Table SI. Upregulated genes in DOX resistant cells (MCF-7/DOX53.2nM) treated with 5 μM DOX [Track (1)].

Gene descriptions	Gene symbol	Fold of regulation	Gene function
Interleukin 6	IL6	1305.2	Regulation of apoptosis
Slit homolog 2 (Drosophila)	SLIT2	388.02	Cell migration process
Cadherin 13, H-cadherin (heart)	CDH13	218.27	Membrane receptor
Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1	SERPINE1	127.12	Regulation of cell proliferation
Hypermethylated in cancer 1	HIC1	91.77	Regulation of transcription
Cyclin A1	CCNA1	54.57	activating subunits of enzymatic
Retinoic acid receptor, beta	RARB	45.25	Intracellular cascade
Plasminogen activator, urokinase	PLAU	44.32	Regulation of cell proliferation
ADAM metallopeptidase domain 23	ADAM23	41.93	membrane-anchored proteins
Colony stimulating factor 1 (macrophage)	CSF1	35.26	Regulation of cell proliferation
Snail homolog 2 (Drosophila)	SNAI2	30.06	Regulation of transcription
Adenomatous polyposis coli	APC	25.63	Regulation of cell proliferation
Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	PTGS2	17.03	Regulation of transcription
Glutathione S-transferase pi 1	GSTP1	10.85	detoxification
Cyclin-dependent kinase inhibitor 1C (p57, Kip2)	CDKN1C	9.58	Regulation of cell cycle
Estrogen receptor 2 ER beta	ESR2	9.45	Anti- apoptosis
Keratin 5	KRT5	7.26	Regulation of cell proliferation
Stratifin	SFN	6.92	
Cyclin-dependent kinase inhibitor 1A (p21, Cip1)	CDKN1A	6.11	Regulation of cell cycle
Jun proto-oncogene	JUN	5.54	Regulation of apoptosis
Nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)	NR3C1	5.5	Regulation of transcription
Matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)	MMP2	5.21	degradation of the extracellular matrix
Secreted frizzled-related protein 1	SFRP1	5.21	extracellular signaling ligands
Insulin-like growth factor 1 (somatomedin C)	IGF1	5.21	Intracellular signaling cascade
Cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4)	CDKN2A	5.21	Regulation of cell cycle
Phosphatase and tensin homolog	PTEN	4.99	catalysis the dephosphorylation
ATP-binding cassette, sub-family G (WHITE), member 2	ABCG2	4.92	Transmembrane transport
GLI family zinc finger 1	GLI1	4.2	Regulation of transcription
Cadherin 1, type 1, E-cadherin (epithelial)	CDH1	4	Regulation of cell proliferation
Cadherin 1, type 1, E-cadherin (epithelial)	MAPK8	3.71	Regulation of transcription

Non-metastatic cells 1	NME1	3.58	Regulation of transcription
Twist homolog 1 (Drosophila)	TWIST1	3.41	Regulation of transcription
Cystatin E/M	CST6	3.03	Regulation of transcription
Cyclin E1	CCNE1	3.03	Regulation of cell cycle
Cyclin D2	CCND2	2.97	Regulation of cell cycle
Notch 1	NOTCH1	2.87	Signaling pathway
PR domain containing 2, with ZNF domain	PRDM2	2.31	Regulation of transcription
B-cell CLL/lymphoma 2	BCL2	2.3	Negative regulation of apoptosis
Catenin (cadherin-associated protein), beta 1, 88kDa	CTNNB1	2.25	Regulation of transcription
Vascular endothelial growth factor A	VEGFA	2.17	Regulation pf apoptosis
Transforming growth factor, beta 1	TGFB1	2	Cell cycle checkpoint

DOX, doxorubicin.

Table SII. Downregulated genes in DOX resistant cells (MCF-7/DOX53.2nM) treated with 5 μM DOX [Track (1)].

Gene descriptions	Gene symbol	Fold of regulation	Gene function
Baculoviral IAP repeat containing 5	BIRC5	-51.27	Regulation of apoptosis
Antigen identified by monoclonal antibody Ki-67	MKI67	-22.78	Regulation of cell proliferation
Breast cancer 1, early onset	BRCA1	-9.45	DNA damage response
X-box binding protein 1	XBP1	-6.54	Regulation of transcription
Progesterone receptor	PGR	-5.39	Regulation of transcription
Breast cancer 2, early onset	BRCA2	-3.94	DNA damage response
Mucin 1, cell surface associated	MUC1	-3.56	Response of extracellular stimulus
Estrogen receptor 1	ESR1	-2.6	Regulation of transcription DNA- dependent
Retinoblastoma 1	RB1	-2.14	Inhibiting cell cycle progression
Androgen receptor	AR	-2.14	-
Mitogen-activated protein kinase 3	MAPK3	-2.01	Control of cell proliferation

DOX, doxorubicin.

Table SIII. Upregulated genes in DOX resistant cells (MCF-7/DOX53.2nM) treated with combination of 5 μM DOX with 20 μM quercetin [Track(2)].

Gene descriptions	Gene symbol	Fold of regulation	Gene function
Interleukin 6	IL6	1636.1	Regulation of apoptosis
Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1	SERPINE1	167.27	Regulation of cell proliferation
Slit homolog 2 (Drosophila)	SLIT2	151.8	Transmembrane and signaling protein
Matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)	MMP2	84.21	Degradation of the extracellular matrix
Hypermethylated in cancer 1	HIC1	62.51	Regulation of transcription
Cyclin-dependent kinase inhibitor 1A (p21, Cip1)	CCNA1	55.56	Regulation of cell cycle
ADAM metallopeptidase domain 23	ADAM23	39.02	Regulation of cell cycle
Cadherin 13, H-cadherin (heart)	CDH13	30.4	Membrane receptor
Glutathione S-transferase pi 1	GSTP1	22.41	Metabolic process
Cyclin D1	CCND2	22.25	Regulation of cell cycle
Colony stimulating factor 1 (macrophage)	CSF1	17.58	Regulation of cell proliferation
Cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4)	CDKN2A	13.7	Regulation of cell cycle
Insulin-like growth factor 1 (somatomedin C)	IGF1	13.7	Regulation of DNA replication
Secreted frizzled-related protein 1	SFRP1	13.7	extracellular signaling ligands
Retinoic acid receptor, beta	RARB	13.7	
Plasminogen activator, urokinase	PLAU	13.7	Regulation of cell proliferation
Keratin 5	KRT5	13.6	Regulation of cell proliferation
Adenomatous polyposis coli	APC	10.53	Control cell division
Cyclin-dependent kinase inhibitor 1C (p57, Kip2)	CDKN1C	8.73	Regulation of cell cycle
ATP-binding cassette, sub-family G (WHITE), member 2	ABCG2	8.26	Transmembrane transport
GLI family zinc finger 1	GLI1	7.76	Regulation of DNA replication
Cystatin E/M	CST6	7.29	Regulate mitotic cell cycle
B-cell CLL/lymphoma 2	BCL2	6.22	Negative regulation of apoptosis
Cyclin-dependent kinase inhibitor 1A (p21, Cip1)	CDKN1A	6.22	Regulation of cell cycle
Nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)	NR3C1	5.84	Regulation of cell proliferation
Jun proto-oncogene	JUN	5.01	Regulation of cell proliferation
Stratifin	SFN	4.65	Regulation of cell cycle
Ataxia telangiectasia mutated	ATM	4.02	Induction of apoptosis
Non-metastatic cells 1	NME1	3.8	Regulate mitotic cell cycle
Phosphatase and tensin homolog	PTEN	3.15	regulate cell division
PR domain containing 2, with ZNF domain	PRDM2	2.94	Regulation of transcription
Cadherin 1, type 1, E-cadherin (epithelial)	CDH1	2.71	Making a protein called epithelial cadherin or E-cadherin
Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase andcyclooxygenase	PTGS2	2.61	Regulation of transcription

Cyclin E1	CCNE1	2.49	Transition of mitotic cell cycle
Mitogen-activated protein kinase 8	MAPK8	2.06	Regulation of cell proliferation

DOX, doxorubicin.

Table SIV. Downregulated genes in DOX resistant cells (MCF-7/DOX53.2nM) treated with combination of 5 μM DOX with 20 μM quercetin [Track(2)].

Gene descriptions	Gene symbol	Fold of regulation	Gene function
Baculoviral IAP repeat containing 5	BIRC5	-19.48	Regulation of apoptosis
Antigen identified by monoclonal antibody Ki-67	MKI67	-10.3	Regulation of cell proliferation
Progesterone receptor	PGR	-4.07	Regulation of transcription
Breast cancer 2, early onset	BRCA2	-4.04	DNA damage response
X-box binding protein 1	XBP1	-4.01	Regulation of transcription
Mucin 1, cell surface associated	MUC1	-2.86	Response of extracellular stimulus
Breast cancer 1, early onset	BRCA1	-2.65	DNA damage response
Estrogen receptor 1	ESR1	-2.32	Regulation of transcription DNA- dependent
Cyclin-dependent kinase 2	CDK2	-2.29	Regulation of cell cycle
Epidermal growth factor	EGF	-2.23	Regulation of cell proliferation
Tumor protein p73	TP73	-2.18	Regulation of cell cycle

DOX, doxorubicin.

Table SV. Upregulated genes in the difference between Track(1) and Track (2).

Gene descriptions	Gene symbol	Difference of Fold of regulation	Gene function
Interleukin 6	IL6	330.9	Regulation of apoptosis
Matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV	MMP2	79	Degradation of the extracellular matrix
Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1	SERPINE1	40.15	Regulation of cell proliferation
Baculoviral IAP repeat containing 5	BIRC5	31.79	Regulation of apoptosis
Cyclin D2	CCND2	19.28	Regulation of cell cycle
Antigen identified by monoclonal antibody Ki-67	MKI67	12.48	Regulation of cell proliferation
Glutathione S-transferase pi 1	GSTP1	11.56	Metabolic process
Secreted frizzled-related protein 1	SFRP1	8.49	Regulation of cell proliferation
Insulin-like growth factor 1 (somatomedin C)	IGF1	8.49	Intracellular signaling cascade
Cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4)	CDKN2A	8.49	Regulation of cycle
Breast cancer 1, early onset	BRCA1	6.8	DNA damage response
Keratin 5	KRT5	6.34	Regulation of cell proliferation
Ataxia telangiectasia mutated	ATM	5.08	Induction of apoptosis

Table SVI. Downregulated genes in the difference between Track (1) and Track (2).

Gene descriptions	Gene symbol	Difference of Fold of regulation	Gene function
Slit homolog 2 (Drosophila)	SLIT2	-236.22	Regulation of cell proliferation
Cadherin 13, H-cadherin (heart)	CDH13	-187.87	Membrane receptor
Retinoicacidreceptor, beta	RARB	-31.55	regulating gene expression
Snailhomolog 2 (Drosophila)	SNAI2	-31.23	Regulation of transcription
Plasminogenactivator, urokinase	PLAU	-30.62	Regulation of cell proliferation
Hypermethylated in cancer 1	HIC1	-29.26	Regulation of transcription
Colony stimulating factor 1 (macrophage)	CSF1	-17.68	Regulation of cell proliferation
Adenomatouspolyposis coli	APC	-15.1	Regulation of cell proliferation
Prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	PTGS2	-14.42	Regulation of transcription
Estrogen receptor 2 ER beta	ESR2	-11	Anti-apoptosis