

Table S1 Details of top 100 potential core genes

Degree	Gene symbol	Gene description
106	<i>TNF</i>	Tumor necrosis factor
101	<i>ITGAM</i>	Integrin subunit alpha M
83	<i>PTPRC</i>	Protein tyrosine phosphatase, receptor type C
74	<i>TLR2</i>	Toll like receptor 2
74	<i>MMP9</i>	Matrix metalloproteinase 9
63	<i>CD44</i>	CD44 molecule (Indian blood group)
59	<i>JUN</i>	Jun proto-oncogene, AP-1 transcription factor subunit
53	<i>APP</i>	Amyloid beta precursor protein
51	<i>CDH1</i>	Cadherin 1
50	<i>CYBB</i>	Cytochrome b-245 beta chain
49	<i>FPR2</i>	Formyl peptide receptor 2
49	<i>LILRB2</i>	Leukocyte immunoglobulin like receptor B2
48	<i>FPR1</i>	Formyl peptide receptor 1
46	<i>FCGR2A</i>	Fc fragment of IgG receptor lia
46	<i>CCR1</i>	C-C motif chemokine receptor 1
46	<i>MNDA</i>	Myeloid cell nuclear differentiation antigen
43	<i>CD19</i>	CD19 molecule
43	<i>CCR2</i>	C-C motif chemokine receptor 2
41	<i>CDK1</i>	Cyclin dependent kinase 1
40	<i>CEACAM8</i>	Carcinoembryonic antigen related cell adhesion molecule 8
40	<i>FGR</i>	FGR proto-oncogene, Src family tyrosine kinase
40	<i>ANXA5</i>	Annexin A5
39	<i>HGF</i>	Hepatocyte growth factor
38	<i>PPBP</i>	Pro-platelet basic protein
38	<i>CDKN2A</i>	Cyclin dependent kinase inhibitor 2A
37	<i>ITGA2B</i>	Integrin subunit alpha 2b
37	<i>CDC42</i>	Cell division cycle 42
37	<i>S100A12</i>	S100 calcium binding protein A12
37	<i>CD28</i>	CD28 molecule
37	<i>FLT3</i>	FMS related tyrosine kinase 3
36	<i>ITGB3</i>	Integrin subunit beta 3
36	<i>S100A9</i>	S100 calcium binding protein A9
36	<i>CXCR2</i>	C-X-C motif chemokine receptor 2
36	<i>GATA3</i>	GATA binding protein 3
36	<i>ARG1</i>	Arginase 1
36	<i>EZH2</i>	Enhancer of zeste 2 polycomb repressive complex 2 subunit
35	<i>PF4</i>	Platelet factor 4
34	<i>CXCL2</i>	C-X-C motif chemokine ligand 2
34	<i>CXCR1</i>	C-X-C motif chemokine receptor 1
34	<i>CAMP</i>	Cathelicidin antimicrobial peptide
34	<i>CD163</i>	CD163 molecule
33	<i>CD59</i>	CD59 molecule
32	<i>CD14</i>	CD14 molecule
32	<i>CTSG</i>	Cathepsin G
32	<i>C5AR1</i>	Complement component 5a receptor 1
32	<i>ANPEP</i>	Alanyl aminopeptidase, membrane
32	<i>FUT4</i>	Fucosyltransferase 4
31	<i>S100A8</i>	S100 calcium binding protein A8
31	<i>CCR3</i>	C-C motif chemokine receptor 3
31	<i>IRF8</i>	Interferon regulatory factor 8
30	<i>TLR6</i>	Toll like receptor 6
30	<i>PLAUR</i>	Plasminogen activator, urokinase receptor
30	<i>FCGR3B</i>	Fc fragment of IgG receptor IIIb
29	<i>CSF2RB</i>	Colony stimulating factor 2 receptor beta common s
29	<i>GGH</i>	Gamma-glutamyl hydrolase
29	<i>CSF3R</i>	Colony stimulating factor 3 receptor
28	<i>RETN</i>	Resistin
28	<i>CD24</i>	CD24 molecule
28	<i>GYPA</i>	Glycophorin A (MNS blood group)
27	<i>HIST2H2BE</i>	Histone cluster 2, H2be
27	<i>P2RY13</i>	Purinergic receptor P2Y13
26	<i>NCF2</i>	Neutrophil cytosolic factor 2
26	<i>IL3RA</i>	Interleukin 3 receptor subunit alpha
26	<i>MME</i>	Membrane metalloendopeptidase
26	<i>SPN</i>	Sialoporphin
25	<i>LCN2</i>	lipocalin 2
25	<i>LTF</i>	Lactotransferrin
25	<i>FOXO1</i>	Forkhead box O1
25	<i>MGAM</i>	Maltase-glucoamylase
25	<i>PROM1</i>	Prominin 1
24	<i>CASP8</i>	Caspase 8
24	<i>H2AFX</i>	H2A histone family member X
24	<i>LGALS3</i>	Lectin, galactoside binding soluble 3
23	<i>NCF4</i>	Neutrophil cytosolic factor 4
23	<i>SLC11A1</i>	Solute carrier family 11 member 1
23	<i>HK3</i>	Hexokinase 3
23	<i>EPCAM</i>	Epithelial cell adhesion molecule
23	<i>SLC4A1</i>	Solute carrier family 4 member 1 (Diego blood group)
22	<i>ORM1</i>	Orosomucoid 1
22	<i>CKAP4</i>	Cytoskeleton associated protein 4
22	<i>IL1RN</i>	Interleukin 1 receptor antagonist
21	<i>NCF1</i>	Neutrophil cytosolic factor 1
21	<i>FYB</i>	FYN binding protein
21	<i>VNN2</i>	Vanin 2
21	<i>GABBR1</i>	Gamma-aminobutyric acid type B receptor subunit 1
21	<i>BST1</i>	Bone marrow stromal cell antigen 1
21	<i>MRC1</i>	Mannose receptor, C type 1
21	<i>WT1</i>	Wilms tumor 1
21	<i>PI3</i>	Peptidase inhibitor 3
20	<i>CD79A</i>	CD79a molecule
20	<i>PGLYRP1</i>	Peptidoglycan recognition protein 1
20	<i>SELPLG</i>	Selectin P ligand
20	<i>CEACAM1</i>	Carcinoembryonic antigen related cell adhesion molecule 1
20	<i>GNG11</i>	G protein subunit gamma 11
20	<i>NMU</i>	Neuromedin U
20	<i>SLCO4C1</i>	Solute carrier organic anion transporter family member 4C1
20	<i>CR1</i>	Complement component 3b/4b receptor 1 (Knops blood group)
20	<i>TNS1</i>	Tensin 1
19	<i>CD3G</i>	CD3g molecule

Table S2 Details of common existed chemotherapy drugs

Compound	Synonyms	Drug targets	Drug targets pathway
Tubastatin A	–	HDAC1, HDAC6, HDAC8	Chromatin histone acetylation
VNLG/124	HDAC inhibitor XV	HDAC, RAR	Chromatin histone acetylation
GSK1070916	GSK-1070916	AURKA, AURKC	Mitosis
TG101348	TG101348, SAR302503	JAK2	Other, kinases
Sunitinib	Sunitinib Malate, SU-11248	PDGFR, KIT, FLT3, VEGFR, RET, CSF1R	RTK signaling
NVP-BHG712	BHG712	EPHB4	RTK signaling
Alectinib	CH5424802, Alecensa	ALK	RTK signaling
Sorafenib	Nexavar, 284461-73-0, BAY 43-9006	PDGFR, KIT, VEGFR, RAF	RTK signaling
Linifanib	ABT-869, ABT 869	VEGFR1, VEGFR2, VEGFR3, CSF1R, FLT3, KIT	RTK signaling
Quizartinib	AC220, AC 220, AC-220, Asp-2689	FLT3	RTK signaling
TAE684	NVP-TAE 684, TAE684, TAE-684	ALK	RTK signaling
ZSTK474	KIN001-167, ZSTK 474	PI3K (class 1)	PI3K/MTOR signaling
AICAR	N1-(b-D-ribofuranosyl)-5-aminoimidazole-4-carboxamide	AMPK agonist	Metabolism
Vorinostat	Zolinza, SAHA, suberanilohydroxamic acid, suberoylanilide hydroxamic acid, MK-0683	HDAC inhibitor Class I, IIa, IIb, IV	Chromatin histone acetylation
CAY10603	–	HDAC1, HDAC6	Chromatin histone acetylation
WZ3105	–	SRC, ROCK2, NTRK2, FLT3, IRAK1, others	Other
Masitinib	–	KIT, PDGFRA, PDGFRB	RTK signaling
BHG712	–	EPHB4	RTK signaling
Foretinib	GSK1363089, XL-880, EXEL-2880, GSK089	GSK1363089, XL-880, EXEL-2880, GSK089	RTK signaling
Quizartinib	AC220, AC 220, AC-220, Asp-2689	FLT3	RTK signaling
ZSTK474	KIN001-167, ZSTK-474, ZSTK 474	PI3K (class 1)	PI3K/MTOR signaling
Omipalisib	GSK2126458, GSK-2126458, EX-8678, GSK458	PI3K (class 1), MTORC1, MTORC2	PI3K/MTOR signaling
AS605240	KIN001-173, AS-605240	PI3Kgamma	PI3K/MTOR signaling
UNC0638	UNC-0638, UNC 0683	G9a and GLP methyltransferases	Chromatin histone methylation
Erlotinib	Tarceva, RG-1415, CP-358774, OSI-774, Ro-508231, R-1415	EGFR	EGFR signaling
BMS345541	BMS345541, IKK Inhibitor 3	IKK1, IKK2	Other, kinases
BIX02189	BIX 02189	MEK5, ERK5	ERK MAPK signaling
ATRA	Tretinoin, Vesanoid, Renova, Atralin, Tretin-X, Avita	Retinoic acid	Other
Salubrinal	EIF-2alpha Inhibitor	EIF2A	
Bexarotene	LG-100069, Targretin, Targret, Targrexin, Targretyn, Bexarotenum	Retinoic X receptor (RXR) agonist	Other
CP466722	CP-466722, CP 466722, 1080622-86-1	ATM	Genome integrity
AZD7762	AZD-7762, AZD 7762	CHEK1, CHEK2	Cell cycle
Methotrexate	Abitrexate, Amethopterin, Rheumatrex, Trexall, Folex	Antimetabolite	DNA replication
Navitoclax	ABT-263, ABT263, ABT 263	BCL2, BCL-XL, BCL-W	Apoptosis regulation
Vorinostat	Zolinza, SAHA, suberanilohydroxamic acid, suberoylanilide hydroxamic acid, MK-0683	Zolinza, SAHA, suberanilohydroxamic acid, suberoylanilide hydroxamic acid, MK-0683	Chromatin histone acetylation
Vincristine	–	–	Vincristine
Tozasertib	MK 0457, MK-0457, MK-045, VX-680 VX 680 VX-68	AURKA, AURKB, AURKC, others	Mitosis
Topotecan	–	–	DNA replication
Teniposide	Vumon	–	DNA replication
Sunitinib	Sutent, Sunitinib Malate, SU-11248	PDGFR, KIT, VEGFR, FLT3, RET, CSF1R	RTK signaling
Piperlongumine	Piplartine	Induces reactive oxygen species	Other
Panobinostat	Farydak, LBH589	HDAC	Chromatin histone acetylation
Paclitaxel	BMS-181339-01, Taxol, Onxol, Paxene, Praxel, Abraxane	Microtubule stabiliser	Mitosis
Mitomycin	Mytozytrex, NSC-26980, MMC, Mitosol, Mitozytrex	DNA crosslinker	DNA replication
GSK525762A	I-BET-762	BRD2, BRD3, BRD4	Chromatin other
Gemcitabine	Gemzar, LY-188011	Pyrimidine antimetabolite	DNA replication
Fluorouracil	5-FU	Antimetabolite (DNA & RNA)	Other
Etoposide	Etopophos, Vepesid, Eposin, VP-16	TOP2	DNA replication
Entinostat	MS-275	HDAC1, HDAC3	Chromatin histone acetylation
Dinaciclib	SCH727965, SCH 727965, SCH-727-965, MK-7965	CDK1, CDK2, CDK5, CDK9	Cell cycle
Crizotinib	Xalkori, PF2341066, PF-2341066, PF 2341066	MET, ALK, ROS1	RTK signaling
Bortezomib	PS-341, LDP-341, Velcade	Proteasome	Protein stability and degradation
Belinostat	PXD101, PXD-101	HDAC1	Chromatin histone acetylation
Phenformin	DBI	Biguanide agent	Other
FK866	Daporinad, APO866	NAMPT	Metabolism
LAQ824	Dacinostat	HDAC1	Chromatin histone acetylation
Genentech Cpd 10	–	AURKA, AURKB	Mitosis
Ispinesib Mesylate	SB-715992	KSP	Mitosis
GSK690693	GSK 690693, GSK-690693	AKT1, AKT2, AKT3	PI3K/MTOR signaling
Ruxolitinib	INCB-18424, Ruxolitinib Phosphate, Jakafi	JAK1, JAK2	Other, kinases
YM201636	YM-201636, YM 201636	PIKFYVE	PI3K/MTOR signaling
T0901317	TO-901317, TO901317	LXR, FXR	Other
Lenalidomide	CDC-501, CC-5013, Revlimid	CRBN	Protein stability and degradation
AZD8055	AZD-8055	MTORC1, MTORC2	PI3K/MTOR signaling
Docetaxel	RP-56976, Taxotere	Microtubule stabiliser	Mitosis
Nilotinib	Tasigna, AMN 107	ABL	ABL signaling
Bleomycin	–	dsDNA break induction	DNA replication