Following the above general procedure with the amine (**1**) (100 mg, 0.354 mmol), DIPEA (67 μL, 0.389 mmol) and 3-(trifluoromethyl)benzoyl chloride (57.6 μL, 0.389 mmol), the crude reaction mixture was purified by column chromatography (DCM/MeOH) to provide the solid **SRS1-04** (95 mg, 0.209 mmol, 60%). $^{1}$H NMR ($CDCl_3$, 400MHz, ppm) $\delta$ 12.44 (b, NH), 8.30 (s, 1H), 8.15 (d, $J$ = 8.0 Hz, 1H), 7.86 (d, $J$ = 8.0 Hz, 1H), 7.68 (t, $J$ = 8.0 Hz, 1H), 4.41 (q, $J$ = 6.8 Hz, 2H), 2.74 (s, 2H), 1.55 (s, 6H), 1.43 (t, $J$ = 6.8 Hz, 3H), 1.25 (s, 6H); MS (APCI+, M+1) 455.66.



SRS1-05

**Ethyl 5,5,7,7-tetramethyl-2-(perfluorobenzamido)-4,5,6,7-tetrahydrothieno[2,3c] pyridine-3-carboxylate (SRS1-05)**.

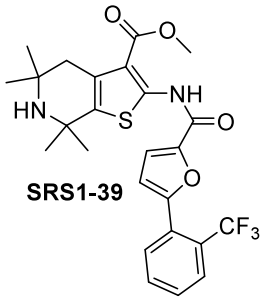
Following the above general procedure with the amine (**1**) (100 mg, 0.354 mmol), DIPEA (67 μL, 0.389 mmol) and 2,3,4,5,6-pentafluorobenzoyl chloride (53.90 μL, 0.389 mmol), the crude reaction mixture was purified by column chromatography (DCM/MeOH) to provide the solid **SRS1-05** (75 mg, 0.157 mmol, 45%). $^1$H NMR ($CDCl_3$, 400MHz, ppm) $\delta$ 12.10 (b, NH), 4.37 (q, $J$ = 7.2 Hz, 2H), 3.05 (s, 2H), 1.89 (s, 6H), 1.60 (s, 6H), 1.38 (t, $J$ = 7.2 Hz, 3H); MS (APCI+, M+1) 477.07.



SRS1-06

**Ethyl 5,5,7,7-tetramethyl-2-(4-(trifluoromethyl)benzamido)-4,5,6,7-tetrahydrothieno [2,3-c]pyridine-3-carboxylate (SRS1-06)**.

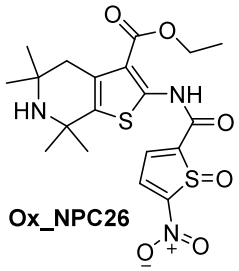
Following the above general procedure with the amine (**1**) (100 mg, 0.354 mmol), DIPEA (67 μL, 0.389 mmol) and 4-(trifluoromethyl)benzoyl chloride (57.9 μL, 0.389 mmol), the crude reaction mixture was purified by column chromatography (DCM/MeOH) to provide the solid **SRS1-06** (107 mg, 0.235 mmol, 66%). $^1$H NMR ($CDCl_3$, 400MHz, ppm) $\delta$ 12.49 (b, NH), 8.13 (d, $J$ = 8.0 Hz, 1H), 7.80 (d, $J$ = 8.0 Hz, 1H), 8.15 (d, $J$ = 8.0 Hz, 1H), 7.86 (d, $J$ = 8.0 Hz, 2H), 7.68 (t, $J$ = 8.0 Hz, 2H), 4.41 (q, $J$ = 7.2 Hz, 2H), 2.74 (s, 2H), 1.55 (s, 6H), 1.43 (t, $J$ = 7.2 Hz, 3H), 1.25 (s, 6H); MS (APCI+, M+1) 455.00.



SRS1-39

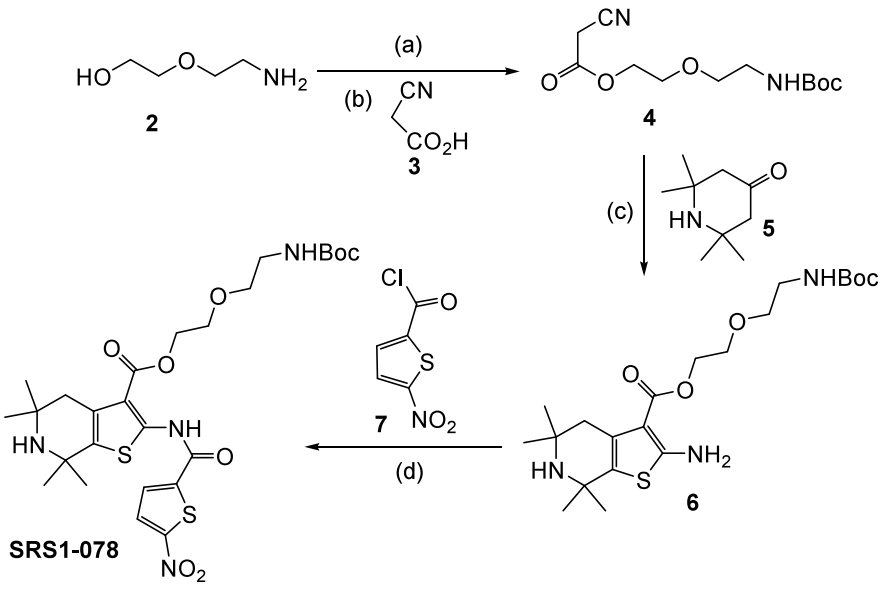
**Ethyl 5,5,7,7-tetramethyl-2-(5-(2-(trifluoromethyl)phenyl)furan-2-carboxamido)-4,5,6,7-tetrahydrothieno[2,3-*c*]pyridine-3-carboxylate (SRS1-39)**.

Following the above general procedure with the amine (**1**) (100 mg, 0.354 mmol), DIPEA (67 μL, 0.389 mmol) and 5-(2-(trifluoromethyl)phenyl)furan-2-carbonyl chloride (106.8 mg, 0.389 mmol), the crude reaction mixture was purified by column chromatography (DCM/MeOH) to provide the solid **SRS1-39** (120 mg, 0.23 mmol, 65%). $^1$H NMR ($CDCl_3$, 400MHz, ppm) $\delta$ 12.11 (b, NH), 7.85-7.79 (m, 2H), 7.65 (t, $J$ = 7.6 Hz, 1H), 7.54 (t, $J$ = 7.6 Hz, 1H), 7.37 (d, $J$ = 4.0 Hz, 1H), 6.83 (d, $J$ = 4.0 Hz, 1H), 4.35 (q, $J$ = 7.2 Hz, 2H), 2.71 (s, 2H), 1.51 (s, 6H), 1.35 (t, $J$ = 7.2 Hz, 3H), 1.22 (s, 6H); MS (APCI+, M+1) 506.98.

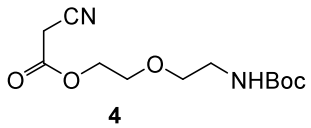



To the **NPC26** compound (10 mg, 0.0228 mmol) in dry DCM (0.5 mL) was added $NaHCO_3$ (9.6 mg, 0.1143 mmol). At $0^oC$ mCPBA (4.3 mg, 0.0251 mmol) was added and the mixtures were stirred for 1h at room temperature. Sodium bicarbonate solution was added and the organic phase was separated and the aqueous phase was extracted three times with 1 mL of DCM. After drying with anhydrous magnesium sulfate the solvents were removed under vaccum. The crude was purified by Preparative TLC plate (hexane / ethylacetate) to provide the solid **Ox_NPC26** (4 mg, 0.009 mmol, 40%). $^1H$ NMR ($CDCl_3$, 400MHz, ppm) $\delta$ $^1H$ NMR ($CDCl_3$, 400MHz, ppm) $\delta$ 12.36 (b, NH), 7.94 (d, $J$ = 4 Hz, 1H), 7.68 (d, $J$ = 4 Hz, 1H), 4,57 (m, 2H), 2.69 (s, 2H), 1.50 (s, 6H), 1,43 (m, 3H), 1.22 (s, 6H); MS (APCI+, $M+1$) 454.00.

**Synthesis of SRS1-078 analog**

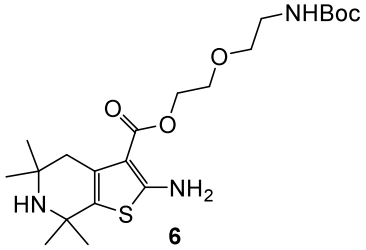



**Scheme 2:** Synthesis of **SRS1-078,** (a):$(Boc)_2$, EtOH, r.t., 17h. (b):2-cyanoacetic acid **(3)**, N,N'-dicyclohexylcarbodiimide (DCC), 4-dimethylaminopyridine (DMAP), DCM, r.t., 17h. (c):diethylamine, triacetonamine **(5)**, elemental sulfur, DMF, 50 °C, 17h. (d):diisopropylethylamine (DIPEA) , 5-nitrothiophene-2-carbonyl chloride **(7)**, DCM,r.t., 17h.



**2-(2-(tert-butoxycarbonyl)ethoxy)ethyl 2-cyanoacetate (4).** To the 2-(2-aminoethoxyl)-ethanol in ethanol (10 mL) was added di-*tert*-butyl dicarbonate. The mixture was stirred at room temperature for 17h. The solvent was removed and the NBoc compound was verified by NMR and mass spectroscopy and used without further purification. $^1$H NMR ($CDCl_3$, 400MHz, ppm) $\delta$ 5.01 (b, NH, 1H), 4.35 (s, 2H), 3.73 (s, 2H), 3.55 (m, 4H), 3.32 (m, 2H), 2.48 (b, OH, 1H), 1.43 (s, 9H); MS (APCI+, M+1) 206.00.

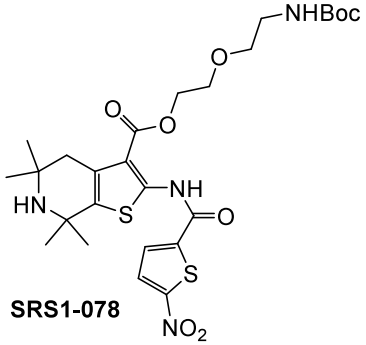
To the NBoc compound (1 equiv) in dichloromethane (DCM) (20 mL), 2-cyanoacetic acid **(3)** (1 equiv), 4-dimethylaminopyridine (DMAP) (0.2 equiv) were added. At 0$^o$C *N,N′*-dicyclohexylcarbodiimide (DCC) (1 equiv) was added and the mixture was stirred for 17h at room temperature. The dicyclohexylurea (DCU) was filtered and the solvent was removed. The residue was purified by column chromatography (hexane/ethylacetate) to provide the oil (**4**) (120 mg, 0.23 mmol, 65%). $^1$H NMR ($CDCl_3$, 400MHz, ppm) $\delta$ 4.92 (b, NH 1H), 4.35 (s, 2H), 3.69 (s, 2H), 3.53 (m, 4H), 3.31 (m, 2H), 1.43 (s, 9H); MS (APCI+, M+1) 273.00.



**6**

**2-(2-(tert-butoxycarbonyl)ethoxy)ethyl2-amino-5,5,7,7-tetramethyl-4,5,6,7 tetrahydrothieno[2,3-c]pyridine-3-carboxylate (6).**

Diethylamine (100 μL, 0.966 mmol) was added to a stirred mixture of 2,2,6,6-tetramethyltetrahydro-4-pyridinone (**5**) (142.5 mg, 0.918 mmol), 2-(2-(tert-butoxycarbonyl)ethoxy)ethyl 2-cyanoacetate (**4**) (250 mg, 0.918 mmol), elemental sulfur (44.2 mg, 1.377 mmol), and DMF (1.5 mL). Stirring was continued for 17 hours at 50 $^o$C. After mixing with $H_2O$ (15 mL), the dark reaction mixture was extracted three times with 5 mL of EtOAc. After drying with anhydrous magnesium sulfate the solvent was removed under vacuum. The residue was purified by column chromatography (DCM/MeOH) to provide the solid (**6**) (250 mg, 0.566 mmol, 62%). $^1$H NMR ($CDCl_3$, 400MHz, ppm) $\delta$ 6.00 (b, $NH_2$ 2H), 5.29 (b, NH 1H), 4.91 (m, 2H), 3.72(m, 2H), 3.55(m, 2H), 3.32 (m, 2H), 2.75 (s, 2H), 1.52 (s, 6H), 1.44 (s, 6H),1.33 (s, 6H); MS (APCI+, M+1) 442.20.



**SRS1-078**

**2-(2-(tert-butoxycarbonyl)ethoxy) ethyl 5,5,7,7-tetramethyl-2-(2-nitrothiophene-5-carboxamido)-4,5,6,7-tetrahydrothieno[2,3-c]pyridine-3-carboxylate (SRS1-078)**

To the compound (**6**) (151 mg, 0.342 mmol) in 3 mL of dry dichloromethane (DCM), under nitrogen, was added diisopropylethylamine (DIPEA) (80 μL, 1.026 mmol). At 0°C the 5-nitrothiophene-2-carbonyl chloride (130 mg, 0.684 mmol) was added and the mixture was stirred for 17h at room temperature. Aqueous bicarbonate was added and the organic phases were separated and the aqueous phases were extracted three times with EtOAc. After drying with anhydrous magnesium sulfate the solvent was removed under vaccum and the crude reaction mixture was purified by column chromatography (DCM/MeOH) to provide the solid **SRS1-078** (145 mg, 0.243 mmol, 71%). $^1$H NMR ($CDCl_3$, 400MHz, ppm) $\delta$ 12.31 (b, NH), 7.93 (d, $J$ = 4 Hz, 1H), 7.64 (d, $J$ = 4 Hz, 1H), 4.85 (b, NH), 4,49 (m, 2H), 3.80 (m, 2H), 3.59 (m, 2H), 3.34 (m, 2H), 2.71 (s, 2H), 1.50 (s, 6H), 1,43 (s, 9H), 1.22 (s, 6H);MS (APCI+, M+1) 597.35.

## Supplementary Tables

### Supplementary Table 1: Chemical and Genetic Modulators of Cell Death

Details of the names, abbreviations, concentrations, suppliers, and mechanisms of action (and literature support for that mechanism) of the chemical and genetic modulators of cell death that were used.

| Chemical or Genetic Modulator | Abbrev | Mechanism | Conc (μM) | Supplier (Cat#) | Reference(s) |
|---|---|---|---|---|---|
| Cbz-val-ala-asp(OMe)-fluormethylketone | ZVAD | Broad spectrum caspase inhibitor | 45 | Biomol (P416-0001) | (20, 21) |
| t-butoxycarbonyl-asp-fluormethylketone | BOCD | Broad spectrum caspase inhibitor | 50 | MPBio (03FK011) | (21, 22) |
| Calpain Inhibitor I | ALLN | Inhibitor of calpain I and II, cathepsins B,L | 6.3 | Calbiochem (208719) | (23) |
| $N^a$-tosyl-lys-chloromethylketone | TLCK | Inhibitor of trypsin-like serine proteases | 135 | Roche (10874485001) | (24, 25) |
| Pepstatin | Pep | Inhibitor of cathepsin D | 1.0 | Roche (11359053001) | (26) |
| Cobalt (II) | $Co^{2+}$ | Blocks calcium channels | 656 | Sigma (C8661) | (27) |
| Gadolinium (III) | $Gd^{3+}$ | Blocks calcium channels | 20 | Aldrich (G7532) | (28) |
| 3-methyladenine | 3MA | Inhibitor of autophagosome formation | 5000 | Sigma (M9281) | (29, 30) |
| Nicotinamide adenine dinucleotide | NAD+ | Activates sirtuins, prevents energetic depletion | 2000 | Sigma-Aldrich (N1511) | (31-33) |
| α-tocopherol | TOC | Antioxidant | 100 | Sigma (T3251) | (27, 34) |
| β-Carotene | BCAR | Antioxidant | 0.19 | Sigma (C9750) | (35) |
| Butylated hydroxyanisole | BHA | Antioxidant | 139 | Aldrich (B1253) | (36, 37) |
| Butylated hydroxytoluene | BHT | Antioxidant | 113 | Aldrich (B1378) | (37) |
| (±)-6-Hydroxy-2,5,7,8-tetramethylchromane-2-carboxylic acid | Trolox™ | Antioxidant | 150 | Aldrich (238813) | (28) |
| 3,4-dihydro-5-[4-(1-piperidinyl)butoxy]-1(2H)-isoquinolinone | DPQ | Inhibitor of PARP1 | 10 | Sigma (D5314) | (33) |
| L-mimosine | Lmim | Inhibits G1-S cell cycle transition | 175 | Calbiochem (475842) | (38, 39) |
| NG-Monomethyl-D-arginine | NMMA | Nitric oxide synthase inhibitor | 20 | Sigma (M7033) | (40, 41) |
| NG-Nitro-L-arginine-methyl ester | LNAME | Nitric oxide synthase inhibitor | 300 | Sigma (N5751) | (28) |
| Ethyleneglycol-O,O'-bis(2-amino ethyl) -N,N,N',N'-tetraacetic acid | EGTA | Divalent ion chelator | 2000 | Sigma (E3889) | (27, 42) |
| Cycloheximide | CHX | Protein synthesis inhibitor | 1.5 | Sigma (C7698) | (43, 44) |
| Actinomycin D | ActD | RNA synthesis inhibitor | 0.002 | Sigma (A1410) | (44, 45) |
| Digoxin | Dig | Na+/K+ ATPase inhibitor | 0.13 | Sigma (D6003) | (46, 47) |
| Deferoxamine | Deferox | Chelates iron | 152 | Calbiochem (252750) | (36) |
| 1,4-diamino-2,3-dicyano-1,4-bis[2-aminophenylthio] butadiene | U0126 | Mek 1/2 inhibitor | 13.1 | Alexis (ALX-270-237) | (48) |
| Anthra(1,9-cd)pyrazol-6(2H)-one 1,9-Pyrazoloanthrone | SP600125 | JNK inhibitor | 10 | Alexis (ALX-270-339) | (49) |
| Necrostatin-1 | Nec-1 | Inhibitor of necroptosis | 19 | Sigma (N9037) | (50) |
| Cyclosporin A | CspA | Binds cyclophilin | 5.0 | Sigma (C3662) | (51, 52) |
| Aurintricarboxylic Acid | ATA | Nuclease inhibitor | 38 | Sigma (A1895) | (53, 54) |

| | | | | | |
|---|---|---|---|---|---|
| Tumor protein 53 | p53 | Initiates apoptosis in response to DNA damage | | | (55, 56) |
| Beclin-1 | Bec1 | Required for autophagy | | | (57) |
| B-cell leukemia/lymphoma 2 | Bcl2 | Prevents mitochondrial outer membrane permeabilization | | | (58, 59) |
| Survivin | Survivin | Inhibits caspases | | | (60-62) |

**Supplementary Table 2: Characterized Lethal compounds**

Details of the names, abbreviations, concentrations, suppliers, and mechanism of action (and literature support for that mechanism) of the characterized lethal compounds used.

| Lethal Compound | Abbrev | Mechanism | [Highest] μM | Supplier (cat#) | References |
|---|---|---|---|---|---|
| Irinotecan | IRN | Topoisomerase-I-mediated DNA damage | 210 | Sigma (I1406) | (63-65) |
| Camptothecin | CPT | Topoisomerase-I-mediated DNA damage | 8.6 | Sigma (C9911) | (66-71) |
| Doxorubicin | Doxo | Topoisomerase-II-mediated DNA damage | 34 | Sigma (D1515) | (12, 72-74) |
| Daunorubicin | Dauno | Topoisomerase-II-mediated DNA damage | 35 | Sigma-Aldrich (D8809) | (74, 75) |
| Mitoxantrone | Mitox | Topoisomerase-II-mediated DNA damage | 5.8 | Sigma (M6545) | (76-78) |
| Etoposide | Etop | Topoisomerase-II-mediated DNA damage | 570 | Sigma (E1383) | (79-81) |
| Podophyllotoxin | PDTX | Tubulin depolymerizer | 2.4 | Fluka (81125) | (82-84) |
| Vinblastine | Vblast | Tubulin depolymerizer | 0.22 | Sigma (V1377) | (84-87) |
| Vincristine | Vcrist | Tubulin depolymerizer | 0.76 | Sigma (V8388) | (84, 87-89) |
| Colchicine | Colch | Tubulin depolymerizer | 3.3 | Fluka (27650) | (90-93) |
| Echinomycin | ECH | Bis-DNA intercalator | 0.18 | Fluka (44659) | (94, 95) |
| Cycloheximide | CHX | Translational Inhibitor | 142 | Sigma (C7698) | (43) |
| Rotenone | Rot | Mitochondrial complex I inhibitor | 200 | Sigma (R8875) | (96-99) |
| 2,4 dinitrophenol | 2,4 DNP | Uncouples oxidative phosphorylation | 11000 | Aldrich (D198501) | (100, 101) |
| Valinomycin | Val | Ionophore and mitochondrial uncoupler | 1.2 | Fluka (94675) | (102-104) |
| Sodium Azide | $NaN_3$ | Mitochondrial complex IV inhibitor | 120000 | Fluka (71289) | (105-107) |
| Staurosporine | STS | Kinase inhibitor | 4.0 | Sigma (S6942) | (108-111) |
| H7 | H7 | Kinase inhibitor | 570 | Calbiochem (371955) | (112, 113) |
| Chlorambucil | ChlB | Alkylating agent | 5300 | Sigma (C0253) | (114, 115) |
| Carmustine | Carm | Alkylating agent | 2700 | Sigma (C0400) | (116, 117) |
| Semustine | Sem | Alkylating agent | 2700 | Sigma (S4026) | (118, 119) |
| Lomustine | Lom | Alkylating agent | 5300 | Sigma (L5918) | (120, 121) |
| MG132 | MG132 | Proteasome inhibitor | 2.3 | Sigma (C2211) | (122, 123) |
| MG262 | MG262 | Proteasome inhibitor | 0.10 | Boston Biochem (I-120) | (124, 125) |
| Bortezomib | Bortez | Proteasome inhibitor | 0.20 | Millenium Pharmaceuticals | (125, 126) |
| Trichostatin A | Trich A | HDAC inhibitor | 10 | Sigma (T8552) | (127-129) |
| MS-275 | MS-275 | HDAC inhibitor | 200 | Sigma (M5568) | (130, 131) |
| Scriptaid | Script | HDAC inhibitor | 80 | Biomol (GR326-0001) | (132, 133) |

Supplementary Table 3: Modulatory Profiles

The modulatory profiles for all lethal compounds used (characterized and novel) are given.

Changes in potency are expressed as the log ratio of the fold change in potency.

Changes in efficacy are expressed as the fraction change in efficacy.

| | Parameter | Potency | Potency | Potency | Potency | Potency | Potency |
|---|---|---|---|---|---|---|---|
| | Cell Line | BJeLR | BJeLR | BJeLR | BJeLR | BJeLR | BJeLR |
| | Modulator | TLCK | LNAME | NAD+ | NAD+/Lmim | Lmim | Gd3+ |
| Irinotecan | | 0.0698 | 0.111 | 0.368 | 0.391 | 0.194 | 0.036 |
| Camptothecin_1 | | 0.0426 | 0.01 | 0.34 | 0.41 | 0.192 | 0.0214 |
| Doxorubicin | | 0.109 | 0.0606 | 0.489 | 0.656 | 0.311 | -0.00401 |
| Daunorubicin_1 | | 0.119 | 0.0179 | 0.461 | 0.618 | 0.238 | -0.00621 |
| Mitoxantrone | | 0.154 | 0.0611 | 0.421 | 0.59 | 0.314 | 0.0284 |
| Etoposide | | 0.138 | 0.0654 | 0.376 | 0.483 | 0.267 | 0.0944 |
| Podophyllotoxin | | -0.0931 | 0.0203 | 0.075 | 0.107 | 0.0559 | 0.0889 |
| Vinblastine_1 | | -0.113 | 0.0359 | 0.699 | 0.933 | 0.188 | 0.0136 |
| Vincristine | | 0.0382 | -0.0392 | 0.228 | 0.49 | 0.176 | 0.0246 |
| Colchicine | | -0.0416 | -0.0415 | 0.169 | 0.176 | 0.11 | 0.049 |
| Rotenone | | -0.09 | 0.00761 | 0.261 | 0.485 | 0.148 | 0.0942 |
| 2,4 Dinitrophenol | | -0.0479 | -0.0428 | 0.204 | 0.185 | -0.0116 | -0.0161 |
| Sodium Azide | | 0.0987 | 0.0411 | 0.249 | -0.072 | -0.22 | 0.0475 |
| Valinomycin | | -0.0675 | -0.00339 | 0.204 | 0.499 | 0.0874 | 0.0355 |
| Staurosporine | | 0.039 | 0.0249 | 0.894 | 0.659 | -0.0437 | 0.0992 |
| H7 | | -0.00516 | 0.00252 | 0.403 | 0.323 | 0.0532 | 6.36E-05 |
| Erastin_1 | | 0.0777 | -0.111 | -0.13 | 0.631 | 0.344 | -0.0929 |
| Chlorambucil | | 0.364 | 0.247 | 0.523 | 0.425 | 0.248 | 0.0931 |
| Carmustine | | 0.0477 | 0.119 | 0.222 | 0.106 | 0.0748 | 0.149 |
| Lomustine | | -0.0575 | 0.0964 | 0.191 | 0.0487 | 0.029 | 0.095 |
| Semustine | | 0.229 | 0.0722 | 0.0264 | 0.151 | 0.0806 | -0.282 |
| MG132_1 | | 0.0201 | 0.126 | 0.114 | 0.265 | 0.101 | 0.00178 |
| MG262 | | 0.041 | 0.0709 | 0.195 | 0.37 | 0.218 | 0.0508 |
| Bortezomib | | 0.0904 | 0.0151 | 0.278 | 0.415 | 0.178 | -0.0016 |
| TrichostatinA | | 0.0454 | -0.0551 | 0.147 | 0.251 | 0.239 | 0.0234 |
| MS275 | | 0.115 | 0.0243 | 0.442 | 0.547 | 0.205 | 0.076 |
| Scriptaid | | -0.0255 | 0.0219 | 0.254 | 0.576 | 0.317 | 0.0205 |
| RSL3 | | 0.968 | 0.122 | 0.036 | 1.33 | 1.49 | 0.0148 |
| NPC25 | | 0.0603 | 0.117 | -0.0946 | 0.247 | 0.523 | -0.0208 |
| NPC26 | | -0.0143 | 0.0528 | 0.253 | 0.18 | -0.000418 | 0.0277 |
| Camptothecin_2 | | 0.0274 | 0.173 | 0.458 | 0.47 | 0.339 | 0.0938 |
| NPC1 | | -0.0652 | 0.0436 | 0.133 | 0.159 | 0.0476 | 0.102 |
| NPC2 | | -0.00721 | 0.0503 | 0.0476 | 0.187 | 0.144 | 0.0237 |
| NPC4 | | 0.114 | 0.146 | -0.165 | 0.274 | 0.782 | 0.063 |
| NPC5 | | -0.0189 | 0.0899 | 0.0585 | 0.13 | 0.0896 | 0.0368 |
| NPC6 | | -0.0245 | 0.046 | 0.0286 | -0.115 | -0.2 | 0.0701 |
| NPC7 | | -0.0819 | 0.0651 | -0.00205 | 0.989 | 0.544 | 0.0113 |
| NPC8 | | -0.136 | 0.206 | 0.118 | 0.21 | 0.0653 | 0.13 |
| NPC10 | | -0.0638 | 0.128 | 0.0726 | 0.165 | 0.0868 | 0.0178 |
| NPC11 | | 0.0452 | 0.1 | 0.0566 | 0.141 | 0.0655 | 0.0435 |
| NPC12 | | 0.0565 | -0.0349 | 0.139 | -0.083 | 0.0878 | 0.152 |
| Vinblastine_2 | | 0.00266 | 0.159 | -0.0105 | 0.146 | 0.611 | 0.0332 |
| MG132_2 | | -0.0604 | 0.0402 | 0.078 | 0.212 | 0.122 | 0.065 |
| Cycloheximide | | 0.107 | 0.00665 | 0.174 | 0.3 | 0.289 | 0.094 |
| Erastin_2 | | 0.39 | 0.0497 | 0.168 | 1.6 | 1.2 | 0.13 |
| NPC14 | | 0.0484 | 0.0719 | 0.0502 | -0.0536 | -0.0395 | 0.036 |
| NPC15 | | 0.147 | 0.11 | 0.0569 | 0.0803 | 0.0778 | 0.0726 |
| Daunorubicin_2 | | 0.245 | 0.0365 | 0.457 | 0.621 | 0.499 | -0.123 |
| NPC17 | | 0.0216 | 0.0755 | 0.0336 | -0.0254 | 0.225 | 0.0551 |
| NPC18 | | 0.000216 | 0.0511 | 0.179 | 0.153 | 0.0941 | 0.0149 |
| NPC19 | | -0.0667 | -0.0178 | 0.0446 | 0.0349 | 0.084 | 0.0441 |
| NPC20 | | 0.0132 | 0.0281 | 0.074 | 0.205 | 0.222 | 0.0306 |
| NPC21 | | 0.0543 | 0.0427 | 0.267 | 0.339 | 0.278 | 0.042 |
| NPC22 | | -0.0544 | 0.0119 | 0.064 | 0.0287 | 0.0405 | 0.0324 |
| NPC23 | | 0.00572 | 0.0663 | 0.197 | 0.39 | 0.366 | 0.0241 |
| NPC27 | | -0.108 | -0.033 | 0.19 | -0.0906 | -0.17 | 0.00484 |
| Echinomycin | | -0.00684 | 0.0549 | 0.744 | 0.782 | 0.334 | 0.0278 |
| NPC28 | | -0.0159 | 0.0303 | 0.0108 | 0.186 | 0.0668 | 0.0224 |

| | Parameter | Potency | Potency | Potency | Potency | Potency | Potency |
|---|---|---|---|---|---|---|---|
| | Cell Line | BJeLR | BJeLR | BJeLR | BJeLR | BJeLR | BJeLR |
| | Modulator | Co2+ | 3MA | NMMA | Cycloheximide | ALLN | Pepstatin |
| Irinotecan | | 0.141 | -0.297 | -0.0142 | 0.493 | 0.405 | 0.193 |
| Camptothecin_1 | | 0.177 | -0.37 | -0.0102 | 0.609 | 0.311 | 0.0814 |
| Doxorubicin | | 0.897 | 0.0887 | -0.0436 | 0.586 | 0.225 | 0.0434 |
| Daunorubicin_1 | | 0.879 | -0.0195 | -0.0958 | 0.616 | 0.284 | 0.137 |
| Mitoxantrone | | 2.08 | -0.122 | 0.0578 | 0.83 | 0.465 | 0.0985 |
| Etoposide | | 0.466 | -0.324 | -0.129 | 0.582 | 0.432 | 0.0981 |
| Podophyllotoxin | | -0.0514 | -0.113 | -0.0345 | 0.141 | -0.0755 | 0.025 |
| Vinblastine_1 | | 1.05 | -0.39 | -0.152 | 1.1 | -0.304 | 0.0244 |
| Vincristine | | 0.72 | -0.253 | -0.0237 | 0.642 | -0.122 | 0.0263 |
| Colchicine | | 0.33 | -0.0121 | 0.00759 | 0.255 | -0.0642 | 0.0113 |
| Rotenone | | 0.575 | -0.124 | 0.0255 | 0.868 | -0.0044 | 0.15 |
| 2,4 Dinitrophenol | | 0.032 | -0.0586 | -0.0265 | 1.23 | -0.0217 | -0.00331 |
| Sodium Azide | | 0.00703 | -0.534 | 0.00173 | 0.343 | 0.0538 | 0.031 |
| Valinomycin | | 0.178 | 0.04 | -0.0491 | 3.05 | 0.103 | 0.0358 |
| Staurosporine | | 0.179 | -0.158 | 0.05 | 0.325 | 0.186 | 0.121 |
| H7 | | -0.0964 | -0.016 | 0.00462 | 0.184 | -0.103 | 0.0376 |
| Erastin_1 | | -0.651 | 0.296 | -0.266 | 0.355 | -0.12 | 0.455 |
| Chlorambucil | | 0.12 | -0.722 | 0.0387 | 0.521 | 0.187 | 0.00677 |
| Carmustine | | 0.0268 | -0.198 | 0.0665 | 0.375 | -0.107 | -0.00217 |
| Lomustine | | 0.077 | -0.285 | 0.0515 | 0.858 | -0.194 | -0.0301 |
| Semustine | | -0.175 | -0.355 | 0.0967 | 0.392 | -0.212 | 0.0552 |
| MG132_1 | | 0.419 | 0.0284 | 0.0217 | 0.748 | -0.93 | 0.0135 |
| MG262 | | 0.243 | -0.0704 | 0.0152 | 0.779 | -0.545 | 0.0174 |
| Bortezomib | | 0.662 | 0.0773 | 0.0149 | 1.46 | -0.274 | 0.0663 |
| TrichostatinA | | 0.908 | 0.0346 | -0.0358 | 0.91 | -0.239 | -0.0201 |
| MS275 | | 0.532 | -0.0153 | 0.048 | 0.876 | -0.168 | 0.0114 |
| Scriptaid | | 0.428 | 0.0143 | 0.0269 | 1.01 | -0.286 | -0.0183 |
| RSL3 | | 0.206 | 0.368 | 0.0588 | 0.519 | 0.0533 | 0.00599 |
| NPC25 | | 0.292 | -0.189 | -0.0375 | 1.25 | -0.0354 | 0.0509 |
| NPC26 | | -0.164 | 0.123 | -0.0792 | 0.458 | -0.915 | 0.0927 |
| Camptothecin_2 | | 0.121 | -0.326 | 0.00292 | 0.469 | 0.414 | 0.0517 |
| NPC1 | | 0.274 | 0.141 | 0.065 | 0.159 | -0.104 | 0.0753 |
| NPC2 | | 0.0849 | 0.0388 | 0.0348 | 0.298 | -0.708 | 0.0585 |
| NPC4 | | 0.702 | -0.17 | 0.0643 | 2.47 | -0.0562 | 0.0448 |
| NPC5 | | -0.13 | -0.0556 | 0.0209 | 0.172 | -0.076 | 0.0232 |
| NPC6 | | -0.162 | -0.161 | 0.0197 | 0.232 | -0.00665 | 0.076 |
| NPC7 | | 0.447 | -0.177 | 0.0358 | 1.12 | -0.0641 | -0.00523 |
| NPC8 | | -0.471 | -0.188 | 0.0455 | 0.478 | -0.78 | -0.0703 |
| NPC10 | | 0.0658 | 0.0309 | 0.0449 | 0.27 | -0.243 | 0.0683 |
| NPC11 | | 0.0378 | -0.00188 | 0.0667 | 0.208 | -0.0512 | 0.103 |
| NPC12 | | -0.121 | -0.118 | -0.0301 | 0.458 | -0.245 | 0.106 |
| Vinblastine_2 | | 0.918 | -0.227 | 0.0187 | 0.601 | -0.396 | 0.00752 |
| MG132_2 | | 0.34 | 0.029 | 0.0467 | 0.793 | -1.06 | 0.0334 |
| Cycloheximide | | 0.887 | 0.143 | 0.0199 | 1.49 | 0.375 | 0.136 |
| Erastin_2 | | -0.414 | 0.534 | -0.0396 | 1.12 | 0.0165 | 0.0292 |
| NPC14 | | -0.12 | 0.089 | 0.0582 | 0.0355 | -0.125 | -0.0135 |
| NPC15 | | 0.0464 | -0.0511 | 0.0921 | 0.21 | -0.138 | 0.077 |
| Daunorubicin_2 | | 0.891 | -0.0556 | -0.0474 | 0.418 | 0.124 | 0.0602 |
| NPC17 | | -0.0396 | 0.0225 | 0.0367 | 0.277 | -0.196 | 0.00416 |
| NPC18 | | 0.247 | -0.0514 | 0.0812 | 0.506 | -0.258 | 0.0403 |
| NPC19 | | -0.128 | -0.0377 | 0.0222 | 0.247 | -0.372 | -0.0599 |
| NPC20 | | 0.133 | 0.084 | 0.0569 | 0.198 | -0.947 | 0.0222 |
| NPC21 | | 0.296 | -0.143 | 0.0538 | 0.92 | -0.412 | 0.199 |
| NPC22 | | 0.0373 | -0.0788 | 0.0612 | 0.087 | -0.758 | 0.0607 |
| NPC23 | | 0.487 | 0.293 | 0.141 | 0.46 | -0.13 | 0.0578 |
| NPC27 | | 0.00195 | -0.151 | 0.0995 | 0.163 | -0.0792 | -0.0762 |
| Echinomycin | | 0.164 | 1.46 | 0.0403 | 0.449 | 0.0808 | 0.0925 |
| NPC28 | | 0.158 | 0.0242 | 0.0302 | 0.136 | -0.393 | 0.0462 |

| | Parameter | Potency | Potency | Potency | Potency | Potency | Potency |
|---|---|---|---|---|---|---|---|
| | Cell Line | BJeLR | BJeLR | BJeLR | BJeLR | BJeLR | BJeLR |
| | Modulator | ZVAD | BOCD | TOC | Trolox | Necrostatin-1 | DPQ |
| Irinotecan | | 0.291 | 0.225 | 0.121 | 0.0355 | 0.0128 | -0.0293 |
| Camptothecin_1 | | 0.26 | 0.231 | 0.139 | 0.133 | 0.0813 | -0.124 |
| Doxorubicin | | 0.168 | 0.13 | 0.101 | 0.0425 | -0.0304 | 0.0197 |
| Daunorubicin_1 | | 0.207 | 0.178 | 0.0467 | -0.155 | -0.143 | -0.0738 |
| Mitoxantrone | | 0.206 | 0.159 | 0.192 | -0.16 | -0.124 | -0.285 |
| Etoposide | | 0.19 | 0.242 | -0.0451 | -0.151 | -0.251 | -0.199 |
| Podophyllotoxin | | 0.0576 | -0.0936 | 0.0623 | -0.0258 | -0.14 | -0.156 |
| Vinblastine_1 | | -0.049 | -0.0688 | 0.795 | -0.0848 | -0.217 | -0.0522 |
| Vincristine | | 0.00118 | -0.0606 | 0.208 | -0.191 | -0.246 | -0.158 |
| Colchicine | | 0.102 | -0.0272 | -0.014 | -0.0661 | -0.0905 | -0.0879 |
| Rotenone | | 0.174 | -0.113 | 0.33 | 0.00681 | -0.184 | -0.109 |
| 2,4 Dinitrophenol | | -0.0315 | 0.0495 | 0.0198 | 0.00774 | -0.138 | -0.145 |
| Sodium Azide | | 0.00287 | -0.0126 | 0.0131 | -0.094 | -0.0771 | -0.114 |
| Valinomycin | | 0.186 | 0.0822 | 1.17 | 0.0212 | -0.0466 | -0.087 |
| Staurosporine | | 0.403 | 0.36 | 1.01 | -0.0779 | -0.0372 | -0.0546 |
| H7 | | 0.0471 | 0.0552 | 0.0297 | 0.0783 | 0.022 | 0.0354 |
| Erastin_1 | | 0.0617 | -0.0153 | 1.34 | 0.874 | 0.528 | -0.12 |
| Chlorambucil | | 0.111 | 0.069 | 0.0674 | 0.0318 | -0.00872 | 0.0506 |
| Carmustine | | 0.0714 | 0.0649 | 0.0706 | 0.0544 | 0.0179 | 0.00627 |
| Lomustine | | 0.0386 | 0.0589 | 0.0188 | 0.0178 | 0.0567 | 0.0461 |
| Semustine | | -0.0001 | -0.00605 | 0.0215 | 0.0143 | 0.0242 | -0.0373 |
| MG132_1 | | -0.368 | 0.0108 | 0.12 | 0.00475 | -0.122 | 0.0235 |
| MG262 | | -0.234 | 0.0451 | 0.221 | -0.0257 | -0.0489 | -0.0351 |
| Bortezomib | | 0.00259 | 0.0292 | 0.0875 | 0.0587 | 0.0967 | 0.00256 |
| TrichostatinA | | 0.215 | 0.115 | 0.0145 | -0.0286 | -0.0124 | 0.0267 |
| MS275 | | 0.282 | 0.229 | 0.0675 | 0.00346 | -0.0552 | 0.0346 |
| Scriptaid | | 0.303 | 0.0179 | 0.042 | -0.0467 | 0.0187 | 0.0643 |
| RSL3 | | 0.0113 | 0.125 | 1.41 | 1.33 | 0.917 | 0.0996 |
| NPC25 | | 0.0944 | 0.00541 | 0.123 | 0.217 | 0.0642 | 0.0255 |
| NPC26 | | -0.0377 | -0.0323 | 0.179 | 0.388 | 0.124 | 0.0111 |
| Camptothecin_2 | | 0.133 | 0.103 | -0.0379 | 0.0703 | 0.127 | -0.0997 |
| NPC1 | | -0.0181 | 0.136 | 0.116 | 0.0676 | 0.0349 | -0.0182 |
| NPC2 | | 0.021 | 0.0368 | 0.0169 | 0.0121 | 0.0152 | 0.0273 |
| NPC4 | | 0.139 | -0.0114 | 0.0812 | -0.00113 | 0.0391 | 0.0609 |
| NPC5 | | -0.0109 | 0.00819 | -0.00505 | 0.0493 | 0.0226 | 0.0364 |
| NPC6 | | 0.0113 | -0.00834 | 0.041 | 0.0169 | 0.0138 | -0.011 |
| NPC7 | | 0.0417 | -0.0673 | 0.0415 | 0.0268 | -0.0668 | 0.0919 |
| NPC8 | | -0.00208 | 0.0119 | 0.0475 | -0.0766 | 0.0637 | -0.0123 |
| NPC10 | | -0.0382 | 0.0796 | 0.144 | 0.0136 | 0.0728 | -0.0748 |
| NPC11 | | 0.0236 | 0.0762 | 0.145 | 0.057 | 0.0768 | -0.0541 |
| NPC12 | | 0.00988 | 0.051 | 0.0735 | 0.0322 | 0.0285 | 0.0956 |
| Vinblastine_2 | | -0.158 | -0.0159 | 0.547 | 0.026 | -0.0387 | 0.024 |
| MG132_2 | | -0.451 | 0.0681 | 0.164 | -0.00353 | -0.0859 | -0.0186 |
| Cycloheximide | | 0.0536 | 0.0711 | -0.00555 | 0.0427 | 0.0709 | 0.133 |
| Erastin_2 | | -0.123 | -0.0252 | 1.44 | 0.964 | 0.827 | 0.0473 |
| NPC14 | | 0.0462 | 0.0543 | -0.0428 | -0.00632 | 0.0061 | -0.00388 |
| NPC15 | | 0.0508 | 0.0896 | -0.00107 | -0.0472 | -0.0228 | -0.0149 |
| Daunorubicin_2 | | 0.06 | 0.113 | 0.000199 | -0.0133 | 0.00529 | -0.0329 |
| NPC17 | | 0.0431 | -0.0263 | 0.00775 | 0.0368 | 0.0153 | 0.0622 |
| NPC18 | | 0.0334 | -0.065 | 0.025 | -0.0268 | 0.0963 | -0.0102 |
| NPC19 | | 0.00711 | 0.00914 | 0.0419 | -0.0605 | -0.0554 | -0.0191 |
| NPC20 | | -0.0136 | 0.0464 | 0.088 | 0.00426 | 0.0276 | 0.0134 |
| NPC21 | | 0.204 | -0.0621 | 0.0466 | -0.0498 | -0.0474 | 0.0351 |
| NPC22 | | 0.0355 | 0.0638 | 0.132 | -0.058 | -0.0254 | -0.00222 |
| NPC23 | | 0.0267 | 0.0994 | 0.238 | 0.0591 | 0.0426 | 0.0363 |
| NPC27 | | -0.0916 | 0.0141 | -0.00405 | -0.0212 | -0.0371 | 0.075 |
| Echinomycin | | -0.0879 | 0.0835 | 0.693 | -0.0585 | 0.042 | -0.0298 |
| NPC28 | | 0.0293 | 0.0296 | 0.0722 | 0.0133 | 0.0168 | -0.00767 |

| | Parameter | Potency | Potency | Potency | Potency | Potency | Potency |
|---|---|---|---|---|---|---|---|
| | Cell Line | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 |
| | Modulator | p53 | Beclin-1 | ZVAD | BOCD | ALLN | Pepstatin |
| Irinotecan | | 0.242 | 0.0888 | 0.183 | 0.227 | -0.151 | 0.0753 |
| Camptothecin_1 | | 0.441 | 0.0559 | 0.16 | 0.161 | 0.147 | 0.0365 |
| Doxorubicin | | -0.000666 | -0.0369 | 0.0862 | 0.0917 | 0.06 | 0.058 |
| Daunorubicin_1 | | 0.0932 | -0.0329 | 0.1 | 0.112 | -0.0806 | 0.0805 |
| Mitoxantrone | | -0.0114 | -0.0421 | 0.106 | 0.243 | 0.192 | 0.0929 |
| Etoposide | | -0.013 | -0.18 | 0.122 | 0.328 | 0.222 | -0.0148 |
| Podophyllotoxin | | 0.0761 | -0.00393 | 0.0283 | 0.0653 | 0.184 | 0.0204 |
| Vinblastine_1 | | 0.229 | -0.0427 | -0.066 | 0.102 | 0.176 | 0.0359 |
| Vincristine | | 0.121 | -0.116 | 0.0463 | 0.168 | 0.344 | 0.0306 |
| Colchicine | | -0.0983 | -0.121 | 0.108 | 0.05 | 0.0699 | 0.0258 |
| Rotenone | | 0.292 | -0.0104 | 0.206 | 0.04 | 0.977 | 0.0247 |
| 2,4 Dinitrophenol | | 0.172 | 0.204 | 0.12 | 0.186 | 0.107 | 0.128 |
| Sodium Azide | | 0.0689 | -0.187 | 0.00843 | 0.0267 | 0.116 | 0.0142 |
| Valinomycin | | 0.659 | 0.0262 | -0.403 | -0.352 | 0.0425 | -0.412 |
| Staurosporine | | 0.0109 | -0.0401 | 0.0178 | 0.276 | -0.619 | 0.0672 |
| H7 | | -0.0459 | -0.0303 | 0.0592 | 0.0641 | -0.252 | 0.000866 |
| Erastin_1 | | 0.0363 | 0.0302 | -0.17 | 0.0709 | -0.15 | -0.0637 |
| Chlorambucil | | -0.00181 | 0.00329 | 0.0496 | 0.0458 | -0.0954 | -0.0328 |
| Carmustine | | 0.0415 | -0.0503 | -0.0482 | -0.013 | -0.215 | -0.00524 |
| Lomustine | | 0.0542 | -0.0819 | 0.0036 | 0.0106 | -0.266 | 0.0174 |
| Semustine | | 0.115 | -0.13 | 0.00668 | 0.0612 | -0.195 | 0.00908 |
| MG132_1 | | 0.282 | 0.184 | -0.388 | 0.0615 | -0.692 | -0.0718 |
| MG262 | | 0.0912 | -0.0688 | -0.298 | -0.00264 | -0.487 | 0.00668 |
| Bortezomib | | 0.12 | 0.0241 | -0.146 | -0.00689 | -0.3 | 0.021 |
| TrichostatinA | | 0.115 | -0.0817 | 0.0373 | 0.0693 | -0.499 | 0.0174 |
| MS275 | | 0.241 | -0.101 | 0.00352 | 0.0345 | -0.537 | 0.00167 |
| Scriptaid | | 0.125 | -0.0515 | -0.00927 | 0.00797 | -0.55 | -0.0156 |
| RSL3 | | -0.0547 | 0.0544 | 0.0748 | 0.0106 | -0.22 | -0.094 |
| NPC25 | | 0.302 | 0.0737 | 0.201 | 0.237 | 0.453 | 0.0449 |
| NPC26 | | 0.0471 | 0.266 | 0.112 | 0.144 | -0.875 | -0.0543 |
| Camptothecin_2 | | 0.752 | 1.15 | 0.134 | 0.257 | 0.0588 | 0.0875 |
| NPC1 | | 0.0191 | 0.0286 | 0.0936 | 0.0773 | -0.201 | 0.0496 |
| NPC2 | | 0.065 | 0.181 | 0.0562 | 0.0733 | -0.835 | 0.0341 |
| NPC4 | | 0.265 | 0.0668 | 0.0603 | -0.0245 | 0.477 | -0.00686 |
| NPC5 | | 0.0286 | 0.00688 | -0.209 | 0.0227 | -0.433 | 0.0648 |
| NPC6 | | -0.0833 | 0.154 | -0.0651 | -0.00942 | -0.222 | 0.0759 |
| NPC7 | | 0.426 | 0.0925 | 0.212 | 0.0608 | -0.319 | 0.0385 |
| NPC8 | | 0.192 | 0.111 | 0.0702 | 0.034 | -0.764 | 0.000187 |
| NPC10 | | 0.014 | 0.047 | 0.0432 | 0.0497 | -0.39 | 0.0272 |
| NPC11 | | 0.00354 | 0.0895 | 0.00507 | 0.0363 | -0.206 | 0.0105 |
| NPC12 | | -0.106 | 0.0588 | -0.0297 | 0.00481 | -0.491 | 0.013 |
| Vinblastine_2 | | 0.254 | 0.0429 | -0.0287 | 0.117 | 0.334 | -0.0246 |
| MG132_2 | | 0.154 | 0.175 | -0.527 | 0.0288 | -1.14 | 0.00083 |
| Cycloheximide | | -0.165 | 0.205 | 0.0775 | 0.123 | 1.06 | 0.0411 |
| Erastin_2 | | 0.212 | 0.0602 | -0.103 | 0.106 | -0.473 | 0.0103 |
| NPC14 | | -0.015 | 0.0508 | 0.0316 | -0.00456 | -0.255 | 0.0319 |
| NPC15 | | -0.002 | 0.0441 | -0.0197 | -0.0445 | -0.334 | -0.0724 |
| Daunorubicin_2 | | 0.058 | 0.0487 | 0.125 | 0.0454 | -0.0453 | -0.00834 |
| NPC17 | | 0.0275 | -0.00874 | 0.006 | 0.0236 | -0.171 | 0.133 |
| NPC18 | | -0.104 | 0.0723 | -0.03 | -0.0365 | -0.491 | 0.00861 |
| NPC19 | | 0.134 | 0.228 | -0.0274 | -0.0408 | -0.475 | 0.0456 |
| NPC20 | | 0.0309 | 0.000232 | 0.0255 | 0.0427 | -0.999 | 0.0175 |
| NPC21 | | 0.119 | -0.0218 | 0.0323 | 0.00758 | -0.967 | 0.0227 |
| NPC22 | | 0.0995 | 0.128 | 0.025 | 0.0502 | -0.725 | 0.0879 |
| NPC23 | | 0.0222 | 0.0876 | 0.0303 | 0.0926 | -0.303 | 0.0352 |
| NPC27 | | -0.0341 | 0.0754 | -0.0959 | 0.0229 | -0.119 | 0.0544 |
| Echinomycin | | 0.0311 | 0.0104 | -0.0401 | 0.0612 | -0.158 | -0.00154 |
| NPC28 | | 0.134 | 0.199 | 0.0451 | 0.129 | -0.443 | 0.0416 |

| | Parameter | Potency | Potency | Potency | Potency | Potency | Potency |
|---|---|---|---|---|---|---|---|
| | Cell Line | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 |
| | Modulator | DPQ | TOC | Bcl2 | Survivin | U0126 | Trolox |
| Irinotecan | | 0.0408 | 0.151 | 0.263 | 0.128 | 0.143 | 0.0762 |
| Camptothecin_1 | | 0.0457 | 0.0683 | 0.324 | 0.128 | 0.0633 | 0.08 |
| Doxorubicin | | 0.0788 | 0.114 | 0.222 | 0.101 | 0.11 | -0.0335 |
| Daunorubicin_1 | | 0.0886 | 0.179 | 0.283 | 0.138 | 0.0854 | 0.0561 |
| Mitoxantrone | | 0.0326 | 0.284 | 0.376 | 0.484 | -0.00303 | -0.027 |
| Etoposide | | 0.0531 | 0.0251 | 0.559 | 0.319 | -0.0693 | 0.122 |
| Podophyllotoxin | | 0.031 | 0.0105 | 0.0548 | 0.0398 | 0.0104 | -0.00253 |
| Vinblastine_1 | | -0.0113 | 0.858 | 0.126 | 0.129 | -0.0602 | -0.0172 |
| Vincristine | | 0.0487 | 0.239 | 0.12 | 0.163 | 0.196 | -0.0794 |
| Colchicine | | 0.0405 | 0.0172 | 0.0822 | 0.0759 | 0.436 | 0.0199 |
| Rotenone | | 0.00958 | 0.352 | 0.0732 | 0.0939 | 0.0954 | -0.0239 |
| 2,4 Dinitrophenol | | 0.287 | 0.389 | 0.259 | 0.268 | -0.242 | 0.289 |
| Sodium Azide | | -0.00816 | -0.00724 | 0.137 | 0.132 | 0.0353 | -0.051 |
| Valinomycin | | 1.93 | 1.82 | 1.94 | 1.94 | -0.0904 | 0.194 |
| Staurosporine | | 0.0368 | 1.01 | 0.389 | 0.14 | -0.529 | -0.197 |
| H7 | | 0.0344 | 0.0798 | 0.137 | 0.0459 | -0.0712 | 0.00677 |
| Erastin_1 | | 0.253 | 1.14 | 0.0842 | 0.0722 | 1.4 | 0.821 |
| Chlorambucil | | -0.0063 | -0.0521 | 0.103 | 0.0425 | -0.0542 | -0.0491 |
| Carmustine | | -0.0163 | 0.0134 | 0.102 | 0.0846 | 0.0491 | -0.00335 |
| Lomustine | | -0.0075 | -0.0255 | 0.128 | 0.109 | -0.046 | -0.0374 |
| Semustine | | 0.00348 | -0.0112 | 0.0783 | 0.0867 | -0.041 | -0.0811 |
| MG132_1 | | -0.0867 | 0.282 | 0.102 | 0.173 | -0.212 | -0.0245 |
| MG262 | | 0.0193 | 0.237 | 0.0712 | 0.0828 | -0.202 | -0.0587 |
| Bortezomib | | 0.049 | 0.0515 | 0.127 | 0.111 | -0.0196 | 0.0318 |
| TrichostatinA | | 0.0112 | 0.0285 | 0.237 | 0.178 | -0.239 | -0.0844 |
| MS275 | | 0.00917 | 0.0355 | 0.138 | 0.0994 | -0.0876 | -0.105 |
| Scriptaid | | 0.0143 | 0.00412 | 0.135 | 0.0961 | -0.138 | -0.124 |
| RSL3 | | 0.506 | 1.56 | 0.0548 | 0.0502 | 1.67 | 1.63 |
| NPC25 | | 0.0237 | 0.0508 | 0.0195 | -0.00432 | 0.0406 | 0.0293 |
| NPC26 | | -0.0261 | 0.355 | 0.0271 | 0.0573 | 0.0309 | -0.000728 |
| Camptothecin_2 | | 0.0795 | 0.072 | 0.321 | 0.22 | 0.397 | 0.108 |
| NPC1 | | 0.0293 | 0.098 | 0.00687 | 0.014 | -0.0542 | 0.0386 |
| NPC2 | | 0.000225 | 0.072 | 0.028 | 0.0305 | -0.0456 | 0.00181 |
| NPC4 | | -0.00323 | 0.00286 | 0.00291 | 0.0283 | 0.254 | -0.0355 |
| NPC5 | | 0.0259 | 0.0121 | 0.0452 | 0.128 | 0.0194 | -0.0136 |
| NPC6 | | 0.0431 | 0.0258 | 0.0741 | 0.143 | 0.166 | 0.0374 |
| NPC7 | | -0.00478 | -0.0257 | 0.0522 | 0.0767 | 0.0973 | 0.0025 |
| NPC8 | | 0.0595 | 0.173 | -0.0391 | 0.0638 | 0.167 | -0.0542 |
| NPC10 | | 0.0984 | 0.191 | -0.0463 | 0.0111 | -0.117 | -0.00503 |
| NPC11 | | 0.0116 | 0.0708 | -0.00656 | 0.063 | -0.00801 | 0.094 |
| NPC12 | | 5.41E-05 | -0.0475 | -0.0294 | 0.0896 | 0.151 | 0.0139 |
| Vinblastine_2 | | 0.0358 | 0.677 | 0.0613 | 0.0592 | -0.0535 | -0.0202 |
| MG132_2 | | 0.0139 | 0.257 | -0.00365 | 0.0432 | -0.0821 | -0.0159 |
| Cycloheximide | | 0.062 | 0.148 | 0.0481 | 0.221 | 0.257 | 0.0975 |
| Erastin_2 | | 0.108 | 1.71 | 0.000468 | 0.0765 | 1.31 | 1.35 |
| NPC14 | | -0.0374 | -0.0358 | 0.0987 | 0.173 | -0.0189 | 0.052 |
| NPC15 | | -0.093 | -0.014 | 0.0933 | 0.0814 | 0.0359 | 0.0444 |
| Daunorubicin_2 | | -0.00649 | 0.0488 | 0.0451 | 0.111 | 0.158 | 0.0723 |
| NPC17 | | 0.104 | 0.147 | 0.028 | 0.0901 | 0.152 | -0.0305 |
| NPC18 | | -0.00894 | 0.0169 | 0.109 | 0.0564 | 0.0286 | 0.0126 |
| NPC19 | | 0.0101 | -0.000195 | 0.0474 | 0.0697 | 0.0333 | -0.0399 |
| NPC20 | | 0.0268 | 0.054 | 0.0029 | 0.00475 | -0.0387 | -0.0157 |
| NPC21 | | 0.00752 | 0.00349 | 0.0298 | 0.0254 | 0.0561 | -0.0427 |
| NPC22 | | -0.0032 | 0.165 | -0.00651 | 0.0319 | -0.0986 | -0.0528 |
| NPC23 | | 0.0119 | 0.274 | 0.0268 | 0.0384 | -0.176 | 0.0169 |
| NPC27 | | -0.0034 | 0.122 | 0.0119 | 0.0277 | 0.0604 | -0.00415 |
| Echinomycin | | 0.0708 | 0.752 | 0.0406 | 0.026 | 0.156 | -0.163 |
| NPC28 | | -0.0029 | 0.0372 | 0.067 | 0.0399 | -0.0639 | 0.032 |

| | Parameter | Potency | Potency | Potency | Potency | Potency | Potency |
|---|---|---|---|---|---|---|---|
| | Cell Line | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 |
| | Modulator | Digoxin | BCAR | BHA | BHT | ActD | Necrostatin-1 |
| Irinotecan | | 0.551 | 0.0652 | 0.157 | -0.324 | -0.31 | 0.185 |
| Camptothecin_1 | | 0.838 | 0.0232 | 0.263 | -0.318 | -0.44 | 0.117 |
| Doxorubicin | | 0.272 | 0.0503 | 0.107 | -0.0184 | -0.254 | 0.0286 |
| Daunorubicin_1 | | 0.406 | 0.0491 | 0.087 | -0.098 | -0.245 | 0.0888 |
| Mitoxantrone | | 0.357 | 0.0464 | 0.124 | -0.00369 | 0.0244 | 0.0575 |
| Etoposide | | 0.593 | 0.0218 | 0.282 | -0.0262 | -0.393 | 0.0505 |
| Podophyllotoxin | | 0.184 | 0.0172 | 0.103 | -0.18 | -0.0125 | 0.064 |
| Vinblastine_1 | | 0.348 | -0.0154 | -0.105 | -0.249 | 0.224 | -0.063 |
| Vincristine | | 0.361 | 0.0643 | -0.0747 | -0.326 | 0.255 | 0.0608 |
| Colchicine | | 0.335 | 0.0652 | 0.115 | -0.261 | 0.057 | 0.0643 |
| Rotenone | | 0.374 | 0.0361 | -0.0192 | 0.0754 | 0.184 | 0.0406 |
| 2,4 Dinitrophenol | | -0.342 | 0.0289 | -0.423 | -0.524 | 0.00886 | 0.127 |
| Sodium Azide | | 0.114 | 0.0416 | -0.117 | -0.534 | 0.205 | -0.0864 |
| Valinomycin | | 0.0317 | -0.18 | -0.398 | -0.761 | -0.0304 | -0.284 |
| Staurosporine | | -0.709 | -0.0836 | -0.468 | -0.768 | 0.0646 | -0.293 |
| H7 | | -0.0621 | 0.00275 | -0.109 | -0.578 | -0.202 | -0.0302 |
| Erastin_1 | | 0.0772 | -0.015 | 0.886 | 0.889 | -0.0195 | 0.194 |
| Chlorambucil | | 0.13 | 0.0287 | 0.0017 | -0.29 | -0.0549 | -0.0265 |
| Carmustine | | 0.0609 | -0.000516 | 0.0451 | -0.362 | -0.0932 | -0.0707 |
| Lomustine | | -0.0495 | -0.0433 | -0.0445 | -0.386 | -0.184 | -0.162 |
| Semustine | | 0.0661 | 0.00512 | -0.0186 | -0.258 | -0.0386 | -0.0329 |
| MG132_1 | | 0.404 | 0.0268 | -0.394 | -0.285 | -0.0146 | -0.161 |
| MG262 | | 0.122 | -0.046 | -0.245 | -0.287 | -0.00823 | -0.0813 |
| Bortezomib | | 0.312 | -0.0206 | -0.0818 | -0.28 | -0.0223 | -0.0527 |
| TrichostatinA | | -0.296 | -0.0836 | -0.177 | -0.453 | -0.287 | -0.147 |
| MS275 | | -0.759 | -0.0994 | -0.0788 | -0.514 | -0.47 | -0.0373 |
| Scriptaid | | -0.279 | -0.0384 | -0.13 | -0.286 | -0.272 | -0.049 |
| RSL3 | | -0.421 | -0.0706 | 1.53 | 1.21 | -0.157 | 0.363 |
| NPC25 | | 0.226 | 0.00913 | 0.114 | 0.0451 | 0.0942 | 0.0445 |
| NPC26 | | 0.0636 | -0.00519 | 0.0588 | -0.151 | 0.0584 | 0.0422 |
| Camptothecin_2 | | 0.777 | -0.06 | 0.394 | -0.335 | -0.101 | 0.28 |
| NPC1 | | -0.125 | -0.0248 | -0.235 | -0.693 | 0.0281 | 0.0242 |
| NPC2 | | -0.0788 | -0.00225 | -0.212 | -0.254 | 0.143 | 0.00957 |
| NPC4 | | 0.408 | 0.0407 | 0.299 | -0.229 | 0.0663 | 0.294 |
| NPC5 | | -0.000761 | -0.0197 | 0.0373 | -0.33 | 0.0157 | 0.00877 |
| NPC6 | | 0.00372 | 0.0237 | 0.192 | -0.66 | 0.19 | 0.0847 |
| NPC7 | | 0.216 | -0.0165 | 0.114 | -0.246 | 0.119 | 0.0544 |
| NPC8 | | 0.0203 | -0.00952 | -0.0466 | -0.429 | 0.267 | 0.147 |
| NPC10 | | -0.0298 | 0.0135 | -0.508 | -0.571 | 0.201 | -0.00397 |
| NPC11 | | -0.0799 | -0.0596 | -0.471 | -0.519 | 0.174 | 0.06 |
| NPC12 | | 0.00243 | -0.0126 | 0.00328 | -0.146 | 0.117 | 0.0976 |
| Vinblastine_2 | | 0.155 | 0.0458 | -0.0749 | -0.156 | 0.155 | -0.0552 |
| MG132_2 | | 0.178 | -0.0627 | -0.454 | -0.155 | 0.0809 | -0.0725 |
| Cycloheximide | | 0.0973 | 0.0304 | 0.276 | -0.231 | 0.23 | 0.207 |
| Erastin_2 | | 0.113 | -0.141 | 1.2 | 1.08 | -0.00706 | 0.379 |
| NPC14 | | -0.0879 | -0.000391 | 0.0193 | -0.288 | -0.0936 | 0.0321 |
| NPC15 | | 0.0997 | -0.0329 | 0.0265 | -0.396 | 0.0963 | 0.0447 |
| Daunorubicin_2 | | 0.323 | -0.0163 | 0.0891 | -0.165 | -0.0624 | 0.197 |
| NPC17 | | -0.116 | -0.0238 | 0.0416 | -0.581 | 0.0716 | 0.129 |
| NPC18 | | -0.0279 | -0.0209 | 0.0203 | -0.625 | -0.00562 | 0.0644 |
| NPC19 | | 0.00268 | -0.00938 | 0.00205 | -0.372 | -0.0366 | 0.0112 |
| NPC20 | | -0.0828 | -0.00234 | -0.263 | -0.381 | -0.00286 | -0.0179 |
| NPC21 | | -0.206 | 0.000775 | 0.0421 | -0.792 | -0.0509 | 0.0281 |
| NPC22 | | -0.114 | -0.0224 | -0.296 | -0.291 | 0.128 | -0.00564 |
| NPC23 | | -0.156 | -0.0161 | -0.486 | -0.428 | 0.0298 | 0.00562 |
| NPC27 | | -0.192 | 0.00299 | 0.0989 | -0.455 | 0.0872 | 0.202 |
| Echinomycin | | 0.167 | 0.0439 | -0.00474 | -0.268 | 0.0133 | 0.0848 |
| NPC28 | | -0.223 | 0.00293 | -0.301 | -0.359 | 0.0714 | 0.0662 |

| | Parameter | Potency | Potency | Potency | Potency | Potency | Potency |
|---|---|---|---|---|---|---|---|
| | Cell Line | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 |
| | Modulator | ATA | TLCK | LNAME | NAD+ | Gd3+ | Co2+ |
| Irinotecan | | 0.0606 | 0.141 | 0.0369 | 0.213 | 0.0852 | 0.282 |
| Camptothecin_1 | | 0.0905 | 0.224 | 0.0602 | 0.233 | 0.0624 | 0.624 |
| Doxorubicin | | 0.154 | 0.264 | 0.0466 | 0.252 | 0.0505 | 0.603 |
| Daunorubicin_1 | | 0.0489 | 0.315 | -0.0279 | 0.273 | 0.0138 | 0.463 |
| Mitoxantrone | | 0.0973 | 0.266 | 0.0573 | 0.606 | 0.0935 | 1.48 |
| Etoposide | | -0.17 | 0.831 | 0.047 | 0.171 | 0.153 | 1.48 |
| Podophyllotoxin | | 0.0839 | 0.053 | -0.00702 | 0.0618 | -0.00537 | 0.172 |
| Vinblastine_1 | | 0.0791 | -0.235 | -0.0438 | 0.323 | -0.0376 | 1.42 |
| Vincristine | | 0.193 | -0.245 | 0.00145 | 0.391 | 0.00709 | 1.06 |
| Colchicine | | 0.147 | -0.19 | 0.0332 | 0.177 | 0.004 | 0.301 |
| Rotenone | | 0.125 | -0.173 | 0.00701 | 0.382 | 0.00117 | 1.62 |
| 2,4 Dinitrophenol | | -0.196 | 0.122 | 0.0222 | 0.287 | -0.0348 | 0.385 |
| Sodium Azide | | 0.0318 | 0.0556 | -0.0555 | 0.158 | -0.0799 | 0.336 |
| Valinomycin | | -0.65 | -0.127 | -0.225 | 1.38 | -0.137 | -0.491 |
| Staurosporine | | -0.285 | -0.291 | -0.0647 | 0.442 | -0.00211 | 0.18 |
| H7 | | -0.0733 | -0.0575 | -0.0259 | 0.378 | 0.0213 | -0.366 |
| Erastin_1 | | -0.422 | 0.471 | -0.0111 | -0.0599 | -0.0414 | -0.606 |
| Chlorambucil | | -0.116 | -0.046 | 0.00504 | 0.345 | -0.00414 | -0.0341 |
| Carmustine | | 0.000785 | -0.0865 | 0.00424 | -0.0297 | -0.0692 | -0.399 |
| Lomustine | | 0.0457 | 0.0644 | 0.00409 | 0.093 | -0.0702 | -0.00879 |
| Semustine | | 0.201 | 0.0525 | -0.0305 | -0.0802 | -0.119 | -0.395 |
| MG132_1 | | 0.118 | -0.0228 | 0.0225 | 0.15 | 0.196 | -0.0143 |
| MG262 | | 0.156 | 0.017 | 0.0118 | 0.187 | -0.0471 | -0.0217 |
| Bortezomib | | 0.26 | 0.0886 | 0.018 | 0.435 | -0.139 | 0.41 |
| TrichostatinA | | -0.0598 | -0.117 | 0.0545 | 0.0666 | -0.0507 | 0.107 |
| MS275 | | 0.0564 | -0.0738 | 0.0295 | -0.0519 | -0.0687 | -0.316 |
| Scriptaid | | -0.173 | -0.205 | 0.0142 | 0.082 | -0.0216 | -0.339 |
| RSL3 | | -0.168 | 1.33 | -0.00267 | 0.0609 | -0.00999 | -0.735 |
| NPC25 | | 0.05 | 0.0173 | 0.0444 | 0.278 | 0.0471 | 0.172 |
| NPC26 | | 0.0355 | 0.161 | 0.169 | 0.252 | 0.155 | -0.175 |
| Camptothecin_2 | | -0.274 | 0.0885 | -0.00455 | 0.35 | 0.0744 | 0.0911 |
| NPC1 | | -0.0387 | -0.0925 | 0.036 | 0.0307 | 0.0439 | 0.0335 |
| NPC2 | | 0.214 | -0.0218 | 0.0124 | 0.113 | 0.0158 | 0.0967 |
| NPC4 | | 0.0387 | -0.182 | 0.0681 | 0.114 | -0.0254 | -0.0121 |
| NPC5 | | 0.0653 | 0.038 | -0.0013 | -0.0146 | 0.0269 | -0.418 |
| NPC6 | | -0.0284 | 0.038 | 0.0161 | -0.0831 | 0.0715 | -0.341 |
| NPC7 | | 0.0289 | -0.00452 | 0.0271 | 0.277 | 0.0601 | -0.0255 |
| NPC8 | | -0.0286 | -0.138 | 0.00698 | 0.0931 | 0.0413 | -0.372 |
| NPC10 | | -0.0299 | 0.0106 | 0.00621 | 0.0556 | 0.00754 | 0.012 |
| NPC11 | | -0.0173 | -0.0036 | 0.0208 | 0.0416 | 0.0046 | -0.00778 |
| NPC12 | | 0.0406 | 0.0239 | 0.0112 | 0.0314 | -0.0125 | -0.116 |
| Vinblastine_2 | | 0.0935 | -0.0492 | 0.0215 | 0.314 | 0.0522 | 0.0957 |
| MG132_2 | | 0.027 | -0.0904 | -0.00382 | 0.0939 | 0.0254 | 0.0665 |
| Cycloheximide | | -0.118 | 0.126 | 0.0446 | 0.371 | 0.0359 | 0.299 |
| Erastin_2 | | -0.295 | 0.411 | 0.0605 | 0.0292 | -0.063 | -0.841 |
| NPC14 | | 0.0242 | -0.0159 | 0.0689 | -0.0259 | 0.0374 | -0.409 |
| NPC15 | | 0.201 | 0.0442 | 0.106 | 0.081 | -0.0976 | 0.0184 |
| Daunorubicin_2 | | -0.0156 | 0.00455 | 0.00297 | 0.0933 | 0.00357 | 0.304 |
| NPC17 | | 0.129 | 0.011 | 0.0341 | -0.0154 | 0.1 | -0.29 |
| NPC18 | | -0.0234 | 0.062 | 0.061 | 0.0176 | 0.0129 | -0.27 |
| NPC19 | | -0.0199 | 0.00205 | 0.0174 | 0.0994 | 0.015 | -0.218 |
| NPC20 | | 0.029 | -0.0494 | -0.0102 | -0.00267 | -0.00103 | 0.00955 |
| NPC21 | | -0.0139 | 0.0519 | 0.0711 | 0.0771 | 0.031 | -0.266 |
| NPC22 | | 0.0823 | -0.087 | 0.00754 | 0.0542 | 0.0159 | -0.00142 |
| NPC23 | | 0.0413 | -0.0352 | 0.0342 | 0.0127 | 0.021 | 0.0123 |
| NPC27 | | 0.139 | -0.0893 | 0.0994 | 0.125 | -0.0317 | -0.0773 |
| Echinomycin | | 0.136 | 0.0232 | 0.059 | 0.616 | 0.0385 | 0.0212 |
| NPC28 | | -0.0546 | -0.042 | 0.0744 | 0.0675 | 0.0458 | 0.078 |

| | Parameter | Potency | Potency | Potency | Potency | Potency | Potency |
|---|---|---|---|---|---|---|---|
| | Cell Line | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 |
| | Modulator | 3MA | NMMA | Lmim | Cycloheximide | Deferox | EGTA |
| Irinotecan | | 0.131 | 0.0523 | 0.3 | 0.518 | 0.528 | 0.0778 |
| Camptothecin_1 | | 0.111 | 0.0903 | 0.296 | 0.438 | 0.687 | 0.117 |
| Doxorubicin | | 0.161 | 0.0853 | 0.214 | 0.226 | 0.0702 | 0.0148 |
| Daunorubicin_1 | | 0.12 | 0.0846 | 0.203 | 0.183 | 0.0728 | 0.0661 |
| Mitoxantrone | | 0.172 | 0.109 | 0.199 | 0.199 | 0.226 | 0.115 |
| Etoposide | | 0.096 | 0.0928 | 0.16 | 0.647 | 0.5 | 0.155 |
| Podophyllotoxin | | -0.0971 | 0.0625 | 0.0887 | 0.00143 | 2.26 | -0.0791 |
| Vinblastine_1 | | 0.109 | -0.0236 | 0.117 | 0.0248 | 3.09 | 0.0314 |
| Vincristine | | 0.169 | -0.00773 | 0.208 | 0.121 | 2.61 | 0.0371 |
| Colchicine | | -0.00503 | 0.00649 | 0.0814 | -0.0654 | 2.43 | 0.00413 |
| Rotenone | | 0.154 | 0.0687 | 0.134 | 0.0266 | 2.45 | -0.0886 |
| 2,4 Dinitrophenol | | -0.295 | 0.128 | 0.108 | 1.09 | 0.648 | -0.332 |
| Sodium Azide | | -0.211 | -0.00136 | -0.17 | 0.132 | 0.27 | -0.0146 |
| Valinomycin | | -0.778 | -0.199 | -0.691 | 1.65 | 0.959 | 0.112 |
| Staurosporine | | -0.496 | -0.123 | -0.22 | -0.588 | -0.395 | -0.0303 |
| H7 | | -0.0598 | 0.0131 | -0.0224 | -0.089 | 0.18 | -0.0107 |
| Erastin_1 | | 0.095 | 0.0438 | 1.98 | 0.37 | 1.45 | 0.0651 |
| Chlorambucil | | -0.119 | -0.146 | 0.00861 | 0.0505 | -0.174 | 0.00953 |
| Carmustine | | -0.343 | -0.00569 | -0.0416 | -0.0278 | 0.0319 | -0.045 |
| Lomustine | | -0.172 | -0.12 | -0.103 | 0.0803 | 0.099 | -0.0893 |
| Semustine | | -0.626 | 0.0213 | -0.0277 | 0.112 | 0.0126 | -0.142 |
| MG132_1 | | 0.27 | 0.0281 | 0.143 | 0.463 | -0.204 | 0.0388 |
| MG262 | | -0.0569 | 0.0425 | 0.0835 | 0.157 | -0.171 | -0.109 |
| Bortezomib | | -0.127 | 0.0248 | 0.105 | 0.255 | 0.0886 | -0.00626 |
| TrichostatinA | | -0.379 | 0.058 | -0.0395 | -0.238 | -0.43 | -0.13 |
| MS275 | | -0.389 | 0.00751 | -0.303 | -0.299 | -0.668 | -0.0892 |
| Scriptaid | | -0.288 | -0.00958 | -0.117 | -0.187 | -0.335 | -0.039 |
| RSL3 | | -0.138 | 0.00523 | 1.46 | -0.036 | 1.58 | 0.144 |
| NPC25 | | 0.252 | 0.0337 | 0.427 | 0.176 | 1.9 | 0.0722 |
| NPC26 | | 0.349 | 0.0159 | 0.113 | 0.328 | 0.148 | 0.159 |
| Camptothecin_2 | | -0.209 | 0.0239 | 0.221 | 0.419 | 0.653 | 0.0881 |
| NPC1 | | -0.0262 | 0.00403 | -0.0917 | 0.0415 | -0.296 | 0.0579 |
| NPC2 | | 0.0326 | 0.03 | 0.139 | 0.204 | -0.042 | 0.0485 |
| NPC4 | | 0.15 | 0.101 | 0.587 | 0.205 | 1.89 | -0.01 |
| NPC5 | | -0.0241 | 0.00526 | -0.0863 | 0.0663 | 0.121 | -0.0615 |
| NPC6 | | -0.235 | -0.019 | -0.279 | 0.0863 | 0.361 | 0.064 |
| NPC7 | | 0.133 | 0.024 | 0.501 | 0.124 | 1.35 | 0.0157 |
| NPC8 | | -0.0702 | 0.0173 | 0.203 | 0.329 | 0.359 | 0.0456 |
| NPC10 | | 0.00604 | 0.0101 | 0.0311 | 0.229 | -0.154 | 0.0307 |
| NPC11 | | -0.0672 | 0.00545 | -0.0449 | 0.101 | -0.119 | 0.0064 |
| NPC12 | | -0.044 | -0.0112 | 0.0384 | 0.206 | 0.383 | -0.0426 |
| Vinblastine_2 | | 0.166 | 0.00964 | 0.475 | 0.0741 | 2.97 | 0.0497 |
| MG132_2 | | 0.0582 | 0.00982 | 0.0927 | 0.486 | -0.307 | 0.0156 |
| Cycloheximide | | 0.0461 | 0.0537 | 0.293 | 0.537 | 0.968 | 0.0647 |
| Erastin_2 | | 0.27 | 0.00181 | 1.66 | 0.542 | 1.43 | 0.0965 |
| NPC14 | | -0.0911 | -0.0215 | -0.203 | -0.173 | -0.125 | 0.0544 |
| NPC15 | | -0.1 | 0.0743 | 0.0439 | 0.108 | 0.297 | 0.0579 |
| Daunorubicin_2 | | -0.0952 | 0.0515 | 0.122 | 0.0353 | -0.0417 | 0.00449 |
| NPC17 | | -0.0219 | 0.0138 | 0.0608 | 0.017 | 0.189 | 0.108 |
| NPC18 | | -0.104 | -0.0147 | -0.047 | 0.114 | 0.0841 | 0.00964 |
| NPC19 | | -0.0909 | -0.0215 | -0.11 | 0.283 | 0.29 | 0.0515 |
| NPC20 | | -0.0157 | 0.012 | -0.00698 | 0.147 | -0.0273 | 0.0534 |
| NPC21 | | -0.0717 | -0.0177 | 0.046 | 0.529 | 0.154 | 0.0215 |
| NPC22 | | -0.096 | -0.00763 | -0.0233 | 0.0372 | 0.0878 | 0.0496 |
| NPC23 | | -0.012 | 0.0237 | 0.00535 | 0.43 | -0.18 | 0.0619 |
| NPC27 | | 0.233 | -0.0317 | -0.0671 | -0.13 | 0.0518 | 0.00657 |
| Echinomycin | | 1.48 | 0.0217 | 0.208 | 0.159 | 0.139 | 0.0202 |
| NPC28 | | -0.0175 | 0.0563 | 0.000865 | 0.0704 | -0.299 | -0.014 |

| | Parameter | Potency | Potency | Efficacy | Efficacy | Efficacy | Efficacy |
|---|---|---|---|---|---|---|---|
| | Cell Line | HT1080 | HT1080 | BJeLR | BJeLR | BJeLR | BJeLR |
| | Modulator | SP600125 | CspA | TLCK | LNAME | NAD+ | NAD+/Lmim |
| Irinotecan | | 0.0361 | -0.594 | NaN | 0.0022 | 0.0635 | 0.056 |
| Camptothecin_1 | | 0.115 | -0.701 | 0.029 | 0.00689 | 0.111 | 0.109 |
| Doxorubicin | | -0.0997 | -0.389 | 0.0236 | -0.00578 | 0.101 | 0.077 |
| Daunorubicin_1 | | 0.00948 | -0.194 | 0.0106 | 0.00384 | 0.0651 | 0.0566 |
| Mitoxantrone | | -0.00911 | -0.404 | 0.00112 | -0.000877 | 0.0615 | 0.0628 |
| Etoposide | | 0.0417 | -0.761 | NaN | NaN | 0.0547 | 0.0746 |
| Podophyllotoxin | | -0.198 | -0.367 | 0.0026 | -0.0037 | 0.147 | 0.177 |
| Vinblastine_1 | | 0.0375 | -0.439 | 0.0014 | 0.0056 | 0.167 | 0.211 |
| Vincristine | | 0.0101 | -0.681 | -0.0168 | -0.0111 | 0.146 | 0.171 |
| Colchicine | | -0.0929 | -0.392 | 0.002 | -0.0033 | 0.146 | 0.188 |
| Rotenone | | -0.0971 | -0.594 | 0.00381 | -0.0263 | 0.126 | 0.227 |
| 2,4 Dinitrophenol | | -0.504 | -0.718 | 0.0576 | -0.0269 | 0.12 | 0.135 |
| Sodium Azide | | -0.0362 | -0.178 | 0.013 | 0.0045 | 0.0613 | 0.0885 |
| Valinomycin | | -0.463 | -0.702 | 0.0456 | -0.0134 | 0.101 | 0.104 |
| Staurosporine | | -0.562 | -0.456 | NaN | 0.00242 | NaN | 0.255 |
| H7 | | -0.0965 | -0.287 | 0.00202 | -0.00206 | 0.0764 | 0.113 |
| Erastin_1 | | -0.0496 | 0.18 | 0.0122 | 1.45E-08 | 0.0364 | 0.149 |
| Chlorambucil | | -0.13 | -0.36 | -0.00273 | 0.00147 | 0.0068 | 0.0481 |
| Carmustine | | -0.0814 | -0.714 | -3.54E-05 | 0.00171 | 0.00202 | 0.0042 |
| Lomustine | | 0.0556 | -0.377 | 0.00728 | 0.00382 | 0.0328 | 0.0902 |
| Semustine | | -0.25 | -0.657 | 0.00158 | -0.00031 | 0.0189 | 0.0337 |
| MG132_1 | | 0.149 | -1.14 | 0.00566 | 0.00193 | 0.0637 | 0.0716 |
| MG262 | | -0.261 | -0.961 | 0.0111 | 0.00668 | 0.0692 | 0.0577 |
| Bortezomib | | -0.082 | -0.79 | 0.0129 | 0.00601 | 0.0691 | 0.0693 |
| TrichostatinA | | -0.315 | -0.496 | 0.0107 | 0.00276 | 0.114 | 0.156 |
| MS275 | | -0.426 | -0.823 | 0.012 | 0.0107 | 0.123 | 0.161 |
| Scriptaid | | -0.213 | -0.526 | 0.0234 | 0.0115 | 0.148 | 0.149 |
| RSL3 | | -0.486 | -0.483 | NaN | 0.00577 | 0.0322 | 0.0333 |
| NPC25 | | 0.143 | -0.0209 | -0.000907 | 0.0081 | 0.15 | 0.24 |
| NPC26 | | 0.51 | -0.0855 | 0.00351 | 0.00528 | 0.0506 | 0.0643 |
| Camptothecin_2 | | 0.317 | -0.499 | 0.00171 | 0.00309 | 0.0969 | 0.137 |
| NPC1 | | -0.00971 | -0.152 | -4.05E-05 | 5.63E-05 | 0.00171 | 0.00329 |
| NPC2 | | 0.00738 | -0.0159 | 0.000353 | 0.000521 | -1.01E-05 | 0.0137 |
| NPC4 | | 0.267 | -0.206 | -0.0381 | 0.00151 | 0.122 | 0.301 |
| NPC5 | | -0.0188 | -0.0875 | 0.00139 | 0.00127 | 0.0186 | 0.0111 |
| NPC6 | | 0.134 | -0.226 | -0.0117 | 0.00665 | -0.0164 | -0.0195 |
| NPC7 | | 0.126 | -0.115 | -0.00496 | 0.0271 | 0.165 | 0.242 |
| NPC8 | | -0.0758 | -0.622 | 0.00631 | 0.00255 | NaN | NaN |
| NPC10 | | -0.0243 | -0.0216 | 0.000162 | 6.98E-06 | 0.000306 | 0.013 |
| NPC11 | | -0.00398 | -0.0276 | 0.00246 | -0.00036 | 0.00901 | 0.00999 |
| NPC12 | | 0.0114 | -0.0327 | 0.00445 | -0.0137 | 0.00641 | 0.0378 |
| Vinblastine_2 | | 0.181 | -0.226 | -0.00479 | 0.0192 | 0.114 | 0.188 |
| MG132_2 | | 0.0336 | -0.736 | -0.00428 | -0.000367 | 0.0371 | 0.0432 |
| Cycloheximide | | -0.0206 | 0.181 | 0.0109 | 0.00475 | 0.0883 | 0.111 |
| Erastin_2 | | 0.111 | 0.0707 | 0.00406 | -0.00469 | 0.0178 | NaN |
| NPC14 | | -0.0764 | -0.125 | -0.00161 | -0.000673 | 0.00423 | 0.00675 |
| NPC15 | | -0.076 | -0.12 | 0.0193 | 0.0106 | 0.0202 | 0.0232 |
| Daunorubicin_2 | | 0.149 | -0.135 | -0.0288 | 0.011 | 0.0491 | 0.102 |
| NPC17 | | 0.0148 | -0.19 | 0.00335 | 0.00535 | 0.0207 | 0.0475 |
| NPC18 | | 0.0379 | -0.434 | -0.00359 | -0.00342 | 0.00483 | -0.0012 |
| NPC19 | | -0.00836 | -0.226 | 0.00486 | -0.00402 | 0.0043 | 0.0115 |
| NPC20 | | 0.0237 | -0.0015 | 0.00187 | 0.00233 | 0.00729 | 0.0143 |
| NPC21 | | 0.0155 | -0.391 | 0.00343 | 0.00336 | NaN | NaN |
| NPC22 | | -0.0085 | 0.00628 | 0.00246 | 0.000699 | 0.0228 | 0.021 |
| NPC23 | | -0.0383 | -0.0487 | -0.00337 | -0.0151 | -0.00371 | 0.00318 |
| NPC27 | | 0.093 | -0.0716 | 0.0014 | 0.00202 | 0.131 | 0.172 |
| Echinomycin | | 0.36 | -0.409 | -0.00103 | 0.00111 | 0.0942 | 0.0994 |
| NPC28 | | -0.0377 | -0.0355 | 5.86E-05 | 0.00128 | 0.0048 | 0.0109 |

| | Parameter | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
|---|---|---|---|---|---|---|---|
| | Cell Line | BJeLR | BJeLR | BJeLR | BJeLR | BJeLR | BJeLR |
| | Modulator | Lmim | Gd3+ | Co2+ | 3MA | NMMA | Cycloheximide |
| Irinotecan | | 0.00164 | 0.00365 | -0.00224 | NaN | 0.00263 | 0.00286 |
| Camptothecin_1 | | 0.00654 | 0.00158 | 0.0143 | NaN | -0.00316 | 0.0168 |
| Doxorubicin | | 0.00416 | -0.0106 | -0.0082 | 0.00822 | -0.00782 | 0.0712 |
| Daunorubicin_1 | | 0.00144 | -0.000653 | -0.00309 | 0.0345 | -0.000853 | 0.0348 |
| Mitoxantrone | | -0.00126 | 0.000211 | 0.045 | NaN | -0.000768 | 0.000241 |
| Etoposide | | NaN | -0.000874 | 0.00166 | 0.00723 | NaN | 0.0579 |
| Podophyllotoxin | | 0.0605 | -0.0023 | 0.192 | -0.0197 | -0.0051 | 0.216 |
| Vinblastine_1 | | 0.0737 | 0.0151 | 0.13 | -0.00398 | 0.000123 | 0.224 |
| Vincristine | | 0.0416 | -0.00428 | 0.118 | -0.0345 | -0.00297 | 0.192 |
| Colchicine | | 0.0738 | -0.0036 | 0.19 | -0.0112 | -0.0085 | 0.231 |
| Rotenone | | 0.174 | 0.00345 | -0.0198 | 0.0115 | 0.0156 | NaN |
| 2,4 Dinitrophenol | | -0.0313 | -0.0149 | 0.0593 | 0.0347 | -0.0192 | 0.772 |
| Sodium Azide | | 0.0161 | 0.00186 | NaN | 0.0407 | 0.00148 | 0.0027 |
| Valinomycin | | -0.0213 | -0.0064 | 0.0863 | 0.012 | -0.0172 | 0.499 |
| Staurosporine | | 0.0317 | -0.00482 | NaN | NaN | 0.000261 | NaN |
| H7 | | 0.0169 | 0.0108 | -0.0353 | 0.00669 | -0.00815 | 0.053 |
| Erastin_1 | | 0.101 | 5.95E-09 | 4.81E-07 | -4.47E-10 | 1.26E-07 | -4.47E-10 |
| Chlorambucil | | -0.00423 | 0.00124 | -0.00445 | NaN | NaN | -0.00282 |
| Carmustine | | 0.00128 | -9.73E-05 | NaN | 0.00313 | -0.00156 | 0.00714 |
| Lomustine | | 0.0303 | 0.0106 | 0.0809 | -0.0115 | -0.00202 | NaN |
| Semustine | | 0.00522 | 0.00126 | 0.00313 | NaN | 0.00426 | 0.0259 |
| MG132_1 | | 0.00733 | 0.00372 | 0.0256 | -0.00746 | 0.000461 | 0.461 |
| MG262 | | 0.0158 | 0.0023 | 0.0482 | -0.0152 | 0.00432 | 0.364 |
| Bortezomib | | 0.0237 | 0.00262 | 0.0806 | -0.017 | 0.00105 | 0.422 |
| TrichostatinA | | 0.0276 | 0.00755 | 0.0398 | -0.00481 | -0.00141 | 0.305 |
| MS275 | | 0.00974 | 0.0117 | 0.0706 | 0.00208 | 0.00512 | 0.223 |
| Scriptaid | | 0.0281 | 0.0115 | 0.0204 | -0.0125 | 0.00222 | NaN |
| RSL3 | | -0.0162 | 0.00242 | 0.0673 | 0.00214 | 0.00259 | 0.0123 |
| NPC25 | | 0.131 | 0.0262 | 0.322 | 0.0244 | 0.00746 | 0.397 |
| NPC26 | | 0.0126 | 0.00392 | -0.00359 | -0.00315 | -0.0106 | 0.189 |
| Camptothecin_2 | | 0.0126 | 0.00112 | 0.0282 | NaN | 0.00158 | 0.0942 |
| NPC1 | | 0.000308 | 0.000582 | 0.00251 | 0.00212 | 0.000561 | 0.0014 |
| NPC2 | | -0.00337 | 0.00182 | 0.0025 | -0.000523 | -0.000561 | -0.00329 |
| NPC4 | | 0.123 | 0.00365 | 0.244 | -0.0097 | -0.0152 | 0.403 |
| NPC5 | | 0.00204 | 0.00154 | 0.0152 | -7.44E-05 | -7.44E-05 | -7.44E-05 |
| NPC6 | | -0.00862 | 0.00304 | -0.0125 | 0.00239 | 0.00342 | 0.0364 |
| NPC7 | | 0.103 | 0.0421 | 0.135 | 0.0175 | 0.0143 | 0.301 |
| NPC8 | | NaN | 0.000988 | 0.0407 | NaN | NaN | NaN |
| NPC10 | | 0.00118 | 4.29E-07 | 0.00268 | 0.00031 | 0.00306 | 3.92E-05 |
| NPC11 | | 0.000257 | 0.000759 | 0.00623 | 0.00133 | 6.19E-06 | 0.000398 |
| NPC12 | | 0.0276 | -0.00065 | 0.0303 | 0.00871 | 0.00805 | -0.005 |
| Vinblastine_2 | | 0.11 | 0.0512 | 0.297 | -0.0172 | -0.00531 | 0.301 |
| MG132_2 | | 0.00587 | -0.00457 | 0.0287 | -0.00367 | 0.00364 | 0.419 |
| Cycloheximide | | 0.036 | 0.0137 | 0.199 | 0.00679 | 0.001 | 0.251 |
| Erastin_2 | | 0.17 | -0.00518 | 0.0128 | -0.00143 | 0.00475 | 0.0588 |
| NPC14 | | 0.00124 | 0.000625 | 0.00776 | -0.00172 | -0.00194 | 0.00124 |
| NPC15 | | -0.00865 | 0.00944 | 0.0241 | -0.00467 | -0.00914 | -0.0109 |
| Daunorubicin_2 | | 0.0509 | -0.00925 | 0.0591 | 0.0609 | 0.000795 | 0.257 |
| NPC17 | | 0.00104 | 0.00235 | -0.0034 | 0.00422 | 0.00488 | -0.00628 |
| NPC18 | | -0.0114 | 0.00706 | NaN | 0.0302 | -0.0173 | NaN |
| NPC19 | | 0.0128 | -0.00028 | 0.0253 | -0.00054 | 0.00254 | -0.0169 |
| NPC20 | | -0.00138 | 0.00243 | 0.00267 | -0.00142 | -0.00292 | -0.00243 |
| NPC21 | | -0.0151 | -0.01 | NaN | 0.0471 | 0.00445 | NaN |
| NPC22 | | 0.00147 | 0.00129 | 0.00719 | -0.000651 | -0.000792 | 0.00243 |
| NPC23 | | -0.00263 | -0.0058 | -0.0154 | -0.0023 | 0.00136 | 0.00476 |
| NPC27 | | -0.00664 | 0.00181 | -0.00189 | -0.00395 | -0.000911 | 0.0165 |
| Echinomycin | | 0.0158 | -0.00168 | 0.104 | NaN | -0.00518 | 0.194 |
| NPC28 | | 0.00138 | 0.000953 | 0.00118 | -0.00172 | 0.000801 | 0.00251 |

| | Parameter | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
|---|---|---|---|---|---|---|---|
| | Cell Line | BJeLR | BJeLR | BJeLR | BJeLR | BJeLR | BJeLR |
| | Modulator | ALLN | Pepstatin | ZVAD | BOCD | TOC | Trolox |
| Irinotecan | | 0.00463 | -0.00196 | 0.113 | 0.0873 | 0.00261 | -0.00198 |
| Camptothecin_1 | | 0.018 | -1.85E-05 | 0.0979 | 0.0916 | -0.00348 | -0.0044 |
| Doxorubicin | | 0.0298 | 0.0111 | 0.0799 | 0.0648 | 0.0136 | -0.0133 |
| Daunorubicin_1 | | 0.00174 | 0.000538 | 0.0457 | 0.0389 | 0.00272 | -0.00632 |
| Mitoxantrone | | 0.00399 | -7.58E-05 | 0.0629 | 0.0584 | 0.0046 | 0.0048 |
| Etoposide | | 0.187 | 0.0043 | 0.0946 | 0.0742 | 0.0171 | -0.0035 |
| Podophyllotoxin | | 0.0278 | 0.0198 | 0.0947 | 0.0695 | 0.00665 | -0.0188 |
| Vinblastine_1 | | 0.0107 | -0.00678 | 0.0812 | 0.0523 | -0.0215 | -0.00373 |
| Vincristine | | 0.027 | -0.0148 | 0.0682 | 0.0417 | 0.0178 | -0.0157 |
| Colchicine | | 0.00925 | 0.0131 | 0.096 | 0.0619 | -0.00095 | -0.0143 |
| Rotenone | | -0.00335 | 0.022 | 0.0841 | 0.0439 | 0.0276 | -0.00727 |
| 2,4 Dinitrophenol | | -0.0372 | 0.139 | 0.0211 | 0.0256 | 0.172 | 0.108 |
| Sodium Azide | | -0.00376 | NaN | 0.0297 | 0.0191 | NaN | NaN |
| Valinomycin | | -0.0384 | 0.0581 | 0.0146 | 0.015 | 0.0448 | 0.0535 |
| Staurosporine | | -0.00497 | NaN | NaN | NaN | NaN | 0.000715 |
| H7 | | -0.0149 | 0.0106 | 0.102 | 0.0817 | 0.0124 | -0.000832 |
| Erastin_1 | | -2.83E-07 | 0.165 | -5.51E-07 | 0.00248 | NaN | NaN |
| Chlorambucil | | NaN | NaN | NaN | NaN | -0.000177 | -0.00275 |
| Carmustine | | 0.0016 | 0.000211 | 9.71E-05 | 0.00011 | 0.00102 | -0.000337 |
| Lomustine | | 0.00423 | -0.00321 | -0.00443 | -0.00065 | -0.00318 | -0.0139 |
| Semustine | | 0.000335 | -0.00057 | -0.000449 | -0.000316 | -0.000146 | -9.81E-05 |
| MG132_1 | | -0.001 | 0.00175 | 0.0424 | 0.0512 | -0.00317 | -0.00667 |
| MG262 | | -0.00554 | 0.00271 | 0.0534 | 0.0529 | -0.00045 | -0.00259 |
| Bortezomib | | -0.00617 | -0.00052 | 0.0444 | 0.0476 | 0.00305 | -0.00351 |
| TrichostatinA | | -0.00659 | -0.00273 | 0.165 | 0.141 | 0.00017 | -0.00526 |
| MS275 | | 0.00313 | 0.00182 | 0.219 | 0.122 | 0.00883 | 0.00331 |
| Scriptaid | | -0.0049 | -0.00793 | 0.145 | 0.0952 | -0.000378 | -0.00345 |
| RSL3 | | -0.00168 | 0.00166 | 0.000295 | 0.000439 | 0.00884 | 0.00116 |
| NPC25 | | 0.00655 | 0.00945 | 0.0859 | 0.0541 | -0.0151 | -0.0173 |
| NPC26 | | -0.0205 | -0.00371 | 0.0322 | 0.0317 | 0.00161 | 0.00518 |
| Camptothecin_2 | | NaN | -0.00116 | 0.112 | 0.103 | 0.00362 | 0.0017 |
| NPC1 | | -0.000239 | 0.000106 | 0.00222 | -2.35E-05 | -0.00212 | -0.00325 |
| NPC2 | | 0.00154 | 0.0011 | -0.000394 | 0.00306 | 0.00461 | 0.00119 |
| NPC4 | | 0.019 | -0.0105 | 0.0348 | 0.0036 | -0.0363 | -0.00275 |
| NPC5 | | -0.000285 | 0.00112 | -0.000446 | 0.000739 | 0.00121 | 0.00129 |
| NPC6 | | -0.00571 | 0.00111 | -0.00618 | -0.00927 | 0.00379 | 0.00336 |
| NPC7 | | -0.0176 | 0.0193 | 0.0631 | 0.0348 | 0.0337 | 0.000976 |
| NPC8 | | -0.000869 | 0.000275 | NaN | NaN | NaN | 0.00483 |
| NPC10 | | 4.20E-05 | -8.08E-06 | 8.72E-05 | 0.000247 | 1.03E-05 | -4.16E-07 |
| NPC11 | | -1.19E-06 | 4.14E-07 | 1.61E-05 | -1.03E-06 | -0.00025 | -1.93E-05 |
| NPC12 | | -0.000345 | -0.000627 | -0.000456 | -0.000594 | 0.0169 | 0.00139 |
| Vinblastine_2 | | 0.00515 | 0.00408 | 0.0695 | 0.0385 | -0.0205 | 0.00682 |
| MG132_2 | | -0.0062 | 0.00199 | 0.0368 | 0.045 | 0.000481 | -0.00256 |
| Cycloheximide | | 0.0484 | 0.000947 | 0.036 | 0.0405 | -0.00351 | -0.00152 |
| Erastin_2 | | 0.00827 | -0.00525 | -0.00336 | -0.000868 | 0.2 | 0.0927 |
| NPC14 | | 0.00205 | 0.000455 | 0.00347 | -3.03E-08 | -0.0019 | -0.00306 |
| NPC15 | | 0.000898 | -0.00364 | -0.000404 | -0.00347 | 0.0115 | 0.00394 |
| Daunorubicin_2 | | 0.00375 | -0.00569 | 0.0854 | 0.062 | -0.00278 | -0.00504 |
| NPC17 | | 0.00698 | -3.71E-08 | -0.00175 | -0.00484 | -0.00248 | 0.000585 |
| NPC18 | | 0.0321 | -0.0258 | 0.00251 | 0.0154 | -0.00434 | -0.00669 |
| NPC19 | | -0.00214 | 0.00182 | 0.00145 | 0.00755 | 0.00129 | -0.00254 |
| NPC20 | | 0.00218 | 0.000367 | 0.000698 | 0.000514 | 0.00141 | -0.000916 |
| NPC21 | | 0.0472 | 0.00974 | 0.0164 | 0.0203 | 0.00478 | -0.00303 |
| NPC22 | | -0.000358 | 0.000371 | 0.000826 | 0.00103 | 0.00129 | 0.00111 |
| NPC23 | | 0.013 | -6.19E-05 | -2.75E-05 | -6.75E-05 | -0.0102 | -0.0121 |
| NPC27 | | -0.00142 | -0.00194 | 0.0063 | 0.000479 | 0.00298 | -0.00433 |
| Echinomycin | | 0.0112 | -0.0111 | 0.0802 | 0.0795 | 0.0072 | -0.00266 |
| NPC28 | | 0.00316 | 2.06E-06 | 4.14E-07 | 0.000434 | 0.0031 | 0.000402 |

| | Parameter | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
|---|---|---|---|---|---|---|---|
| | Cell Line | BJeLR | BJeLR | HT1080 | HT1080 | HT1080 | HT1080 |
| | Modulator | Necrostatin-1 | DPQ | p53 | Beclin-1 | ZVAD | BOCD |
| Irinotecan | | 0.000842 | 0.00228 | NaN | NaN | 0.137 | NaN |
| Camptothecin_1 | | -0.00396 | -0.00229 | 0.19 | 0.00299 | NaN | NaN |
| Doxorubicin | | -0.0103 | -0.011 | NaN | NaN | NaN | NaN |
| Daunorubicin_1 | | -0.00444 | -0.00152 | NaN | NaN | NaN | NaN |
| Mitoxantrone | | -0.00243 | NaN | NaN | -0.00586 | 0.0492 | 0.055 |
| Etoposide | | NaN | NaN | 0.154 | NaN | 0.0857 | NaN |
| Podophyllotoxin | | -0.0189 | -0.00855 | 0.13 | -0.036 | 0.172 | 0.167 |
| Vinblastine_1 | | -0.0135 | -0.00683 | 0.139 | -0.0325 | 0.167 | 0.19 |
| Vincristine | | -0.0226 | 0.0279 | 0.146 | -0.0274 | 0.193 | 0.185 |
| Colchicine | | -0.0122 | 0.00525 | 0.16 | -0.0253 | 0.193 | 0.182 |
| Rotenone | | 0.0466 | 0.0311 | 0.161 | -0.0683 | 0.139 | 0.176 |
| 2,4 Dinitrophenol | | 0.146 | 0.0125 | 0.0303 | NaN | 0.138 | 0.136 |
| Sodium Azide | | NaN | 0.0498 | NaN | NaN | 0.00848 | -0.00208 |
| Valinomycin | | 0.0479 | -0.0259 | 0.156 | 0.147 | 0.13 | 0.22 |
| Staurosporine | | NaN | 0.000311 | NaN | 0.000682 | 0.179 | 0.168 |
| H7 | | -0.0156 | 0.00551 | 0.00522 | -0.0833 | 0.0978 | 0.0985 |
| Erastin_1 | | 1.42E-07 | 6.37E-07 | -9.09E-06 | 0.00389 | 5.59E-05 | 0.00107 |
| Chlorambucil | | 0.000103 | 0.000762 | 0.0033 | -0.0112 | 0.000115 | -0.000107 |
| Carmustine | | -0.000723 | -0.000641 | -0.000736 | 0.000844 | 0.003 | 0.0018 |
| Lomustine | | 0.00428 | -0.00645 | 1.09E-06 | 0.00408 | 0.00427 | 0.00168 |
| Semustine | | -0.000177 | -0.000185 | -3.23E-05 | -0.000316 | 0.00172 | 0.00213 |
| MG132_1 | | -0.000888 | -0.000455 | 0.05 | -0.00237 | 0.135 | 0.109 |
| MG262 | | 0.00599 | 0.00309 | 0.0171 | -0.00158 | 0.142 | 0.0865 |
| Bortezomib | | 0.00792 | 0.00732 | 0.0669 | -0.0061 | 0.139 | 0.111 |
| TrichostatinA | | -0.00037 | 0.00396 | 0.0292 | 0.00335 | 0.112 | 0.0839 |
| MS275 | | 0.0112 | 0.00408 | 0.0224 | 0.00497 | 0.0958 | 0.0753 |
| Scriptaid | | 0.00485 | 0.00191 | 0.0218 | 0.00444 | 0.151 | 0.116 |
| RSL3 | | -0.0105 | 0.00959 | -0.000196 | 0.000819 | -0.000239 | -8.30E-05 |
| NPC25 | | 0.0148 | -0.002 | 0.159 | 0.0836 | 0.247 | 0.22 |
| NPC26 | | -0.00365 | -0.00397 | 0.000773 | 0.00409 | -0.00271 | 0.000874 |
| Camptothecin_2 | | -0.00085 | 0.0035 | 0.34 | 0.284 | 0.119 | 0.105 |
| NPC1 | | -0.00333 | -0.0016 | 0.000357 | 0.00135 | -0.000266 | -0.000285 |
| NPC2 | | -0.000665 | -0.000659 | 0.000104 | 7.68E-05 | -0.000551 | 0.00164 |
| NPC4 | | 0.0113 | -0.0124 | 0.239 | -0.00335 | 0.219 | 0.152 |
| NPC5 | | -0.000825 | -0.000447 | 0.000637 | -0.00102 | 0.000364 | -5.85E-06 |
| NPC6 | | 0.00722 | -0.00597 | NaN | 0.0186 | 0.00489 | NaN |
| NPC7 | | 0.0422 | 0.00177 | 0.128 | 0.0116 | 0.24 | 0.257 |
| NPC8 | | -0.00151 | 0.000877 | 0.0351 | 0.0116 | 0.00812 | NaN |
| NPC10 | | -7.91E-07 | 5.88E-07 | -0.000121 | 0.000909 | -0.000827 | 0.000742 |
| NPC11 | | -0.00025 | 9.55E-05 | 0.000308 | 0.00109 | -0.000272 | 0.000898 |
| NPC12 | | 0.00994 | -0.00542 | -0.000231 | -0.00169 | 0.012 | 0.0125 |
| Vinblastine_2 | | 0.0224 | 0.00565 | 0.198 | -0.00095 | 0.268 | 0.231 |
| MG132_2 | | -0.000849 | -0.00152 | 0.0459 | 0.00725 | 0.212 | 0.152 |
| Cycloheximide | | 0.0101 | 0.00448 | 0.028 | -0.000847 | 0.0642 | 0.0661 |
| Erastin_2 | | 0.0605 | -0.00131 | 0.00715 | 0.0047 | 0.000494 | -0.000217 |
| NPC14 | | 0.0013 | -0.00166 | -0.000365 | -0.0019 | -0.0007 | -0.000382 |
| NPC15 | | 0.00737 | 0.000142 | 2.35E-06 | 0.0015 | -0.00254 | -0.00182 |
| Daunorubicin_2 | | -0.00207 | -0.00272 | NaN | NaN | NaN | NaN |
| NPC17 | | 0.0058 | -0.00529 | 0.000139 | 0.00212 | -0.000222 | -0.00167 |
| NPC18 | | -0.0107 | -0.00515 | 0.00478 | 0.00675 | 0.00233 | 0.0249 |
| NPC19 | | -0.00274 | -0.00375 | 0.0026 | 0.0067 | 0.0105 | 0.00783 |
| NPC20 | | -0.00173 | -0.0025 | 0.000685 | 0.000223 | -0.000481 | 0.00166 |
| NPC21 | | 0.013 | 0.00871 | -0.172 | -0.0625 | -0.0428 | 0.0018 |
| NPC22 | | 0.000416 | -4.00E-06 | -0.000307 | 0.000565 | 0.000653 | 0.0021 |
| NPC23 | | -0.0152 | -0.00842 | 0.00228 | 0.00197 | -0.00101 | -0.00242 |
| NPC27 | | -0.00434 | 0.00342 | 0.000508 | 0.00343 | 0.00294 | -0.000228 |
| Echinomycin | | -0.00304 | 0.00869 | 0.0675 | -0.0806 | 0.157 | 0.13 |
| NPC28 | | 0.000358 | 1.50E-05 | 0.000566 | 0.000603 | -0.000724 | 0.00243 |

| | Parameter | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
|---|---|---|---|---|---|---|---|
| | Cell Line | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 |
| | Modulator | ALLN | Pepstatin | DPQ | TOC | Bcl2 | Survivin |
| Irinotecan | | NaN | NaN | NaN | 0.152 | NaN | 0.0983 |
| Camptothecin_1 | | NaN | 0.00455 | NaN | 0.00245 | 0.145 | 0.0434 |
| Doxorubicin | | NaN | NaN | NaN | NaN | NaN | NaN |
| Daunorubicin_1 | | NaN | NaN | NaN | NaN | NaN | NaN |
| Mitoxantrone | | 0.114 | 0.0131 | 0.0135 | NaN | 0.0317 | NaN |
| Etoposide | | NaN | NaN | NaN | NaN | 0.0725 | NaN |
| Podophyllotoxin | | 0.225 | -0.0155 | -0.0077 | -0.0179 | 0.054 | 0.0495 |
| Vinblastine_1 | | 0.242 | -0.02 | 0.0127 | -0.0202 | 0.0605 | 0.0312 |
| Vincristine | | 0.257 | 0.00255 | 0.0105 | -0.00075 | 0.0585 | 0.0197 |
| Colchicine | | 0.252 | 0.00695 | 0.00865 | -0.00655 | 0.0458 | 0.0255 |
| Rotenone | | NaN | -0.0238 | -0.0074 | -0.0196 | 0.0358 | 0.0481 |
| 2,4 Dinitrophenol | | 0.0149 | 0.0659 | 0.0588 | 0.143 | 0.23 | 0.0425 |
| Sodium Azide | | -0.00308 | 0.00383 | NaN | NaN | NaN | NaN |
| Valinomycin | | 0.213 | 0.188 | 0.318 | 0.273 | 0.307 | 0.319 |
| Staurosporine | | 0.0717 | 0.00193 | 0.000728 | NaN | NaN | 0.00403 |
| H7 | | 0.0463 | 0.0127 | 0.0209 | 0.0187 | 0.0845 | 0.088 |
| Erastin_1 | | 0.000722 | -0.000308 | 0.0027 | 0.433 | 7.21E-05 | -1.75E-05 |
| Chlorambucil | | -0.000106 | 0.00017 | 0.000159 | 0.0199 | 0.00952 | 0.0336 |
| Carmustine | | 0.000149 | -3.37E-15 | -2.83E-15 | 0.00584 | -0.000256 | 0.00193 |
| Lomustine | | 4.40E-05 | 9.19E-05 | -2.40E-05 | 0.0125 | -0.00319 | -0.00131 |
| Semustine | | 0.000488 | -0.000945 | -0.00215 | -8.50E-05 | -0.00374 | -0.0048 |
| MG132_1 | | -0.00591 | -0.00942 | 0.00799 | 0.0313 | 0.031 | 0.00897 |
| MG262 | | -0.00638 | -0.00237 | 0.0121 | -0.00131 | 0.0551 | 0.0103 |
| Bortezomib | | -0.00661 | -0.0016 | 0.0111 | -0.000359 | 0.055 | 0.00857 |
| TrichostatinA | | -0.0166 | 0.00241 | 0.00276 | -0.00523 | 0.066 | -0.0123 |
| MS275 | | NaN | -0.00683 | 0.00207 | 0.00211 | 0.0428 | 0.00323 |
| Scriptaid | | -0.00366 | 0.00518 | -2.33E-06 | 0.0138 | 0.0705 | 0.00526 |
| RSL3 | | -0.00925 | -0.00578 | 0.0243 | 0.0219 | 0.000366 | 0.00221 |
| NPC25 | | 0.119 | 0.00705 | 0.012 | -0.00515 | 0.0487 | 0.0277 |
| NPC26 | | -0.0139 | 0.00335 | 0.00471 | -0.00475 | -0.000977 | -0.00709 |
| Camptothecin_2 | | NaN | NaN | 0.00038 | -0.0024 | 0.186 | NaN |
| NPC1 | | -0.000278 | -0.000285 | -0.000281 | 0.000195 | -0.00097 | -0.000119 |
| NPC2 | | 0.0031 | -0.000557 | -0.000558 | 0.00212 | -0.000501 | -0.000355 |
| NPC4 | | 0.127 | -0.00435 | -0.0109 | -0.0119 | 0.0383 | 0.0154 |
| NPC5 | | 0.00234 | 0.000356 | -8.99E-06 | 0.0118 | 0.000191 | -0.00102 |
| NPC6 | | 0.0373 | 0.0137 | 0.0181 | 0.0287 | 0.00437 | NaN |
| NPC7 | | -0.0458 | 0.0209 | 0.0356 | 0.0972 | -0.00391 | 0.0118 |
| NPC8 | | NaN | 0.00673 | 0.0234 | NaN | 0.00645 | 0.00328 |
| NPC10 | | 0.000179 | -0.000732 | -0.000827 | 0.000855 | 3.47E-05 | 0.000834 |
| NPC11 | | 0.000702 | 5.00E-06 | 8.44E-05 | 0.0025 | -0.000648 | -0.000141 |
| NPC12 | | NaN | 0.0155 | -0.00646 | 0.225 | -0.00738 | 0.00381 |
| Vinblastine_2 | | 0.154 | 0.0047 | 0.0182 | 0.0227 | 0.0447 | 0.0257 |
| MG132_2 | | 0.0035 | 0.00182 | 0.00499 | 0.0105 | 0.0177 | -0.000841 |
| Cycloheximide | | 0.227 | 0.00831 | 0.032 | 0.0106 | 0.0238 | 0.00339 |
| Erastin_2 | | NaN | -8.31E-05 | -4.16E-05 | NaN | 6.46E-05 | -0.00199 |
| NPC14 | | 0.00872 | -0.000627 | 0.00207 | 0.00348 | -0.000414 | 0.00213 |
| NPC15 | | 0.0183 | 0.00282 | -0.000894 | 0.0244 | 0.00152 | -0.000813 |
| Daunorubicin_2 | | NaN | NaN | NaN | NaN | NaN | NaN |
| NPC17 | | 0.00735 | 0.00191 | -0.000805 | 0.0152 | -0.00183 | -0.00105 |
| NPC18 | | 0.083 | 0.00214 | 0.00165 | 0.0176 | 0.000609 | 0.00315 |
| NPC19 | | 0.0552 | 0.00198 | 0.000572 | 0.0396 | -0.00409 | -0.00123 |
| NPC20 | | NaN | 0.000988 | -3.15E-05 | 0.000268 | 7.95E-05 | 5.38E-05 |
| NPC21 | | 0.127 | 0.0218 | 0.0334 | 0.0537 | 0.0152 | -0.0241 |
| NPC22 | | 0.00167 | 0.000503 | 1.72E-05 | -0.000161 | -0.000193 | -0.000425 |
| NPC23 | | -0.00294 | -0.000146 | -0.000456 | -0.00302 | -0.00135 | -0.000538 |
| NPC27 | | -0.00347 | 0.00119 | -0.00106 | 0.0101 | -0.00126 | -0.000354 |
| Echinomycin | | 0.226 | 0.00945 | 0.0212 | -0.164 | 0.00945 | 0.0454 |
| NPC28 | | 0.0046 | 0.00695 | 0.00627 | 0.00444 | -0.00237 | -0.000439 |

| | Parameter | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
|---|---|---|---|---|---|---|---|
| | Cell Line | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 |
| | Modulator | U0126 | Trolox | Digoxin | BCAR | BHA | BHT |
| Irinotecan | | -0.0294 | NaN | NaN | NaN | NaN | NaN |
| Camptothecin_1 | | NaN | NaN | NaN | 1.95E-05 | NaN | NaN |
| Doxorubicin | | NaN | NaN | NaN | NaN | NaN | NaN |
| Daunorubicin_1 | | NaN | NaN | NaN | NaN | NaN | NaN |
| Mitoxantrone | | -0.0462 | -0.0198 | 0.188 | NaN | 0.0402 | 0.0161 |
| Etoposide | | NaN | NaN | 0.118 | NaN | -0.000185 | NaN |
| Podophyllotoxin | | 0.254 | 0.00599 | 0.162 | -0.00516 | 0.0349 | 0.124 |
| Vinblastine_1 | | 0.251 | 0.00105 | 0.147 | -0.00418 | 0.0229 | 0.133 |
| Vincristine | | 0.278 | 0.00152 | 0.167 | 0.00438 | 0.0297 | 0.121 |
| Colchicine | | 0.292 | 0.00504 | 0.155 | 0.00442 | 0.0284 | 0.111 |
| Rotenone | | 0.176 | 0.00805 | 0.215 | -0.00025 | -0.00174 | NaN |
| 2,4 Dinitrophenol | | 0.271 | 0.0706 | 0.00636 | 0.14 | -0.178 | -0.0285 |
| Sodium Azide | | NaN | 0.00188 | NaN | NaN | NaN | 0.0199 |
| Valinomycin | | 0.0519 | 0.0763 | -0.43 | -0.0375 | -0.0167 | -0.114 |
| Staurosporine | | 0.00108 | 0.00156 | 0.0566 | 0.00325 | 0.0114 | 0.0669 |
| H7 | | -0.0442 | 0.0141 | 0.0432 | -0.0247 | -0.0404 | -0.103 |
| Erastin_1 | | NaN | 0.289 | -1.96E-05 | 0.00209 | NaN | NaN |
| Chlorambucil | | 0.0295 | -0.00344 | 0.00386 | 0.0233 | 0.117 | 0.0212 |
| Carmustine | | 0.00267 | 0.00558 | 0.000313 | 0.00261 | 0.00483 | 0.00266 |
| Lomustine | | 0.0196 | 0.00137 | 0.00235 | -0.00127 | -0.00105 | 0.0319 |
| Semustine | | 0.00562 | 0.00404 | 0.00664 | 0.00167 | 0.000155 | 0.00682 |
| MG132_1 | | -0.0232 | -0.0185 | 0.0553 | -0.00813 | -0.00545 | 0.00663 |
| MG262 | | -0.0121 | -0.0121 | 0.0751 | 0.00204 | -0.00124 | 0.000352 |
| Bortezomib | | -0.0197 | -0.0143 | 0.0992 | -0.000932 | -0.00272 | 0.00369 |
| TrichostatinA | | -0.0207 | -0.0266 | 0.002 | 0.00123 | -0.0189 | 0.0438 |
| MS275 | | 0.00336 | -0.0141 | 0.0737 | 0.00941 | 0.00462 | -0.0229 |
| Scriptaid | | 0.0044 | -0.00198 | 0.00748 | 0.000494 | 0.00238 | 0.0516 |
| RSL3 | | 0.0242 | 0.0491 | -0.00387 | 0.00934 | 0.0547 | NaN |
| NPC25 | | 0.187 | -0.0063 | 0.099 | -0.0052 | 0.00794 | 0.103 |
| NPC26 | | -0.00284 | 0.000975 | -0.00197 | 0.00305 | -0.00133 | -0.00675 |
| Camptothecin_2 | | NaN | NaN | 0.129 | NaN | 0.104 | NaN |
| NPC1 | | -3.37E-07 | 9.27E-07 | 0.000173 | 8.91E-05 | 0.00023 | NaN |
| NPC2 | | -0.000914 | 0.000147 | 0.000272 | 0.000939 | 0.002 | 0.00115 |
| NPC4 | | 0.141 | -0.0177 | 0.141 | 0.00924 | 0.027 | NaN |
| NPC5 | | -0.00541 | -0.0055 | 0.014 | 0.000436 | 0.00568 | NaN |
| NPC6 | | -0.0191 | -0.00369 | 0.0149 | -0.0095 | -0.0158 | NaN |
| NPC7 | | 0.0439 | -0.000269 | 0.146 | -0.00455 | 0.055 | 0.189 |
| NPC8 | | 0.00367 | NaN | NaN | 0.0039 | NaN | NaN |
| NPC10 | | -0.000315 | -0.000166 | 0.000651 | 0.000479 | 0.00298 | NaN |
| NPC11 | | -0.00015 | -9.90E-05 | -0.00015 | 0.000101 | 0.0017 | 0.00458 |
| NPC12 | | 0.00971 | 0.0115 | 0.00741 | 0.00247 | 0.157 | NaN |
| Vinblastine_2 | | 0.198 | -0.00739 | 0.136 | -0.00204 | 0.0106 | 0.128 |
| MG132_2 | | -0.0017 | -0.00895 | 0.01 | -0.00504 | 0.00243 | -0.00782 |
| Cycloheximide | | -0.0161 | 0.00233 | 0.0711 | 0.00216 | 0.0428 | 0.0274 |
| Erastin_2 | | NaN | NaN | 0.00159 | -5.29E-05 | NaN | NaN |
| NPC14 | | -0.000673 | -0.00215 | -0.00211 | 0.000191 | 0.00115 | -0.00171 |
| NPC15 | | 0.00151 | 0.00438 | 0.000338 | -0.000428 | 0.0302 | 0.0377 |
| Daunorubicin_2 | | NaN | NaN | NaN | NaN | NaN | NaN |
| NPC17 | | -0.000363 | 0.000587 | -0.00216 | 0.00038 | 0.0126 | 0.0291 |
| NPC18 | | -0.0153 | -0.00872 | NaN | -0.000391 | NaN | NaN |
| NPC19 | | -0.00369 | -0.00393 | 0.00827 | -0.00281 | 0.00102 | 0.0168 |
| NPC20 | | 0.000243 | 0.000956 | -0.000721 | -0.000717 | 0.00155 | NaN |
| NPC21 | | 0.0097 | -0.00128 | -0.0196 | 0.018 | 0.0476 | -0.0686 |
| NPC22 | | -0.000766 | 0.000806 | -0.000914 | -0.000512 | 0.00141 | -0.000533 |
| NPC23 | | -0.000726 | 0.00104 | -0.000718 | -0.000458 | -0.000123 | -0.000542 |
| NPC27 | | 0.00514 | -0.00153 | -0.00153 | 0.00122 | 0.00495 | 0.000566 |
| Echinomycin | | -0.0177 | 0.0196 | 0.0858 | 0.0175 | 0.0643 | 0.0614 |
| NPC28 | | -0.000142 | -5.35E-05 | 0.00287 | -0.000503 | -0.00053 | 0.00297 |

| | Parameter | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
|---|---|---|---|---|---|---|---|
| | Cell Line | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 |
| | Modulator | ActD | Necrostatin-1 | ATA | TLCK | LNAME | NAD+ |
| Irinotecan | | NaN | 0.112 | NaN | NaN | NaN | NaN |
| Camptothecin_1 | | NaN | NaN | NaN | -0.00462 | NaN | 0.32 |
| Doxorubicin | | NaN | NaN | NaN | NaN | NaN | NaN |
| Daunorubicin_1 | | NaN | NaN | NaN | NaN | NaN | NaN |
| Mitoxantrone | | NaN | NaN | 0.0693 | NaN | NaN | 0.25 |
| Etoposide | | NaN | NaN | NaN | NaN | NaN | 0.131 |
| Podophyllotoxin | | 0.102 | 0.0141 | 0.131 | 0.127 | 0.0068 | 0.242 |
| Vinblastine_1 | | 0.0841 | 0.00304 | 0.134 | 0.0838 | 0.002 | 0.222 |
| Vincristine | | 0.0735 | 0.0132 | 0.123 | 0.0761 | -0.0034 | 0.211 |
| Colchicine | | 0.0938 | 0.0177 | 0.155 | 0.0981 | 0.0003 | 0.238 |
| Rotenone | | 0.171 | 0.0195 | 0.141 | 0.124 | -0.0129 | 0.222 |
| 2,4 Dinitrophenol | | -0.0284 | -0.0151 | -0.0848 | 0.127 | 0.0117 | 0.299 |
| Sodium Azide | | 0.0177 | 0.000125 | NaN | 0.00281 | NaN | 0.0168 |
| Valinomycin | | -0.0618 | 0.0585 | 0.124 | 0.0721 | -0.15 | NaN |
| Staurosporine | | 0.0249 | NaN | 0.00032 | 0.014 | -0.00147 | 0.0803 |
| H7 | | 0.115 | -0.0624 | 0.0934 | 0.0511 | 8.01E-05 | 0.0592 |
| Erastin_1 | | 0.00072 | -0.00116 | 0.00259 | 0.0197 | -0.00317 | 0.0193 |
| Chlorambucil | | 0.031 | 0.0484 | -0.000172 | 0.0249 | 0.0395 | 0.0814 |
| Carmustine | | 0.00168 | -0.000139 | 8.98E-05 | 0.004 | -0.000531 | 0.000322 |
| Lomustine | | 0.000654 | 0.000482 | -0.00204 | 0.00191 | -0.000666 | 0.0206 |
| Semustine | | 0.0035 | -0.0013 | -0.00043 | 0.00401 | -7.10E-05 | 0.0247 |
| MG132_1 | | -0.0143 | -0.000874 | -0.00624 | 0.119 | -0.00152 | 0.224 |
| MG262 | | -0.0141 | 0.00714 | 0.00246 | 0.0816 | 0.000544 | 0.21 |
| Bortezomib | | -0.0128 | 0.003 | -0.00136 | 0.116 | 0.0013 | 0.206 |
| TrichostatinA | | -0.0488 | -0.00358 | 0.0622 | 0.0128 | 0.013 | 0.133 |
| MS275 | | NaN | -0.00567 | 0.1 | 0.0184 | 0.00994 | 0.156 |
| Scriptaid | | -0.00807 | 0.00327 | 0.0507 | 0.011 | 0.00839 | 0.14 |
| RSL3 | | -0.00196 | 0.0236 | -0.00232 | -0.00173 | -0.00186 | 0.0358 |
| NPC25 | | 0.116 | 0.0362 | 0.0235 | 0.004 | 0.0048 | 0.169 |
| NPC26 | | 0.0133 | 0.000132 | -0.00135 | -0.011 | -0.007 | 0.0598 |
| Camptothecin_2 | | NaN | NaN | NaN | 0.0191 | NaN | 0.0947 |
| NPC1 | | 0.000615 | -4.71E-07 | 0.000117 | 9.62E-07 | 2.00E-08 | 0.0158 |
| NPC2 | | 0.00072 | -0.000914 | 0.00087 | 3.93E-05 | 0.000311 | 0.0209 |
| NPC4 | | 0.13 | 0.0376 | 0.00802 | 0.00781 | 0.00555 | 0.202 |
| NPC5 | | 0.0051 | -0.00556 | 0.002 | 0.000292 | -0.000149 | 0.0242 |
| NPC6 | | 0.00727 | -0.0141 | 0.0138 | 0.00915 | NaN | 0.0496 |
| NPC7 | | 0.0805 | 0.0356 | -0.021 | 0.0246 | 0.00195 | 0.131 |
| NPC8 | | 0.0113 | NaN | NaN | NaN | 0.00752 | NaN |
| NPC10 | | 0.00197 | 0.000383 | 0.000572 | -0.000473 | -4.36E-05 | 0.0175 |
| NPC11 | | 8.36E-05 | -0.00015 | 0.00157 | -6.13E-06 | -6.80E-06 | 0.0193 |
| NPC12 | | 0.00262 | -0.000709 | 0.00031 | 0.0229 | -0.00271 | 0.0201 |
| Vinblastine_2 | | 0.124 | 0.0294 | 0.0264 | 0.0133 | 0.00235 | 0.182 |
| MG132_2 | | 2.00E-05 | -0.00168 | 0.0119 | -0.00054 | 0.00281 | 0.0986 |
| Cycloheximide | | 0.0532 | 0.00786 | 0.0529 | 0.019 | 0.0272 | 0.0583 |
| Erastin_2 | | -0.000461 | 0.0237 | 0.000584 | 0.0111 | 3.27E-05 | 0.0187 |
| NPC14 | | 0.000711 | 0.0023 | 0.00166 | -0.000904 | 0.00276 | 0.0306 |
| NPC15 | | 0.00163 | -0.00042 | 0.00103 | 0.00123 | 0.0029 | 0.0217 |
| Daunorubicin_2 | | NaN | NaN | NaN | NaN | NaN | NaN |
| NPC17 | | 0.00321 | -0.00116 | 0.00613 | 0.00747 | -0.0013 | 0.0279 |
| NPC18 | | NaN | -0.0126 | 0.00257 | 0.00709 | 0.00175 | 0.025 |
| NPC19 | | 0.0152 | -0.00101 | 0.00342 | 0.00097 | 0.000242 | 0.0311 |
| NPC20 | | 0.00129 | -0.000192 | -0.000662 | 0.00152 | -8.00E-05 | 0.0291 |
| NPC21 | | 0.125 | 0.0153 | -0.014 | -0.000945 | 0.0806 | 0.0215 |
| NPC22 | | 0.00132 | 0.00165 | -0.000299 | 0.00179 | -9.60E-05 | 0.03 |
| NPC23 | | 0.00219 | -0.000135 | -0.000223 | 0.000475 | 0.00101 | 0.0244 |
| NPC27 | | -0.00112 | 0.00322 | 0.00625 | 0.00447 | 3.85E-05 | 0.124 |
| Echinomycin | | 0.127 | 0.0128 | 0.0232 | 0.0461 | 0.0261 | 0.13 |
| NPC28 | | 0.00105 | 0.000471 | -0.000585 | 0.0017 | 0.000358 | 0.0254 |

| | Parameter | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy | Efficacy |
|---|---|---|---|---|---|---|---|
| | Cell Line | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 | HT1080 |
| | Modulator | Gd3+ | Co2+ | 3MA | NMMA | Lmim | Cycloheximide |
| Irinotecan | | 0.0916 | NaN | 0.161 | NaN | 0.033 | 0.262 |
| Camptothecin_1 | | 0.0532 | 0.211 | 0.279 | NaN | 0.138 | 0.065 |
| Doxorubicin | | NaN | NaN | NaN | NaN | NaN | NaN |
| Daunorubicin_1 | | NaN | NaN | NaN | NaN | NaN | NaN |
| Mitoxantrone | | 0.0201 | 0.349 | 0.0578 | NaN | 0.0446 | 0.0622 |
| Etoposide | | -0.0157 | NaN | 0.118 | NaN | 0.0685 | 0.206 |
| Podophyllotoxin | | 0.0147 | 0.416 | 0.122 | -0.0001 | 0.203 | 0.187 |
| Vinblastine_1 | | -0.0002 | 0.414 | 0.15 | -0.00669 | 0.213 | 0.174 |
| Vincristine | | 0.0049 | 0.363 | 0.11 | 0.006 | 0.191 | 0.176 |
| Colchicine | | 0.0073 | 0.395 | 0.132 | 0.00263 | 0.229 | 0.188 |
| Rotenone | | 0.0116 | NaN | 0.138 | -0.0063 | 0.221 | 0.192 |
| 2,4 Dinitrophenol | | -0.0265 | NaN | -0.0433 | 0.0373 | 0.128 | 0.45 |
| Sodium Azide | | 0.00265 | NaN | NaN | NaN | NaN | -0.0046 |
| Valinomycin | | 0.119 | NaN | NaN | NaN | -0.139 | 0.186 |
| Staurosporine | | 0.00371 | NaN | 0.0258 | 0.00158 | 0.0277 | 0.0347 |
| H7 | | 0.0174 | 0.311 | -0.0555 | -0.00147 | 0.0475 | 0.0384 |
| Erastin_1 | | -0.00211 | 0.0489 | -0.00334 | 0.00326 | NaN | 0.104 |
| Chlorambucil | | 0.0226 | 0.132 | 0.00126 | -0.00295 | 0.0186 | 0.00961 |
| Carmustine | | -0.000519 | 0.00432 | 0.00117 | 0.00139 | 0.00596 | 0.00519 |
| Lomustine | | -0.00104 | 0.00812 | 0.001 | 0.000497 | 0.00269 | 0.0035 |
| Semustine | | 0.00109 | 0.00593 | -0.000369 | 0.00559 | -0.000677 | 0.00227 |
| MG132_1 | | -0.00891 | 0.133 | 0.0149 | -0.00333 | 0.00354 | 0.0213 |
| MG262 | | -0.00032 | 0.0895 | 0.00143 | 0.000262 | 0.00115 | 0.026 |
| Bortezomib | | -0.00116 | 0.178 | -0.0039 | -0.0015 | 0.00603 | 0.0366 |
| TrichostatinA | | 0.0195 | 0.0879 | -0.0318 | 0.00134 | -0.024 | 0.00997 |
| MS275 | | 0.0142 | 0.0719 | 0.00331 | -0.0018 | -0.0162 | -0.00423 |
| Scriptaid | | 0.0111 | NaN | 0.023 | 0.000929 | NaN | 0.00329 |
| RSL3 | | -0.000932 | 0.132 | -0.00173 | -0.00472 | 0.0284 | -0.00392 |
| NPC25 | | 0.0098 | 0.161 | 0.0609 | 0.00426 | 0.241 | 0.186 |
| NPC26 | | -0.00506 | -0.00956 | 0.0209 | -0.00206 | -0.00358 | 0.01 |
| Camptothecin_2 | | NaN | NaN | NaN | 0.00194 | 0.145 | NaN |
| NPC1 | | -3.05E-07 | 0.00027 | 8.14E-05 | -1.37E-07 | 2.91E-05 | -1.35E-07 |
| NPC2 | | 7.62E-05 | -3.45E-05 | 8.84E-07 | -3.85E-05 | -3.85E-05 | 0.000845 |
| NPC4 | | 0.0124 | 0.15 | 0.064 | -0.00077 | 0.303 | 0.213 |
| NPC5 | | 0.000893 | 0.00225 | -4.99E-05 | -0.000661 | 0.000645 | 0.0066 |
| NPC6 | | 0.00738 | NaN | 0.0306 | 0.0102 | NaN | NaN |
| NPC7 | | -0.00255 | 0.0866 | 0.0319 | -0.00713 | 0.109 | 0.349 |
| NPC8 | | 0.00254 | NaN | NaN | -0.00094 | 0.0307 | NaN |
| NPC10 | | 0.000249 | 4.50E-09 | 0.000126 | -1.00E-11 | -1.00E-11 | 0.000949 |
| NPC11 | | -6.80E-06 | -4.76E-05 | 0.000896 | -4.77E-05 | 0.000117 | 0.000927 |
| NPC12 | | 0.00393 | NaN | 0.000712 | -0.000211 | 0.13 | 0.0016 |
| Vinblastine_2 | | 0.00755 | 0.169 | 0.0784 | 0.00141 | 0.27 | 0.246 |
| MG132_2 | | 0.00165 | 0.035 | 0.000497 | 0.00133 | 0.00998 | 0.0701 |
| Cycloheximide | | 0.0023 | 0.161 | -0.00682 | 0.0259 | 0.112 | 0.121 |
| Erastin_2 | | -1.41E-05 | 0.105 | 0.00148 | -3.23E-05 | 0.561 | 0.152 |
| NPC14 | | -0.00101 | -0.003 | -0.00299 | -0.00191 | -0.00298 | 0.0109 |
| NPC15 | | 0.00195 | 0.000521 | 0.00097 | -0.00013 | 0.0476 | 0.00313 |
| Daunorubicin_2 | | NaN | NaN | NaN | NaN | NaN | NaN |
| NPC17 | | -0.000816 | 0.00247 | 0.00505 | 0.000102 | 0.00396 | -0.000653 |
| NPC18 | | -0.00176 | NaN | 0.0117 | 0.00165 | 0.00726 | 0.017 |
| NPC19 | | 0.0139 | -0.00653 | -0.00816 | 0.0214 | 0.00161 | -0.00943 |
| NPC20 | | -0.000423 | -0.001 | -0.001 | -0.000928 | 0.000566 | 0.000745 |
| NPC21 | | -0.00494 | NaN | -0.0386 | -0.0138 | -0.0186 | NaN |
| NPC22 | | 8.20E-05 | -0.00102 | -0.000104 | -0.00102 | -0.00102 | -0.000208 |
| NPC23 | | 0.000582 | -0.00163 | 0.00153 | 0.00237 | -0.000275 | -0.000861 |
| NPC27 | | -3.54E-05 | -0.00378 | -0.00446 | -0.00164 | -0.00349 | 0.0028 |
| Echinomycin | | 0.0111 | 0.226 | -0.00994 | -0.00145 | 0.0362 | 0.195 |
| NPC28 | | -5.79E-05 | -0.000246 | 0.000771 | -0.000429 | -8.82E-05 | -0.000166 |

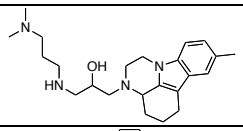
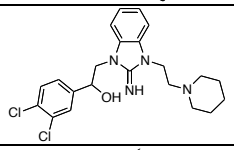
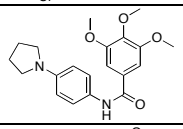
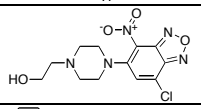
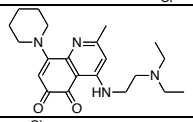
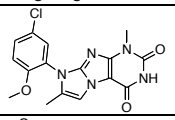
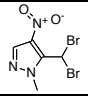
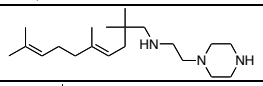
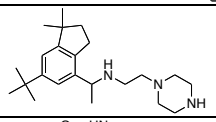
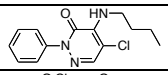
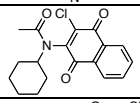
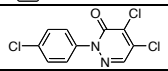
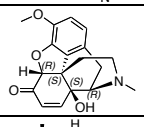
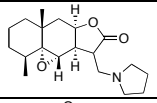
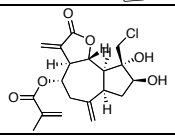
| | Parameter | Efficacy | Efficacy | Efficacy | Efficacy |
|---|---|---|---|---|---|
| | Cell Line | HT1080 | HT1080 | HT1080 | HT1080 |
| | Modulator | Deferox | EGTA | SP600125 | CspA |
| Irinotecan | | 0.172 | NaN | NaN | NaN |
| Camptothecin_1 | | 0.362 | NaN | 0.00374 | NaN |
| Doxorubicin | | NaN | NaN | NaN | NaN |
| Daunorubicin_1 | | NaN | NaN | NaN | NaN |
| Mitoxantrone | | 0.224 | NaN | NaN | NaN |
| Etoposide | | 0.205 | NaN | NaN | -0.0755 |
| Podophyllotoxin | | 0.584 | 0.0328 | 0.00256 | -0.0228 |
| Vinblastine_1 | | 0.505 | 0.018 | 0.00181 | -0.0221 |
| Vincristine | | 0.596 | 0.0151 | 0.0127 | -0.0116 |
| Colchicine | | 0.57 | 0.0205 | 0.00801 | -0.0188 |
| Rotenone | | NaN | 0.0177 | -0.000799 | -0.0652 |
| 2,4 Dinitrophenol | | 0.222 | 0.0104 | 0.0568 | -0.116 |
| Sodium Azide | | 0.0231 | -0.00301 | NaN | 0.00442 |
| Valinomycin | | 0.0966 | NaN | -0.211 | 0.0785 |
| Staurosporine | | NaN | 0.00205 | 0.024 | 0.0157 |
| H7 | | 0.254 | 0.0411 | -0.029 | -0.092 |
| Erastin_1 | | NaN | 0.00302 | -0.000319 | 0.00124 |
| Chlorambucil | | 0.154 | 0.0114 | 0.00839 | -0.0181 |
| Carmustine | | 0.026 | -0.000371 | -0.000811 | -0.00186 |
| Lomustine | | 0.0261 | 0.158 | -0.002 | 0.000601 |
| Semustine | | 0.00456 | 0.00261 | 0.000837 | 0.00306 |
| MG132_1 | | 0.0376 | -0.00776 | -0.00608 | -0.00632 |
| MG262 | | 0.0358 | -0.000799 | 0.00131 | 0.000991 |
| Bortezomib | | 0.0485 | 0.000399 | 0.00057 | -0.00257 |
| TrichostatinA | | 0.0458 | 0.0105 | -0.0181 | -0.0379 |
| MS275 | | 0.128 | 0.019 | -0.0178 | -0.00955 |
| Scriptaid | | 0.0859 | 0.00514 | -0.00205 | 0.00675 |
| RSL3 | | 0.133 | -0.00522 | -0.00529 | -0.005 |
| NPC25 | | 0.417 | 0.0379 | 0.0175 | -0.0146 |
| NPC26 | | 0.0732 | -0.00655 | 0.000546 | 0.00212 |
| Camptothecin_2 | | 0.299 | NaN | NaN | NaN |
| NPC1 | | 5.34E-05 | -3.00E-07 | -7.05E-05 | -7.79E-05 |
| NPC2 | | 7.40E-06 | -1.22E-05 | 0.000764 | 0.00119 |
| NPC4 | | NaN | 0.0166 | 0.0261 | -0.00906 |
| NPC5 | | 0.0762 | -0.000525 | 0.00149 | 0.000621 |
| NPC6 | | NaN | NaN | -0.00284 | -0.0068 |
| NPC7 | | NaN | 0.0414 | 0.0284 | -0.0391 |
| NPC8 | | 0.0825 | 0.0316 | 0.0709 | 0.0278 |
| NPC10 | | -0.000225 | -0.000296 | 0.000453 | 0.00133 |
| NPC11 | | 0.00131 | -6.80E-06 | 3.08E-11 | 7.97E-14 |
| NPC12 | | 0.0527 | 0.000618 | 0.00163 | -0.00607 |
| Vinblastine_2 | | 0.452 | 0.0457 | 0.0167 | -0.0251 |
| MG132_2 | | 0.0445 | -0.00238 | 0.00291 | -0.000408 |
| Cycloheximide | | 0.29 | 0.028 | NaN | 0.0119 |
| Erastin_2 | | 0.448 | -6.15E-05 | 0.00213 | 0.00252 |
| NPC14 | | 0.00164 | -0.00217 | 0.00417 | 0.00268 |
| NPC15 | | 0.0195 | -1.23E-05 | 0.00184 | 0.00191 |
| Daunorubicin_2 | | NaN | NaN | NaN | NaN |
| NPC17 | | 0.00673 | -0.00101 | 0.00393 | 0.00234 |
| NPC18 | | 0.0237 | 0.0233 | -0.00762 | 0.0465 |
| NPC19 | | 0.00214 | 0.0126 | -0.00299 | 0.0148 |
| NPC20 | | 0.00411 | 0.000173 | 0.00224 | 0.00108 |
| NPC21 | | 0.0575 | -0.0111 | 0.0432 | -0.0659 |
| NPC22 | | 0.0063 | -0.000644 | 0.00091 | 0.00113 |
| NPC23 | | -0.000943 | -0.000393 | 0.00122 | -0.000959 |
| NPC27 | | -0.00234 | -0.00371 | 0.00199 | -0.00182 |
| Echinomycin | | 0.286 | -0.0072 | 0.0101 | 0.00645 |
| NPC28 | | 0.00434 | 0.000693 | 0.000518 | -0.000532 |

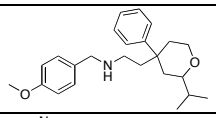
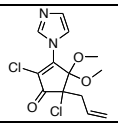
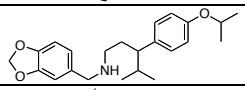
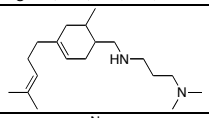
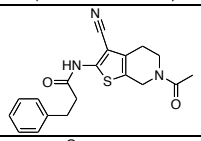
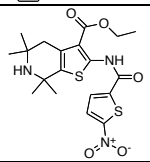
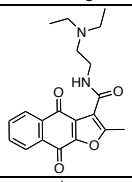
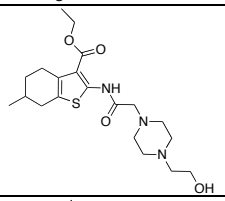
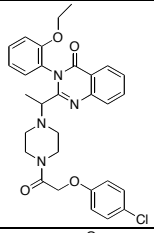
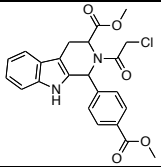
**Supplementary Table 4: Lethal Compounds Used for Gene Expression Profiling**
Information about the compounds for which gene expression data was obtained, including their EC50s in MCF7 cells, the concentration(s) used for gene expression profiling, the ratio of the concentration tested to the EC50, the number of replicates performed in MCF7 and PC3 cells, and the connectivity map instance IDs that can be used to obtain the raw data.

| Compound | MCF7 EC50 (μM) | Conc tested (μM) | [Tested]/EC50 | #MCF7 replicates | #PC3 replicates | Connectivity Map instance IDs |
|---|---|---|---|---|---|---|
| Chlorambucil | 96 | 13 | 0.14 | 2 | 2 | 3869, 4345, 3788, 4523 |
| Carmustine | 103 | 100 | 0.97 | 2 | 1 | 6888, 6914, 6883 |
| Lomustine | 68 | 100 | 1.5 | 2 | 2 | 7045, 7089, 7050, 7094 |
| Semustine | 115 | 100 | 0.87 | 2 | 2 | 7487, 7540, 7492, 7545 |
| MG132 | 0.98 | 21 | 22 | 1 | 0 | 1140 |
| MG262 | 0.023 | 0.1 | 4.3 | 1 | 2 | 7063, 7068, 7079 |
| Trichostatin A | 0.053 | 0.1 | 1.9 | 5 | 1 | 331, 332, 992, 1050, 1112, 448 |
| Trichostatin A | 0.053 | 1 | 19 | 4 | 0 | 981, 873, 1014, 1072 |
| Scriptaid | 1.5 | 10 | 6.5 | 1 | 2 | 6901, 6896, 6919 |
| Irinotecan | 40 | 100 | 2.5 | 2 | 1 | 7498, 7530, 7535 |
| Camptothecin | 0.31 | 11 | 35 | 2 | 1 | 2321, 3887, 4541 |
| Doxorubicin | 0.22 | 7 | 32 | 2 | 1 | 3291, 5671, 4610 |
| Daunorubicin | 0.16 | 1 | 6.3 | 2 | 1 | 7507, 7525, 7511 |
| Daunorubicin | 0.16 | 7 | 44 | 1 | 0 | 4983 |
| Mitoxantrone | 0.22 | 8 | 37 | 2 | 1 | 3232, 5354, 6755 |
| Etoposide | 13 | 7 | 0.55 | 2 | 1 | 3241, 5027, 6681 |
| Podophyllotoxin | 0.013 | 10 | 790 | 2 | 1 | 6103, 7198, 5841 |
| Vinblastine | 0.00044 | 0.1 | 230 | 2 | 1 | 7517, 7551, 7556 |
| Colchicine | 0.011 | 0.1 | 9.0 | 1 | 0 | 644 |
| Colchicine | 0.011 | 10 | 900 | 2 | 1 | 3213, 5675, 4614 |
| Rotenone | 0.030 | 1 | 3.3 | 2 | 2 | 5915, 5943, 5920, 5948 |
| Valinomycin | 0.0047 | 0.1 | 21 | 2 | 2 | 5906, 5957, 5911, 5962 |
| Staurosporine | 0.41 | 0.01 | 0.025 | 1 | 0 | 425 |
| Staurosporine | 0.41 | 0.1 | 0.25 | 1 | 0 | 423 |
| Staurosporine | 0.41 | 1 | 2.5 | 1 | 0 | 312 |
| H7 | 14 | 100 | 7.0 | 2 | 2 | 5936, 5963, 5941, 5968 |

**Supplementary Table 5: Novel Lethal Compounds**

Details of the names, suppliers, concentrations, and chemical structures of the novel lethal compounds used.

| Name | Supplier (Cat#) | [Highest] μM | Structure |
|---|---|---|---|
| NPC1 | Asinex (BAS 02098863) | 52 |  |
| NPC2 | Asinex (BAS 01365357) | 46 |  |
| NPC4 | Asinex (BAS 03596153) | 56 |  |
| NPC5 | Asinex (BAS 06262002) | 61 |  |
| NPC6 | Asinex (BAS 09669207) | 54 |  |
| NPC7 | Asinex (BAS 12662668) | 56 |  |
| NPC8 | Asinex (BAS 00170380) | 67 |  |
| NPC10 | Asinex (BAS 01307039) | 62 |  |
| NPC11 | Asinex (BAS 01307043) | 56 |  |
| NPC12 | Chembridge (5354349) | 72 |  |
| NPC14 | Chembridge (5468139) | 60 |  |
| NPC15 | Chembridge (5349968) | 36 |  |
| NPC17 | Interbioscreen (STOCK1N-05164) | 64 |  |
| NPC18 | Interbioscreen (STOCK1N-24327) | 63 |  |
| NPC19 | Interbioscreen (STOCK1N-17553) | 52 |  |

| | | | |
|---|---|---|---|
| NPC20 | Interbioscreen (STOCK1N-31157) | 54 |  |
| NPC21 | Interbioscreen (STOCK1N-29036) | 63 |  |
| NPC22 | Interbioscreen (STOCK1N-34691) | 54 |  |
| NPC23 | Interbioscreen (STOCK1N-01965) | 68 |  |
| NPC25 | Life Chemicals (F1298-0907) | 57 |  |
| NPC26 | Life Chemicals (F1299-0232) | 46 |  |
| NPC27 | Life Chemicals (F1654-0376) | 56 |  |
| NPC28 | Life Chemicals (F3098-0980) | 49 |  |
| Erastin | | 73 |  |
| RSL3 | Interbioscreen (STOCK1N-39651) | 45 |  |

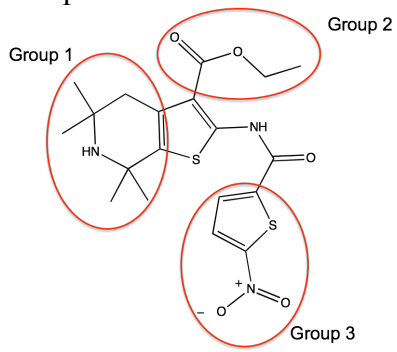
**Supplementary Table 6: Kinase Inhibitors Tested Against NPC26**
Details of the names, targets, suppliers, concentrations tested, and the NPC26-suppressing activity of various kinase inhibitors tested.

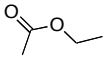
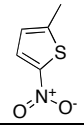
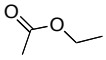
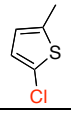
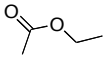
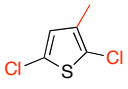
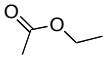
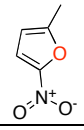
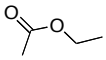
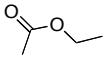
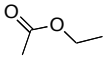
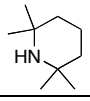
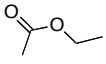
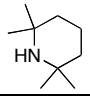
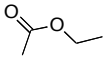
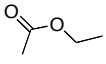
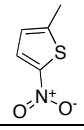
| Name | Putative Target | Supplier | Catalog# | Concentrations Tested (μM) | Activity |
|---|---|---|---|---|---|
| SP600125 | JNK | Alexis | ALX-270-339-M005 | 5,10,20,40 | ** |
| Jnk Inh V | JNK | Calbiochem | 420129 | 10 | |
| Jnk Inh VIII | JNK | Calbiochem | 420135 | 10, 20 | |
| PD98059 | MEK1/2 | LC Labs | P-4313 | 2.5,5,10,20,50 | * |
| U0126 | MEK1/2 | LC Labs | U-6770 | 10 | |
| SB-203580 | p38 MAPK | Alexis | ALX-270-179-M001 | 10 | |
| SB-202190 | p38 MAPK | Sigma | S7067 | 5 | |
| Wortmannin | PI3K | Alexis | ALX-350-020-M001 | 1 | |
| LY294002 | PI3K | Alexis | ALX-270-038-M001 | 50 | * |
| Y27632 | ROCK | Sigma | Y0503 | 20 | |
| HA1077 | ROCK | Alexis | ALX-270-071-M001 | 50 | |
| BIO | GSK-3 | Calbiochem | 361550 | 2 | |
| PP2 | SRC | Alexis | ALX-270-233-M001 | 5 | |
| SU6656 | SRC | Sigma | S9692 | 50 | |
| Rapamycin | mTORC1 | Sigma | R0395 | 1 | |
| PP242 | mTORC2 | Chemdea | CD0258 | 5 | |
| Go 6983 | PKC | Sigma | G1918 | 1 | |
| Ro 31-8220 | PKC | Biomol | 100004-478 | 5 | |
| H89 | PKA | Alexis | ALX-270-017-M001 | 25 | |
| ML7 | MLCK | Sigma | I2764 | 20 | |
| BX 795 | PDK1 | Axon | Axon 11390 | 10 | * |
| Akt 1/2 Inh | Akt | Sigma | A6730 | 2 | |
| KN62 | CaMK | Sigma | I2142 | 10 | |
| Bohemine | CDK | Sigma | B0435 | 25 | |
| Compound C | AMPK | Calbiochem | 171260 | 20 | |
| CKI-7 | CK1 | Sigma | C0742 | 25 | |
| Alsterpaullone | GSK-3β | Alexis | ALX-270-275-M001 | 5 | |
| PS1145 | IKB | Sigma | P6624 | 10 | |
| CI-1033 (Canertinib) | EGFR, ERBB2 | LC Labs | C-1201 | 2.5,5,10,20,40 | ** (sensitizer) |
| CP-690550 (Tasocitinib) | JAK3 | LC Labs | C-1377 | 5,10,20,40 | |
| Dasatinib | ABL1, SRC | LC Labs | D-3307 | 5,10,20,40 | |
| Erlotinib | EGFR | LC Labs | E-4007 | 5,10,20,40 | |
| Flavopiridol | CDK2,9 | Santa Cruz | sc-202157 | 0.25,1,5,10,20,40 | |
| Gefitinib | EGFR | LC Labs | G-4408 | 5,10,20,40 | |
| GW-2580 | cFMS | Calbiochem | 344036 | 5,10,20,40 | |
| GW-786034 (Pazopanib) | VEGFR2, FLT1, FLT4 | LC Labs | P-6706 | 5,10,20,40 | * |
| Imatinib | ABL1, KIT, | LC Labs | I-5508 | 5,10,20,40 | |

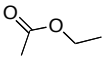
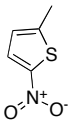
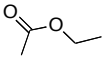
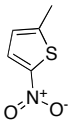
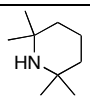
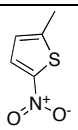
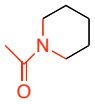
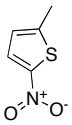
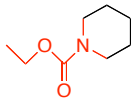
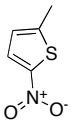
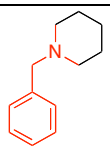
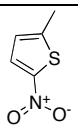
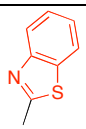
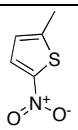
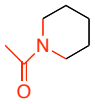
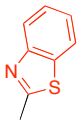
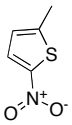
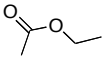
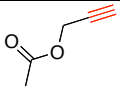
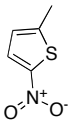
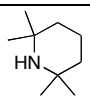
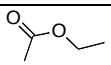
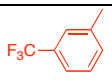
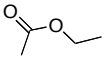
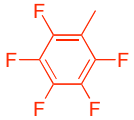
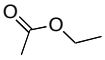
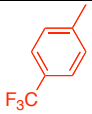
| | | | | | |
|---|---|---|---|---|---|
| | PDGFRB | | | | |
| Lapatinib | EGFR, ERBB2 | LC Labs | L-4899 | 5,10,20,40 | |
| MLN-518 (Tandutinib) | FLT3, KIT | LC Labs | T-7802 | 5,10,20,40 | |
| PI-103 | PIK3CA | Calbiochem | 528100 | 5,10,20,40 | |
| PKC-412 (Midostaurin) | FLT3, KIT | LC Labs | P-7600 | 5,10,20,40 | |
| PTK-787 (Vatalanib) | VEGFR2 | LC Labs | V-8303 | 5,10,20,40 | |
| SB-431542 | ALK4,5,7 | Tocris Biosciences | 1614 | 5,10,20,40 | |
| Sorafenib | VEGFR2, BRAF | LC Labs | S-8599 | 0.5,1,2,5,10,20,40 | ** |
| Sunitinib | KIT, VEGFR2, FLT3 | LC Labs | S-8877 | 1.25,2.5,5,10,20,40 | |
| ZD-6474 (Vandetanib) | VEGFR2, EGFR, RET | LC Labs | V-9402 | 5,10,20,40 | |
| VX-680 (Tozasertib) | AURKA,B,C | LC Labs | T-2304 | 5,10,20,40 | |
| Reversine | MPS1 (TTK) | Sigma | R3904 | 1.25,2.5,5,10 | |

**Supplementary Table 7: SAR of NPC26**

Compounds were tested in BJ-TERT/LT/ST/RAS$^{V12}$ cells.




| Name | Group1 | Group2 | Group3 | EC50 (μg/ml) | Fold Rescue (10μM SP600125) | Active |
|---|---|---|---|---|---|---|
| NPC26 |  |  |  | 0.3 | 6.6 | *** |
| 26A8 |  |  |  | 4.2 | 1.4 | |
| 26A11 |  |  |  | 2.6 | 1.5 | |
| 26A1 |  |  |  | 0.6 | 2.6 | * |
| 26A2 |  |  |  | 3.8 | 1.8 | |
| 26A13 |  |  |  | 2.7 | 1.7 | |
| 26A5 |  |  |  | 10.8 | 1.5 | |
| 26A17 |  |  |  | >4 | | |
| 26A15 |  |  |  | 10.6 | | |
| 26A6 |  |  |  | >20 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 26A3 |  |  |  | >1.25 | | |
| 26A14 |  |  |  | 0.8 | 7.4 | *** |
| 26A10 |  |  |  | 0.7 | 4.1 | ** |
| 26A4 |  |  |  | 3.2 | 1.3 | |
| 26A16 |  |  |  | 6.1 | 1.6 | |
| 26A9 |  |  |  | 6.5 | 1.9 | |
| 26A12 |  |  |  | >4 | | |
| 26A7 |  |  |  | >1 | | |
| Ox_NPC26 |  |  |  | 0.8 | 4.2 | ** |
| PE_NPC26 |  |  |  | 0.3 | 3.0 | ** |
| SRS1-04 |  |  |  | 6.8 | 1.1 | |
| SRS1-05 |  |  |  | 0.4 | 0.9 | |
| SRS1-06 |  |  |  | >12 | | |

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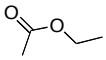
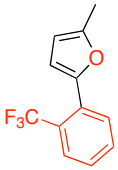
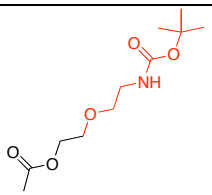
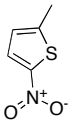
| SRS1-39 |  |  |  | 5.3 | 1.1 | |
| SRS1-78 |  |  |  | 0.2 | 3.3 | ** |

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