

Supporting Information

Synthesis, activity and pharmacophore development for isatin-b-thiosemicarbazones with MDR1-selective activity

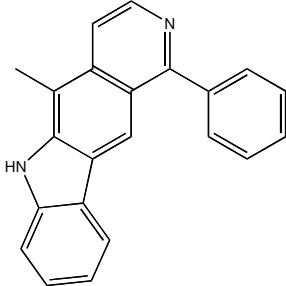
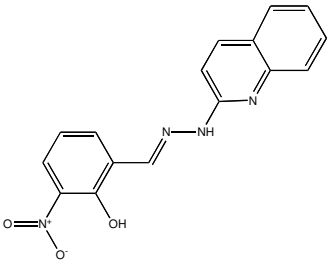
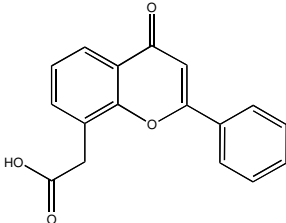
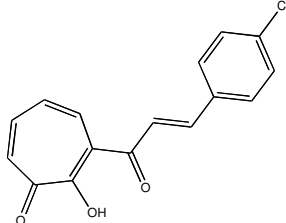
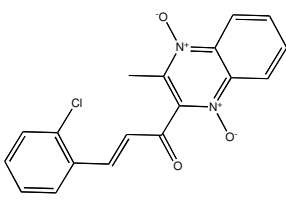
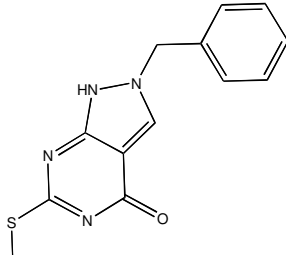
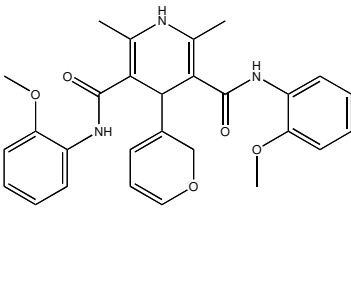
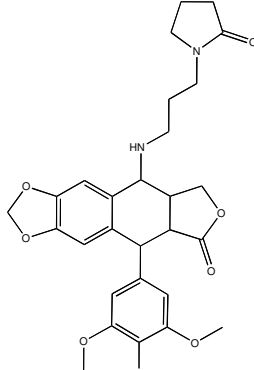
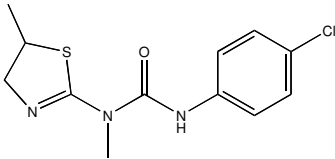
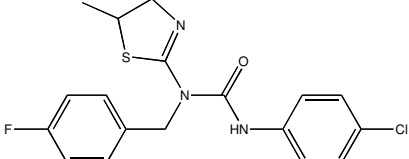
Matthew D. Hall, Noeris K. Salam, Jennifer L. Hellawell, Henry M. Fales, Caroline B. Kensler, Joseph A. Ludwig, Gergely Szakacs, David E. Hibbs, Michael M. Gottesman

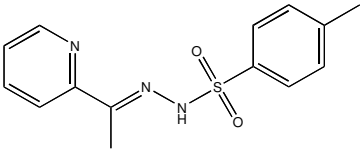
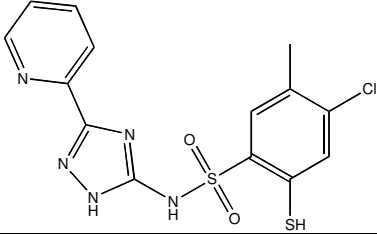
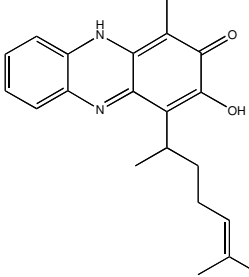
Contents

Supporting information Figure S1. Structures and names of non-thiosemicarbazone compounds that satisfied at least 3 of 7 sites, including AH₁R₁, pharmacophore site matches for each compound.

Supporting information Table S1. List of kinases examined, and summary of data from kinase inhibition assay against NSC73306. Compounds were tested for 10 doses starting at 20 μ M with 3-fold serial dilutions. The kinase reactions were run at 1 μ M ATP and 1% DMSO final concentration. For IC₅₀ values >50, partial inhibition was observed at the highest dose-point, however this was not adequate to generate an IC₅₀ value.

Supporting information Figure S1. Structures and names of non-thiosemicarbazone compounds that satisfied at least 3 of 7 sites, including AH₁R₁, pharmacophore site matches for each compound.

	
<p>NSC86715: AH₁H₂R₂</p>	<p>NSC168468: AH₁H₂R₁R₂</p>
	
<p>NSC347512: AH₁H₂R₂</p>	<p>NSC356777: AH₁H₂H₃R₂</p>
	
<p>NSC621481: AH₁H₂R₁R₂</p>	<p>NCS622927: AH₁H₂R₂</p>
	
<p>NCS636097: AH₁H₂R₁R₂</p>	<p>NSC651859: AH₁H₂H₃R₂</p>
	
<p>NSC672027: AH₁H₂H₃R₂</p>	<p>NSC672036: AH₁H₂H₃R₂</p>

	
<p>NSC692419: AH₁H₂H₃R₂</p>	<p>NSC67399: AH₁H₂H₃R₁R₂</p>
	
<p>NSC697120: AH₁H₂R₂</p>	

Supporting information Table S1. List of kinases examined, and summary of data from kinase inhibition assay against NSC73306. Compounds were tested for 10 doses starting at 20 μ M with 3-fold serial dilutions. The kinase reactions were run at 1 μ M ATP and 1% DMSO final concentration. For IC₅₀ values >50, partial inhibition was observed at the highest dose-point, however this was not adequate to generate an IC₅₀ value.

Kinase	IC ₅₀ (μ M)	IC ₅₀ (μ M)
	Staurosporine	NSC73306
ABL1	0.136	>50.00
AKT1	0.006	-
Aurora A	0.022	-
BTK	0.036	-
CAMK2 β	<0.0001	-
CDK1/cyclin B	0.0016	-
CDK2/cyclin A	0.00036	>50.00
CHK1	<0.0001	>50.00
CHK2	0.0067	-
c-MET	0.103	-
c-SRC	0.0013	-
DAPK1	0.0005	-
EGFR	0.132	-
EPHA3	0.048	-
EPHB4	0.233	-
ERBB4	0.282	-
ERK1	7.791	-
ERK2	4.491	-
FGFR1	0.009	-
FGFR2	0.034	-
FGFR3	0.018	-
FLT1	0.019	-
FLT3	0.0010	>50.00
FLT4	0.0019	-
GSK3 β	0.0052	-
HIPK1	2.639	-
IR	0.0085	-
IRAK4	0.034	-
JAK2	0.0047	-
JAK3	0.00015	-
KDR	0.0035	-
LCK	0.004	-
LYN	0.00049	-
MINK	0.00049	-
MST2	0.00041	-
P38 α	No inhibition	-
PAK2	0.0010	-
PDGFR α	<0.0001	-
PHK γ 2	<0.0001	-
PIM1	0.0027	>50.00
PKA	0.00031	-
PKC α	0.00070	>50.00
PLK2	0.197	>50.00
RET	0.00046	-
ROCK1	0.0011	>50.00

RSK1	<0.0001	34.90
SYK	<0.0001	-
TAK1-TAB1	0.035	-
TIE2/TEK	0.052	-
TRKA	0.0017	-