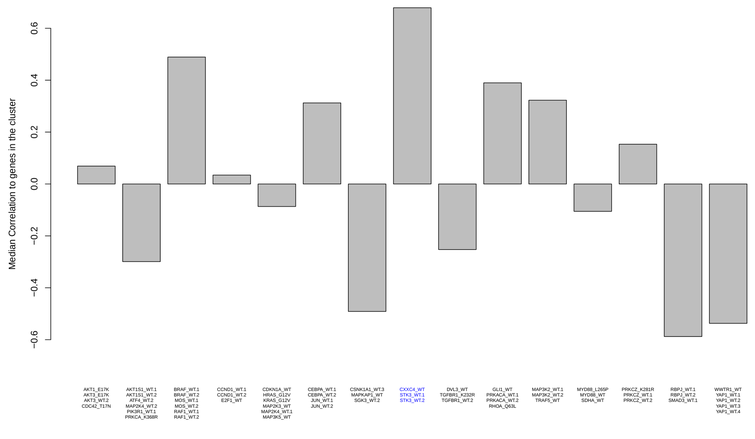
Genes in the cluster along with the pathways as annotated by experts

	Expert Annotation	
Treatment	Pathway	Regulation Type
STK3_WT.1	Canonical Hippo	Activator
STK3_WT.2	Canonical Hippo	Activator
CXXC4_WT	WNT	Inhibitor

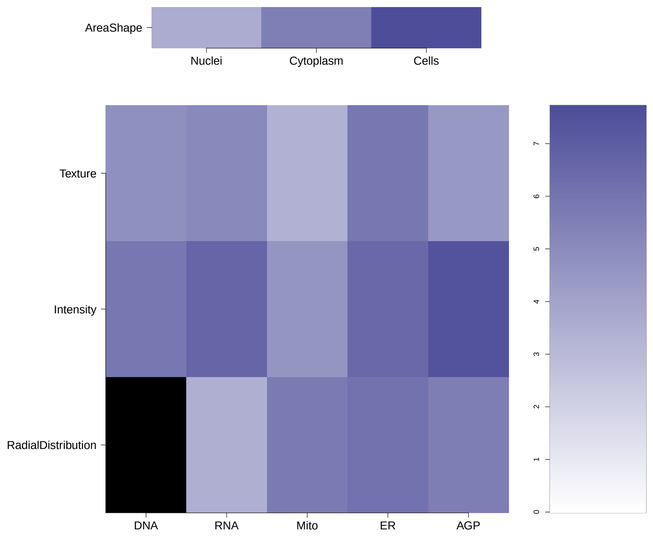
How similar is this cluster to the other clusters?



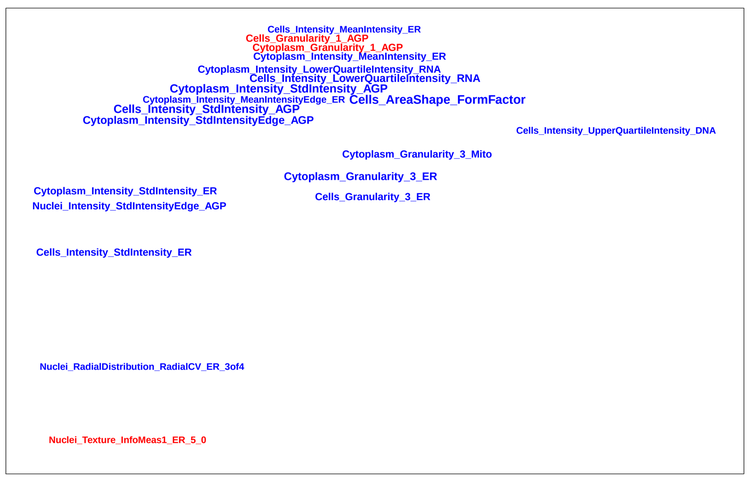
Top 5 genes negatively correlated to the cluster

	Expert Annotation			
Treatment	Pathway	Regulation Type	Mean Correlation	Standard Deviation
STK11_WT.2	Canonical TOR	Inhibitor	-0.68	0.04
MAPKAP1_WT	Canonical TOR	Activator	-0.64	0.11
YAP1_WT.2	Canonical Hippo	Inhibitor	-0.64	0.13
RBPJ_WT.2	NOTCH	Activator	-0.60	0.09
YAP1_WT.4	Canonical Hippo	Inhibitor	-0.59	0.08

What groups of morphological features are distinguishing in the cluster relative to the untreated samples? (maximum of absolute m-score for the features belonging to the same category; m-score defined as median of a feature z-score across genes in the cluster) Black means no feature is available in the category



Which individual morphological features are distinguishing in the cluster relative to the untreated samples? Blue/Red means the feature has a positive/negative z-score. Size is proportional to the z-score value.



How strongly are genes within the cluster correlated?

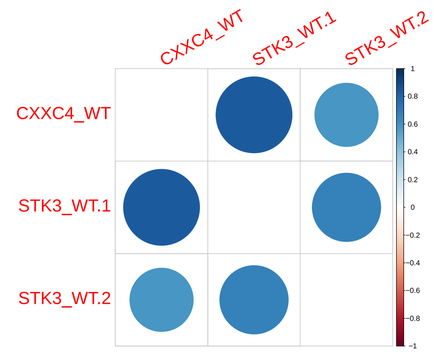
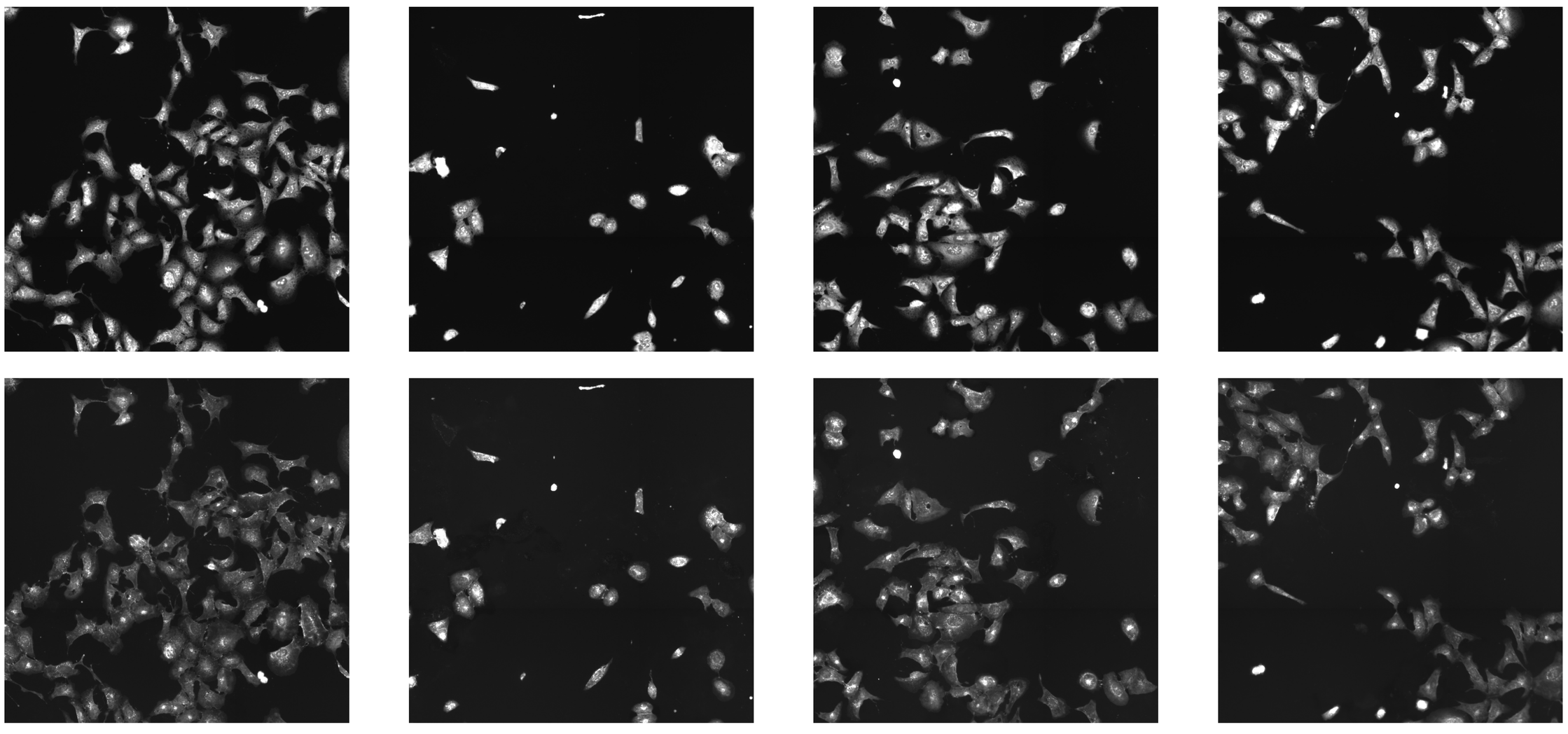
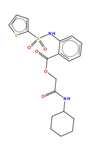
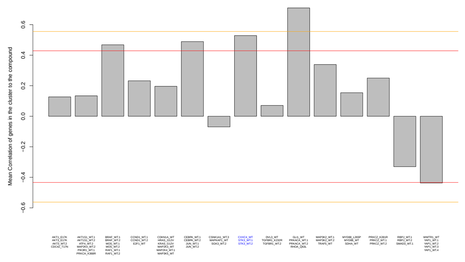
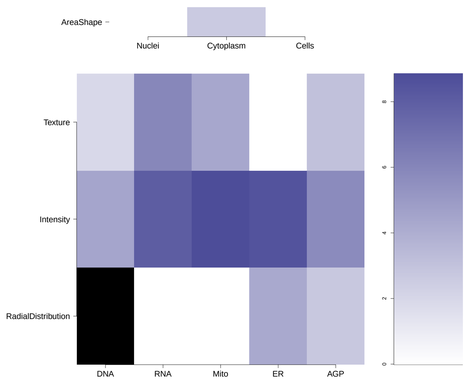
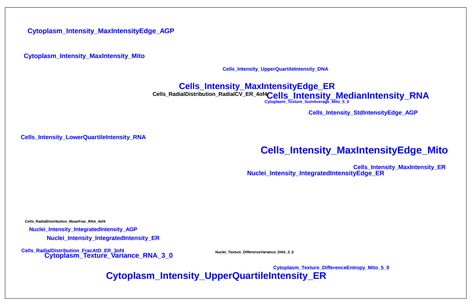
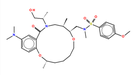
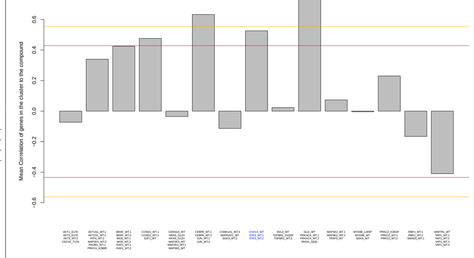
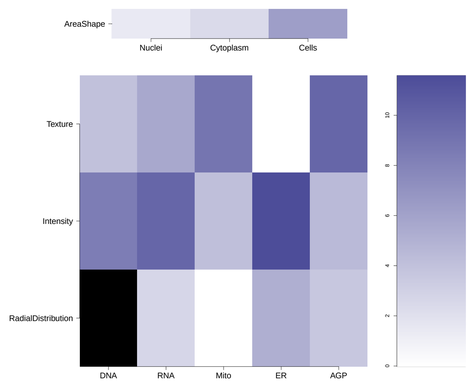
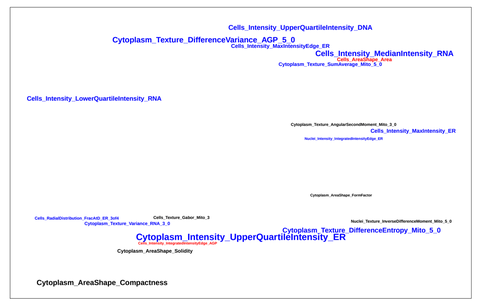
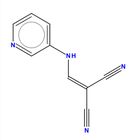
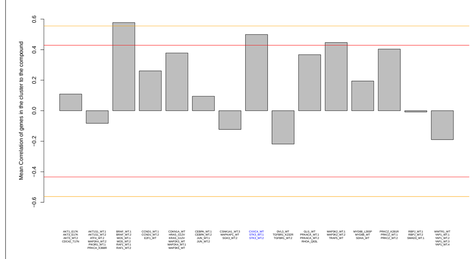
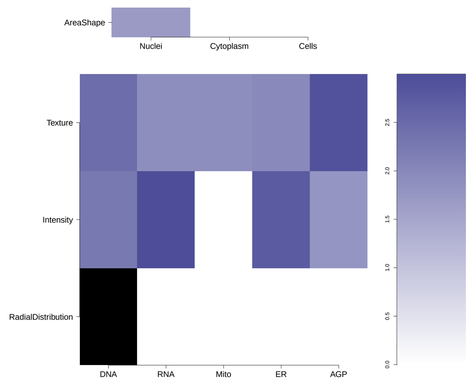
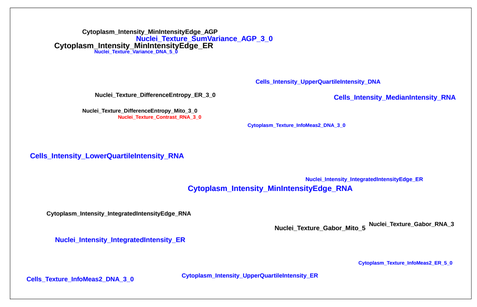
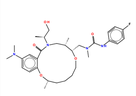
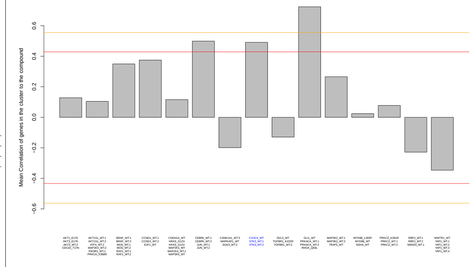
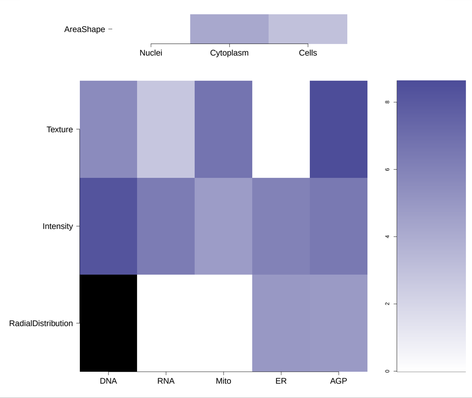
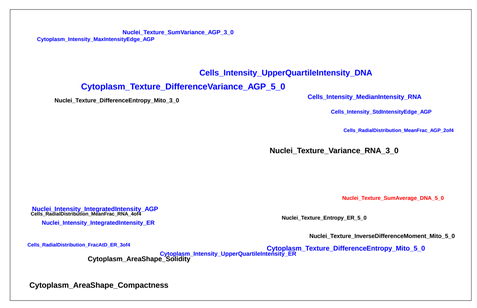
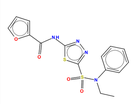
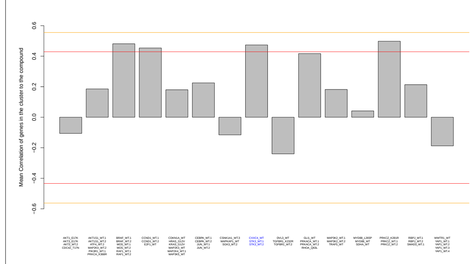
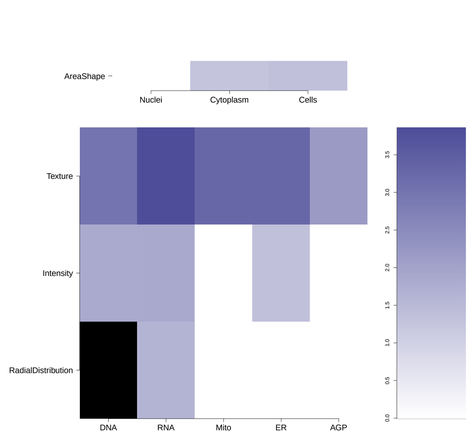
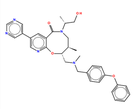
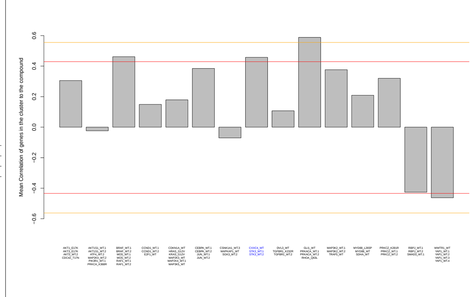
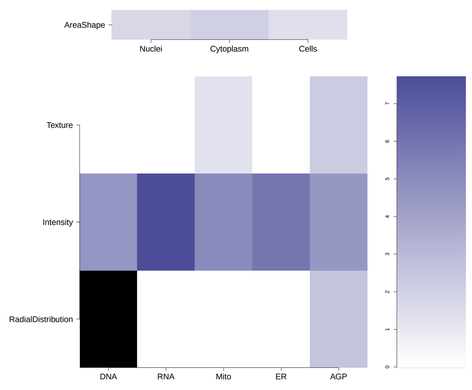
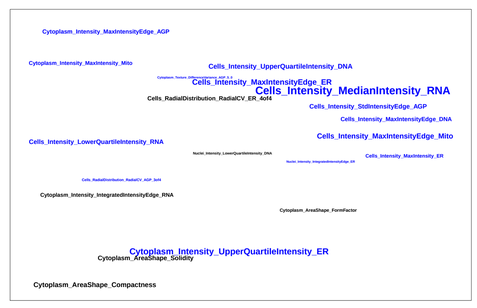
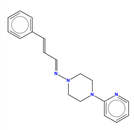
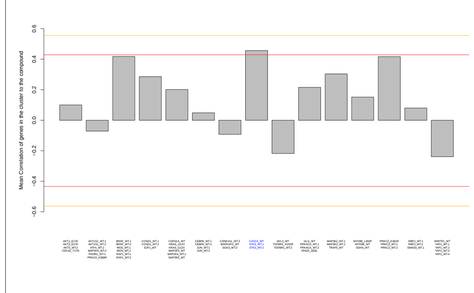
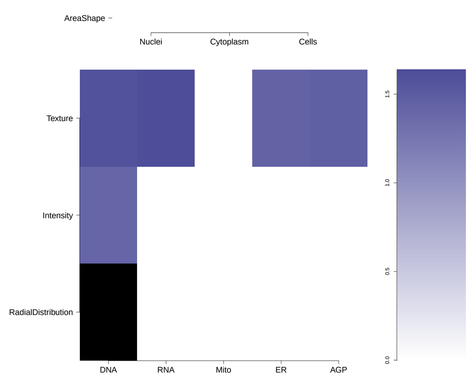
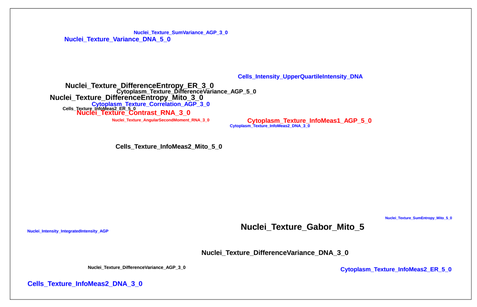
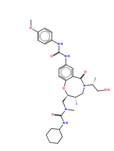
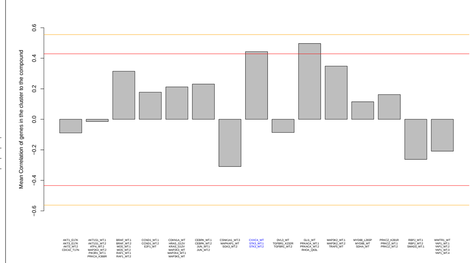
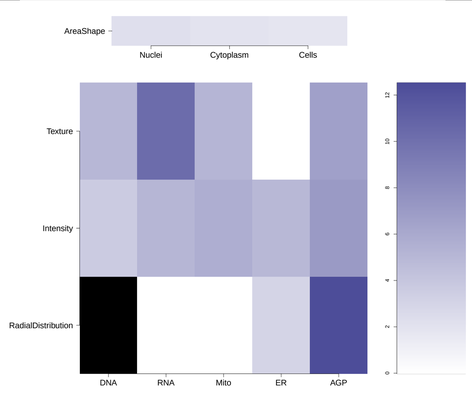
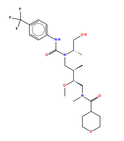
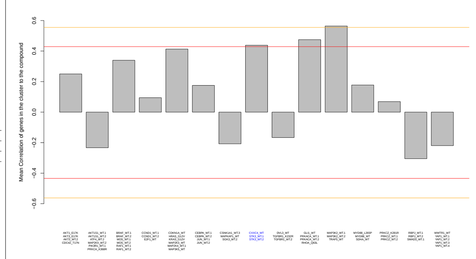
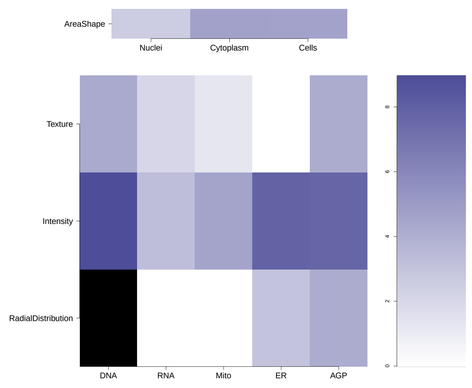
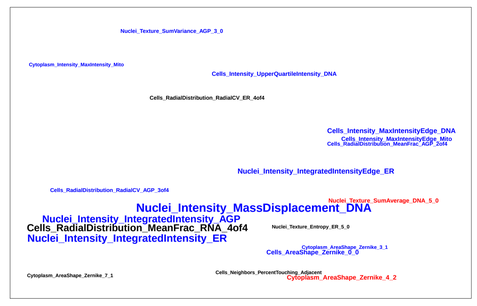
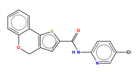
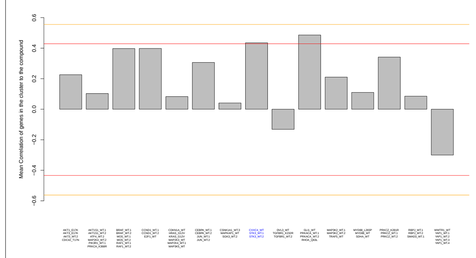
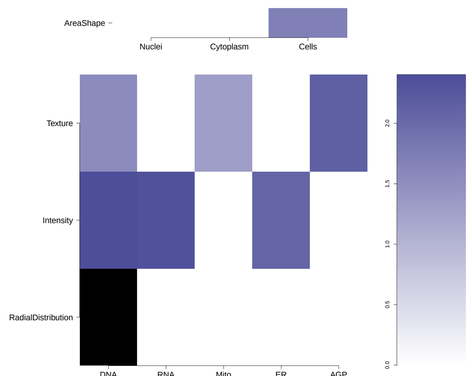
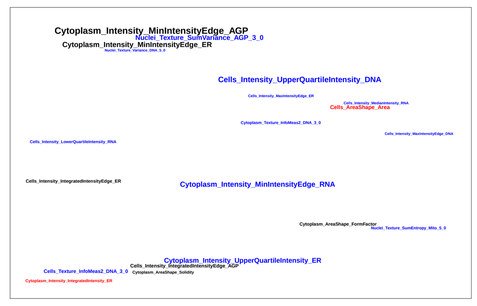
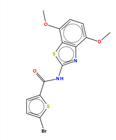
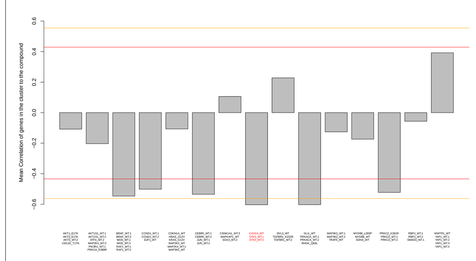
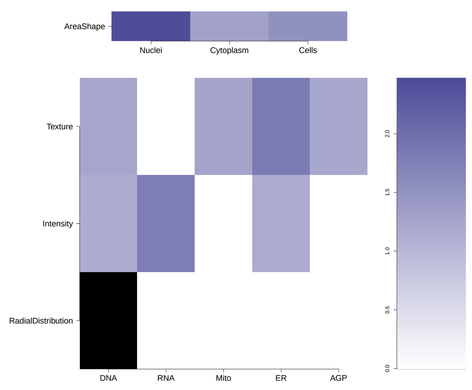
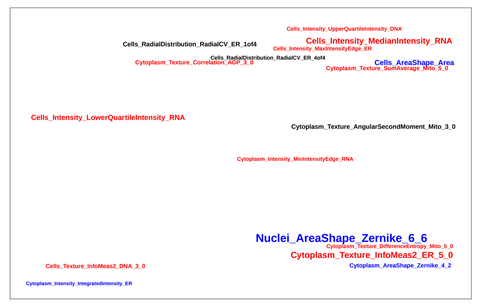
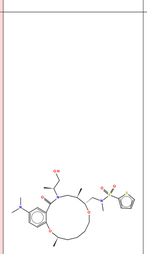
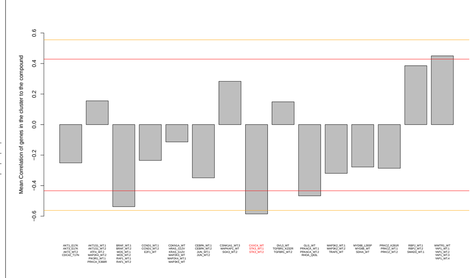
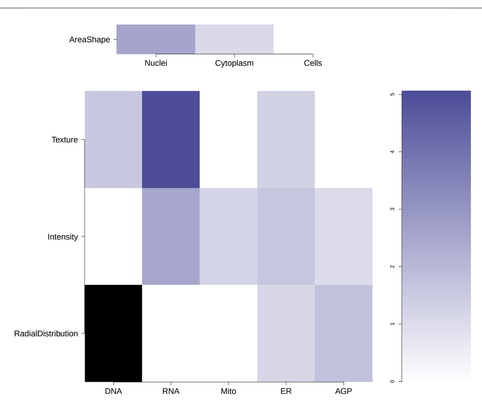
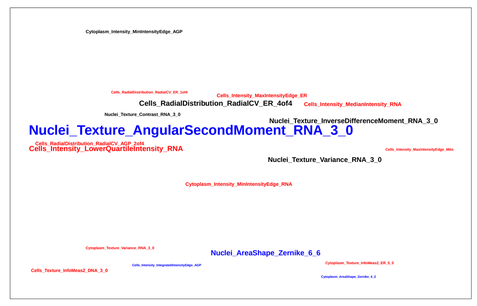
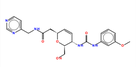
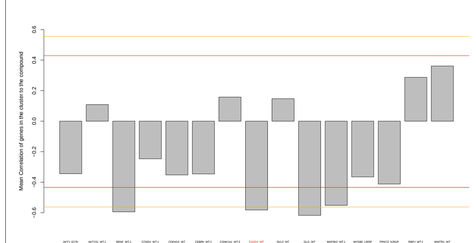
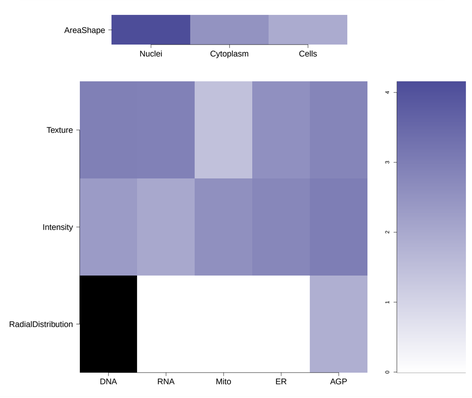
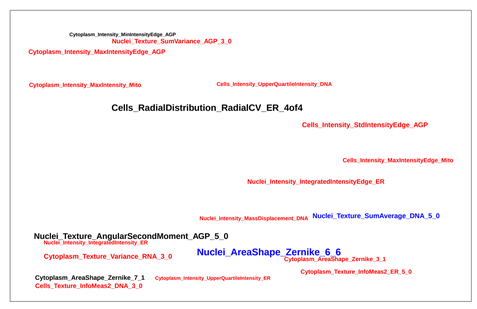
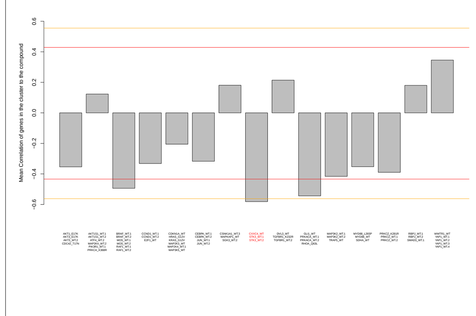
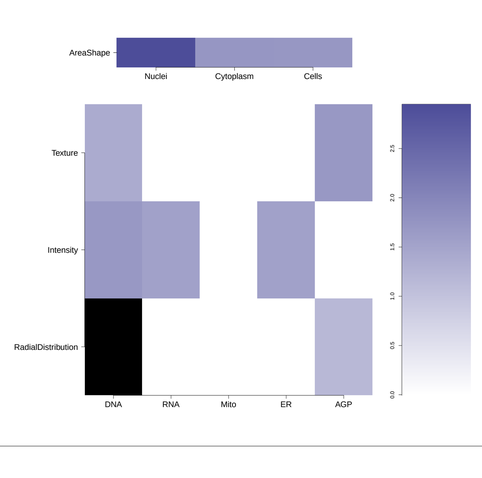
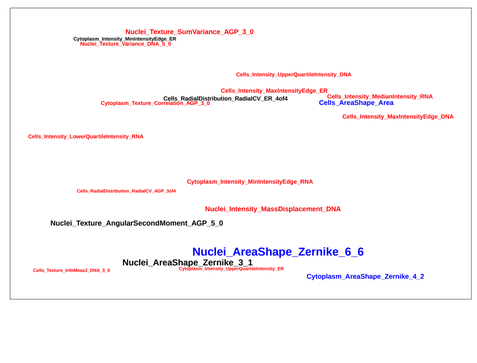


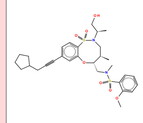
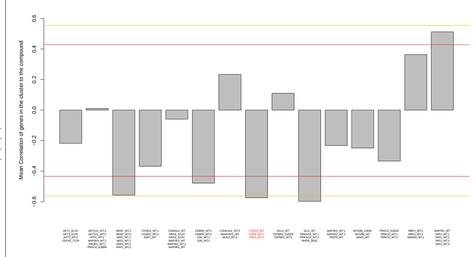
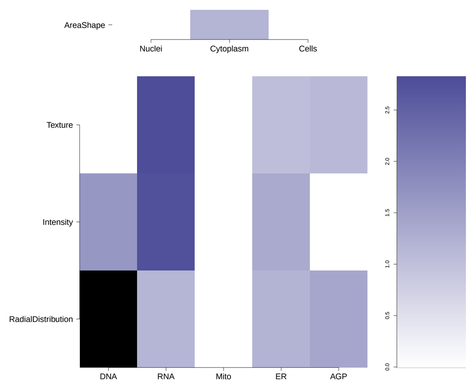
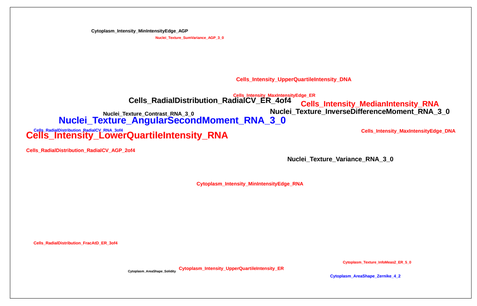
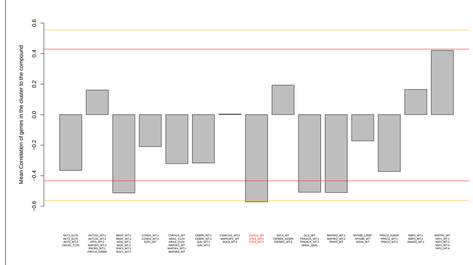
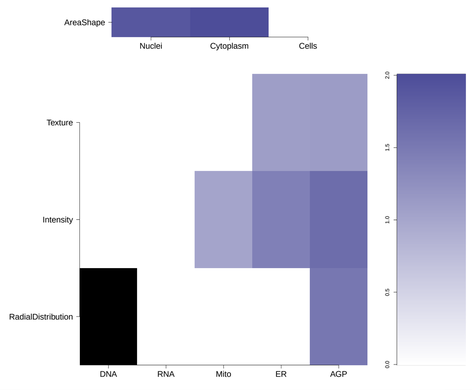
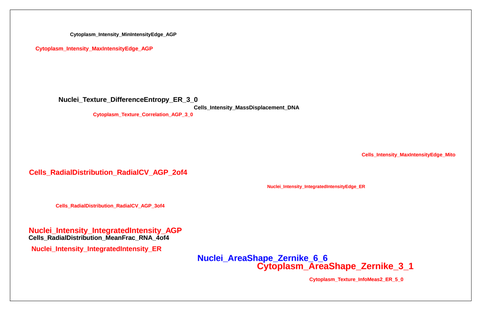
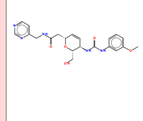
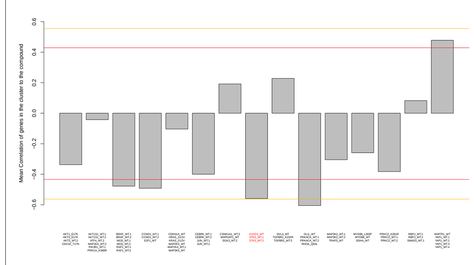
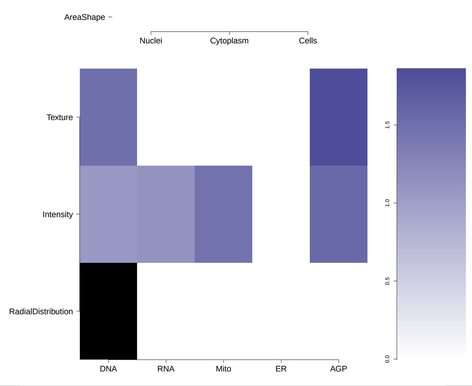
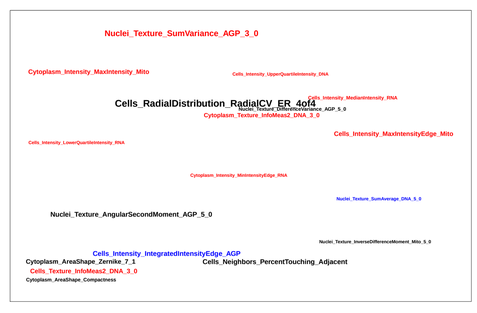
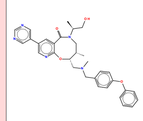
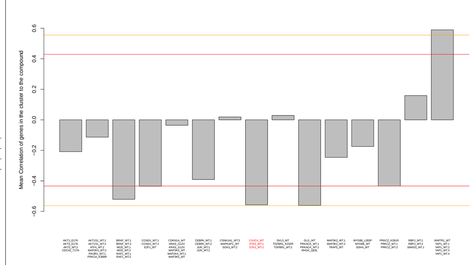
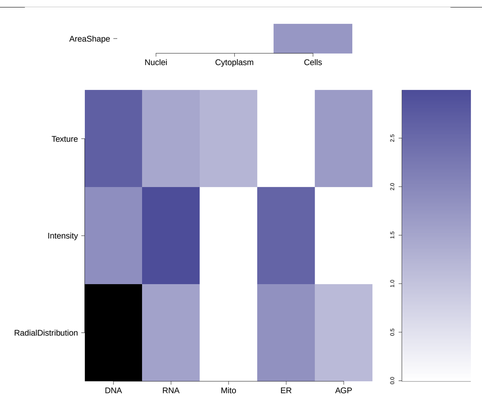
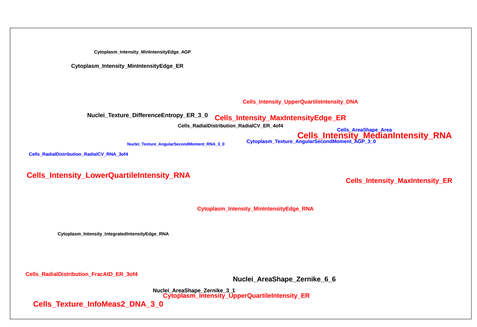
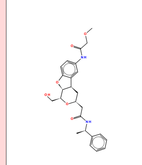
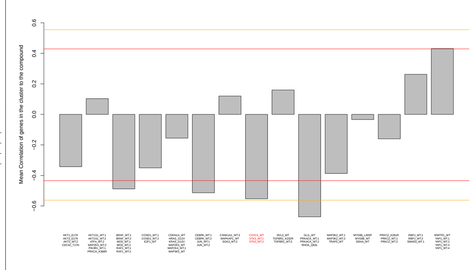
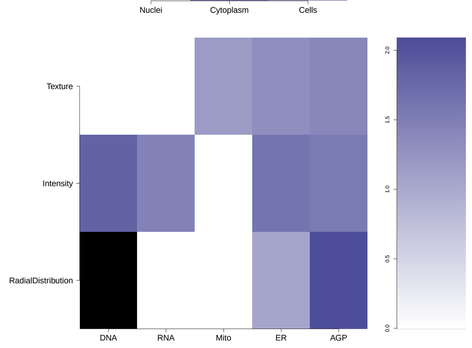
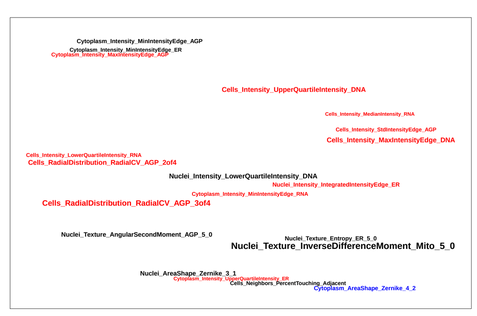
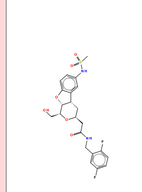
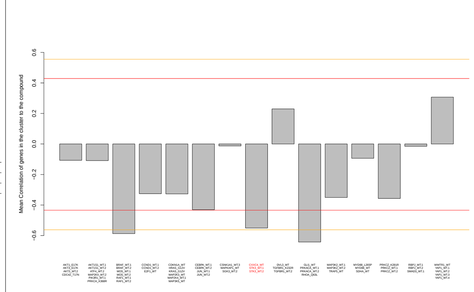
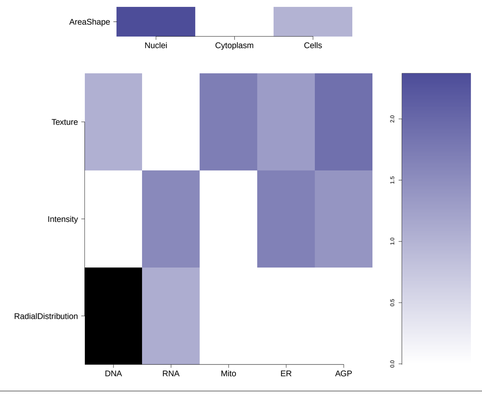
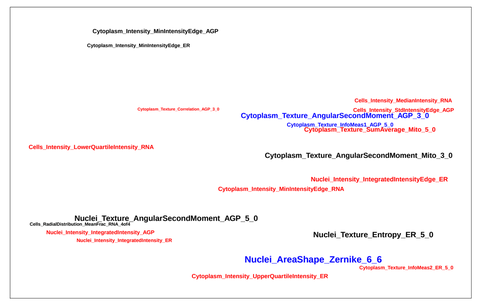
Plate : 41744 - Genes in the Cluster (Channels are sorted based on their dominance in the grid plot)



Compound IDs and common names (where available); blue/red colored box means the matching compound is positively/negatively correlated with the cluster	Chemical structure	Mean pairwise replicates correlation of the compound signature (95th DMSO replicate correlation is 0.54)	Mean ± standard deviation correlation between compound and each gene in cluster; Tables contain data for individual genes	Mean compound rank when scored against genes in cluster using L1000 profiling ± standard deviation; Tables contain data for individual genes	How similar is the compound signature to the gene clusters in this experiment? (Yellow and red lines correspond to top/bottom 1st and 5th percentile DMSO correlation to all the genes)	Common distinguishing feature categories in the compound and genes in the cluster relative to the untreated samples	Distinguishing individual features for the compound relative to untreated samples. Black means a mismatch; i.e. active (= high z-score in magnitude) in the compound, and either inactive (= small z-score in magnitude) or oppositely active in the gene cluster	Number of PubChem assays in which the compound was tested; assays in which the compound was active are itemized
BRD-K52251545-001-05-2 AC1M5VPS MLS000418615 HMS2531C16 ZINC3270008 SMR000247565 T0510-7581 PubChem CID : 2386323		0.83 (in 4 replicates)	0.53 ± 0.18 Treatment | Score CXXC4.WT | 0.66 STK3.WT.1 | 0.60 STK3.WT.2 | 0.32	NA				Total number of assays tested in: 629. Active in the following assays: • Total Fluorescence Counterscreen for Inhibitors of the Interaction of Thyroid Hormone Receptor and Steroid Receptor Coregulator 2 (AID 1479) • Antagonist of Human D 1 Dopamine Receptor: qHTS (AID 504652) • High-throughput multiplex microsphere screening for inhibitors of toxin protease, specifically Botulinum neurotoxin light chain F protease, MLPCN compound set (AID 588497)

BRD-K92570288-001-01-7 PubChem CID : 54614939		0.91 (in 4 replicates)	0.53 ± 0.17 Treatment | Score CXXC4.WT | 0.66 STK3.WT.1 | 0.59 STK3.WT.2 | 0.34	0.827 ± 0.133 Treatment | Score CXXC4.WT | 0.980 STK3.WT.1 | 0.769 STK3.WT.2 | 0.733				Total number of assays tested in: 19.
BRD-K62246028-001-05-6 T5321448 AC1M8FFC MLS000772051 HMS2744H14 ZINC12484090 SMR000376604 PubChem CID : 2485743		0.91 (in 2 replicates)	0.50 ± 0.10 Treatment | Score CXXC4.WT | 0.43 STK3.WT.1 | 0.45 STK3.WT.2 | 0.62	NA				Total number of assays tested in: 554. Active in the following assays: • Aqueous Solubility from MLSMR Stock Solutions (AID 1996) • Counterscreen for inhibitors of the fructose-bisphosphate aldolase (FBA) of M. tuberculosis: Absorbance-based biochemical high throughput Glycerophosphate Dehydrogenase-Triosephosphate Isomerase (GDH-TPI) full deck assay to identify assay artifacts (AID 588335)
BRD-K86981519-001-01-5 PubChem CID : 44496872		0.90 (in 4 replicates)	0.49 ± 0.12 Treatment | Score CXXC4.WT | 0.60 STK3.WT.1 | 0.52 STK3.WT.2 | 0.36	0.768 ± 0.034 Treatment | Score CXXC4.WT | 0.800 STK3.WT.1 | 0.769 STK3.WT.2 | 0.733				Total number of assays tested in: 29.
BRD-K19608696-001-04-5 MLS001121487 HMS1859H04 HMS2253I17 ZINC6818267 ZINC06818267 SMR000626594 E157-5383 PubChem CID : 16017323		NA (in 1 replicates)	0.47 ± 0.14 Treatment | Score CXXC4.WT | 0.37 STK3.WT.1 | 0.42 STK3.WT.2 | 0.63	NA				Total number of assays tested in: 508. Active in the following assays: • qHTS Screen for Compounds that Selectively Target Cancer Cells with p53 Mutations: Cytotoxicity of p53ts Cells at the Nonpermissive Temperature (AID 902) • qHTS Screen for Compounds that Selectively Target Cancer Cells with p53 Mutations: Cytotoxicity of p53 Null Cells at the Nonpermissive Temperature (AID 904) • A screen for compounds that inhibit cell wall-associated teichoic acid synthesis in Staphylococcus aureus (AID 463173) • qHTS Assay for the Inhibitors of Schistosoma Mansoni Peroxiredoxins (AID 485364) • qHTS profiling assay for firefly luciferase inhibitor/activator using purifed enzyme and Km concentrations of substrates (counterscreen for miR-21 project) (AID 588342) • Absorbance-based biochemical primary high throughput screening assay to identify inhibitors of Methionine sulfoxide reductase A (MsrA) (AID 651718) • Absorbance-based biochemical high throughput confirmation assay to identify inhibitors of Methionine sulfoxide reductase A (MsrA) (AID 651822)
BRD-K29290722-001-01-4 PubChem CID : 54618609		0.66 (in 4 replicates)	0.46 ± 0.16 Treatment | Score CXXC4.WT | 0.56 STK3.WT.1 | 0.54 STK3.WT.2 | 0.27	0.587 ± 0.286 Treatment | Score CXXC4.WT | 0.257 STK3.WT.1 | 0.769 STK3.WT.2 | 0.733				Total number of assays tested in: 23. Active in the following assays: • Small molecule inhibitors of miR122 Measured in Cell-Based System Using Plate Reader - 2144-01_Activator_SinglePoint_HTS_Activity (AID 623901) • Small molecule inhibitors of miR122 Measured in Cell-Based System Using Plate Reader - 2144-01_Activator_Dose_CherryPick_Activity (AID 651956)
BRD-K31945831-001-05-8 AC1OAMZW SMR000187177 MLS000577792 STL361976 ZINC15974401 ST041256 PubChem CID : 6861869		0.68 (in 2 replicates)	0.46 ± 0.19 Treatment | Score CXXC4.WT | 0.30 STK3.WT.1 | 0.40 STK3.WT.2 | 0.67	NA				Total number of assays tested in: 661. Active in the following assays: • Primary cell-based high throughput screening assay to measure STAT1 activation (AID 932) • MLPCN Alpha-Synuclein 5'UTR - 5'-UTR binding - activators (AID 1814) • Cycloheximide Counterscreen for Small Molecule Inhibitors of Shiga Toxin (AID 2314) • A qHTS for Small Molecule Inhibitors of Shiga Toxin (AID 2315) • uHTS Luminescent assay for identification of inhibitors of Sentrin-specific protease 6 (SENP6) (AID 2599) • uHTS Luminescent assay for identification of inhibitors of Sentrin-specific protease 7 (SENP7) (AID 434973) • Single concentration confirmation of uHTS for inhibitors of Sentrin-specific protease 6 (SENP6) using a Luminescent assay (AID 488915) • Single concentration confirmation of inhibitors of Sentrin-specific proteases (SENPs) using a Caspase-3 Selectivity assay (AID 488918) • qHTS screen for small molecules that induce genotoxicity in human embryonic kidney (HEK293T) cells expressing luciferase-tagged ELG1 (AID 504466) • Inhibitors of Epstein-Barr LMP1 inducible NF-kappaB luciferase reporter Measured in Cell-Based System Using Plate Reader - 2122-01_Inhibitor_SinglePoint_HTS_Activity (AID 504558) • MITF Measured in Cell-Based System Using Plate Reader - 2084-01_Activator_SinglePoint_HTS_Activity (AID 588334) • qHTS profiling assay for firefly luciferase inhibitor/activator using purifed enzyme and Km concentrations of substrates (counterscreen for miR-21 project) (AID 588342) • qHTS of GLP-1 Receptor Inverse Agonists (Inhibition Mode) (AID 624417) • Luminescence-based cell-based primary high throughput screening assay to identify agonists of the DAF-12 from the parasite H. glycines (hgDAF-12). (AID 687014)
BRD-K82157325-001-02-8 MLS002474370 SMR001398531 PubChem CID : 44202021		0.93 (in 3 replicates)	0.44 ± 0.03 Treatment | Score CXXC4.WT | 0.43 STK3.WT.1 | 0.43 STK3.WT.2 | 0.48	0.750 ± 0.150 Treatment | Score CXXC4.WT | 0.591 STK3.WT.1 | 0.769 STK3.WT.2 | 0.888				Total number of assays tested in: 372. Active in the following assays: • HTS for Identification of VLA-4 Allosteric Modulators from MLPCN library (AID 2557) • uHTS Luminescent assay for identification of activators of mouse intestinal alkaline phosphatase (AID 2805) • DENV2 CPE-Based HTS Measured in Cell-Based and Microorganism Combination System Using Plate Reader - 2149-01_Other_SinglePoint_HTS_Activity (AID 651640)

BRD-K76931353-001-01-1 PubChem CID : 54649228		0.62 (in 2 replicates)	0.44 ± 0.02 Treatment | Score CXXC4.WT | 0.46 STK3.WT.1 | 0.42 STK3.WT.2 | 0.43	0.510 ± 0.418 Treatment | Score CXXC4.WT | 0.028 STK3.WT.1 | 0.769 STK3.WT.2 | 0.733				Total number of assays tested in: 38.
BRD-K23940360-001-05-8 MLS000731532 HMS2744D15 ZINC5050928 CCG-136395 SMR000309807 PubChem CID : 16195347		0.60 (in 2 replicates)	0.44 ± 0.01 Treatment | Score CXXC4.WT | 0.44 STK3.WT.1 | 0.45 STK3.WT.2 | 0.42	NA				Total number of assays tested in: 576. Active in the following assays: • MLPCN Alpha-Synuclein 5'UTR - 5'-UTR binding - activators (AID 1814) • Fluorescence Cell-Free Homogeneous Primary HTS to Identify Inhibitors of the RanGTP-Importin-beta complex (AID 2216) • Cycloheximide Counterscreen for Small Molecule Inhibitors of Shiga Toxin (AID 2314) • qHTS Assay for Identifying a Potential Treatment of Ataxia-Telangiectasia (AID 485349) • Luminescence-based cell-based primary high throughput screening assay to identify biased ligands of the melanocortin 4 receptor (MC4R): agonists of MC4R (AID 540308) • uHTS identification of DNMT1 inhibitors in a Fluorescent Molecular Beacon assay (AID 588458) • Fluorescence-based biochemical primary high throughput screening assay to identify inhibitors of the fructose-bisphosphate aldolase (FBA) of M. tuberculosis (AID 588726) • Luminescence-based cell-based high throughput confirmation assay for biased ligands (agonists) of the melanocortin 4 receptor (MC4R) (AID 602192) • qHTS Assay to Identify Small Molecule Activators of BRCA1 Expression (AID 624202) • uHTS identification of SKN-1 Inhibitors in a fluoresence assay (AID 624304) • Counterscreen for inhibitors of the fructose-bisphosphate aldolase (FBA) of M. tuberculosis: Fluroescence-based biochemical high throughput Glycerophosphate Dehydrogenase-Triosephosphate Isomerase (GDH-TPI) assay to identify assay artifacts (AID 652141) • HTS for Bacterial rRNA inhibitors Measured in Microorganism-Based System Using Plate Reader - 7056-01_Inhibitor_SinglePoint_HTS_Activity (AID 720706)
BRD-K07726175-001-06-4 MLS000101513 SMR000017682 F0600-1566 ZINC02723956 AC1M1ZD5 MLS002152803 BDBM39509 HMS2244B03 ZINC2723956 PubChem CID : 2159329		NA (in 1 replicates)	-0.60 ± 0.02 Treatment | Score CXXC4.WT | -0.58 STK3.WT.1 | -0.61 STK3.WT.2 | -0.62	NA				Total number of assays tested in: 760. Active in the following assays: • Primary Cell-based High Throughput Screening assay for activators of the nuclear receptor Steroidogenic Factor 1 (SF-1) (AID 522) • HTS of Estrogen Receptor- alpha Coactivator Binding inhibitors (AID 629) • HTS for Estrogen Receptor-beta Coactivator Binding inhibitors (AID 633) • Primary cell-based high-throughput screening assay to identify agonists of Galanin Receptor 2 (GALR2) (AID 803) • uHTS of Mcl-1/Bid interaction inhibitors (AID 1021) • uHTS of Mcl-1/Noxa interaction inhibitors (AID 1022) • Dose Response Confirmation for Mcl-1/Bid Interaction Inhibitors (AID 1418) • Identification of Novel Modulators of Cl- dependent Transport Process via HTS: Primary Screen (AID 1456) • qHTS Assay for Promiscuous and Specific Inhibitors of Cruzain (without detergent) (AID 1476) • HTS for small molecule inhibitors of CHOP to regulate the unfolded protein response to ER stress (AID 2732) • uHTS identification of DNMT1 inhibitors in a Fluorescent Molecular Beacon assay (AID 588458) • qHTS for Stage-Specific Inhibitors of Vaccinia Orthopoxvirus: Venus Reporter Primary qHTS (AID 720580)
BRD-K72135113-001-01-4 PubChem CID : 44490387		0.84 (in 4 replicates)	-0.59 ± 0.06 Treatment | Score CXXC4.WT | -0.60 STK3.WT.1 | -0.64 STK3.WT.2 | -0.52	0.253 ± 0.054 Treatment | Score CXXC4.WT | 0.315 STK3.WT.1 | 0.231 STK3.WT.2 | 0.214				Total number of assays tested in: 45.
BRD-K32797868-001-01-7 PubChem CID : 54641357		NA (in 1 replicates)	-0.58 ± 0.02 Treatment | Score CXXC4.WT | -0.59 STK3.WT.1 | -0.59 STK3.WT.2 | -0.56	NA				Total number of assays tested in: 43.
BRD-A84530592-001-07-1 ZINC00814335 AC1NRMA1 MLS000765155 HMS2726B07 STK167461 BAS 08978426 SMR000288560 ST093880 PubChem CID : 5294569		NA (in 1 replicates)	-0.58 ± 0.03 Treatment | Score CXXC4.WT | -0.57 STK3.WT.1 | -0.56 STK3.WT.2 | -0.61	NA				Total number of assays tested in: 654. Active in the following assays: • Luminescent assay for identification of activators of bovine intestinal alkaline phosphatase (AID 1016) • Primary screen for compounds that inhibit Insulin promoter activity in TRM-6 cells (AID 1273) • uHTS Luminescent assay for identification of activators of mouse intestinal alkaline phosphatase (AID 2805) • Single concentration confirmation of uHTS hits from a small molecule activators of mouse intestinal alkaline phosphatase via a luminescent assay (AID 434970) • qHTS for Small Molecule Agonists and Allosteric Enhancers of Human TRH Receptor: Primary Screen for Enhancers (AID 493056) • Activator for delta FosB/delta FosB homodimer Measured in Biochemical System Using Plate Reader - 2072-01_Activator_SinglePoint_HTS_Activity (AID 493131)

BRD-K17923226-001-01-5 PubChem CID : 54619100		0.77 (in 4 replicates)	-0.57 ± 0.13 Treatment / Score CXXC4.WT: -0.66 STK3.WT.1: -0.64 STK3.WT.2: -0.43	0.559 ± 0.294 Treatment / Score CXXC4.WT: 0.647 STK3.WT.1: 0.231 STK3.WT.2: 0.799				Total number of assays tested in: 38. Active in the following assays: • MLPCN SirT-5 Measured in Biochemical System Using Imaging - 7044-01_Inhibitor_SinglePoint_HTS_Activity_Set5 (AID 652115) • Plasmodium falciparum Dd2 Sybr green parasite growth Measured in Cell-Based and Microorganism Combination System Using Plate Reader - 2153-01_Inhibitor_Dose_DryPowder_Activity (AID 1159566) • Plasmodium falciparum Dd2 Sybr green parasite growth Measured in Cell-Based and Microorganism Combination System Using Plate Reader - 2153-05_Inhibitor_Dose_CherryPick_Activity (AID 1159567) • HepG2 cytotoxicity counterscreen Measured in Cell-Based System Using Plate Reader - 2153-03_Inhibitor_Dose_DryPowder_Activity (AID 1159569) • Plasmodium falciparum 3D7-ScDHODH Sybr green parasite growth Measured in Cell-Based and Microorganism Combination System Using Plate Reader - 2153-02_Inhibitor_Dose_DryPowder_Activity (AID 1159570) • Plasmodium falciparum PfNITD609-resistant ATP4 D1247Y Sybr green parasite growth Measured in Cell-Based and Microorganism Combination System Using Plate Reader - 2153-11_Inhibitor_Dose_DryPowder_Activity (AID 1159571) • HepG2 cytotoxicity counterscreen Measured in Cell-Based System Using Plate Reader - 2153-03_Inhibitor_Dose_CherryPick_Activity (AID 1159577)
BRD-K13778782-001-01-3 PubChem CID : 54641104		NA (in 1 replicates)	-0.57 ± 0.03 Treatment / Score CXXC4.WT: -0.54 STK3.WT.1: -0.59 STK3.WT.2: -0.59	NA				Total number of assays tested in: 37.
BRD-K74568880-001-01-5 PubChem CID : 54641358		NA (in 1 replicates)	-0.56 ± 0.00 Treatment / Score CXXC4.WT: -0.55 STK3.WT.1: -0.56 STK3.WT.2: -0.56	NA				Total number of assays tested in: 43.
BRD-K88597074-001-01-4 PubChem CID : 54618422		0.83 (in 4 replicates)	-0.56 ± 0.08 Treatment / Score CXXC4.WT: -0.59 STK3.WT.1: -0.61 STK3.WT.2: -0.47	0.285 ± 0.427 Treatment / Score CXXC4.WT: 0.042 STK3.WT.1: 0.035 STK3.WT.2: 0.777				Total number of assays tested in: 36.
BRD-K58469266-001-01-0 PubChem CID : 54646063		NA (in 1 replicates)	-0.55 ± 0.15 Treatment / Score CXXC4.WT: -0.66 STK3.WT.1: -0.62 STK3.WT.2: -0.38	0.650 ± 0.359 Treatment / Score CXXC4.WT: 0.705 STK3.WT.1: 0.978 STK3.WT.2: 0.267				Total number of assays tested in: 39.
BRD-K76988892-001-01-9 PubChem CID : 54646031		NA (in 1 replicates)	-0.55 ± 0.05 Treatment / Score CXXC4.WT: -0.59 STK3.WT.1: -0.56 STK3.WT.2: -0.50	0.476 ± 0.446 Treatment / Score CXXC4.WT: 0.206 STK3.WT.1: 0.231 STK3.WT.2: 0.990				Total number of assays tested in: 41.