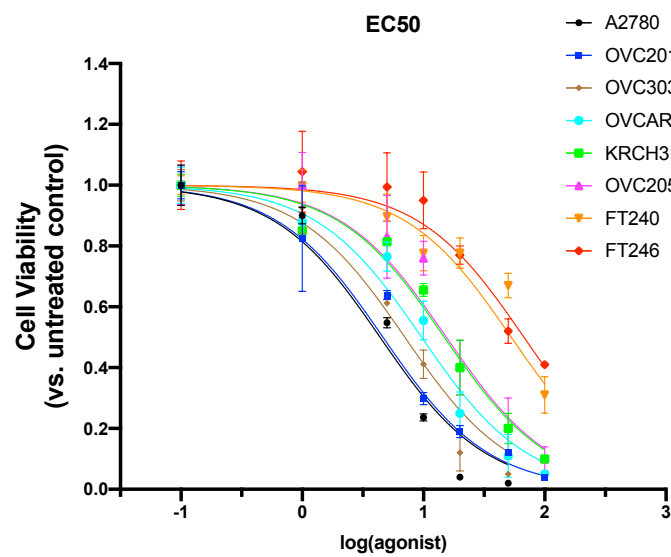


Supplemental Table 1. IC50 of Y3-treated ovarian cancer cell lines and fallopian tube cell lines.



Cell line	A2780	OVC201	OVC303	OVCAR8	KRCH31	OVC205	FT240	FT246
IC50 (μM)	4.379	4.632	7.014	9.643	14.84	15.44	52.93	67.33

Supplemental Table 2. Top pathways altered by Y3 treatment in A2780 cels.

Pathways	Predicted Activation State	Activation z-score	p-value	Top differentially expressed genes in identified pathway
ATF4 signaling	Activated	2.232	6.72E-09	ASNS,ATF3,CHAC1,DDIT3,DDIT4,FGF21,PCK2,STC2,TRIB3,WARS
ER stress response	Activated	2.275	2.17E-08	ASNS,ATF3,CHAC1,DDIT3,DDIT4,FGF21,GPT2,PCK2,PCNA,SLC7A11,WARS
PI3K pathway	Inhibited	-0.085	6.82E-06	ACSM3,ATF3,CDR1,DDIT3,DUSP6,FEN1,HGF,INPP4B,MYB,MYEF2,NANOG,PCNA,PLK2
Estrogen signaling	Inhibited	-0.224	2.49E-05	ACSM3,ATF3,CCNE2,CDC42BPA,CDR1,DDIT3,DDIT4,DUSP6,FEN1,H6PD,HBP1,HGF,HUNK,INPP4B,MYB,MYOF,PCNA,PDCD4,PLK2,PTBP2,SEMA3A,STC2,TMEM2,TSC22D3,WNT5B
TGFB1 pathway	Inhibited	-0.521	6.36E-05	ACSM3,ASNS,C5AR1,CALCOCO2,CCNE2,DDIT3,DFNA5,FGF21,H6PD,HGF,MYB,MYOF,OPN3,PCNA,PDCD4,PLK2,RGCC,SEMA3A,STC2,TSC22D3,TTC28,UST,WNT5B
HGF pathway	Activated	0.310	1.34E-04	ASNS,ATF3,CALCRL,CCNE2,DDIT3,DUSP6,FEN1,HGF,NANOG,PCNA,RPS6KA5,SEMA3A
PPARG pathway	Activated	1.118	3.17E-04	ASAP1,CCPG1,H6PD,HGF,LNPEP,PCK2,PCNA,TRIB3,TSC22D3,VLDLR
ESR1 pathway	Inhibited	-2.968	4.40E-04	ARHGEF2,ATF3,CCPG1,CDC42BPA,COG6,DDIT4,MAP1B,MYB,OPHN1,PCM1,PCNA,PDCD4,SLC7A11,STC2,TMEM2,TRIB3,TSC22D3,WARS
TP53 pathway	Activated	0.143	4.42E-04	AKT3,ARHGEF2,ASNS,ATF3,CCNE2,CDC42BPA,DDIT3,DDIT4,DUSP6,FEN1,MTMR11,MYOF,NANOG,PCNA,PLK2,TRIB3,TSC22D3,TTC28,WNT5B
TP63 pathway	Inhibited	-0.249	1.22E-03	DDIT4,DUSP6,FGF21,HBP1,MYB,NANOG,PCNA,SLC7A11
IL2 pathway	Inhibited	-1.179	1.47E-03	CCNE2,DUSP6,MYB,PCNA,PDCD4,RGCC,RPS6KA5,SES3,STC2,TRIB3
FGF pathway	Activated	2.000	2.90E-03	AKT3,FGF21,HGF,RPS6KA5
ErbB/HER2	Inhibited	-2.449	4.08E-03	CCNE2,DDIT3,DUSP6,FEN1,H6PD,MAP1B,PCK2,PCNA,PDCD4,WNT5B
HNF4A signaling	Activated	NA	5.83E-03	AGTPBP1,CCNE2,DUSP6,DYRK1B,FAHD2A,FEN1,GINS2,HBP1,HUNK,INHBE,LRIG2,MRPS12,OTUD6B,PCK2,PCNA,PDCD4,RBKS,RPS6KA5,SLC25A19,SLC43A1,TUBE1
RB1 pathway	Activated	1.969	6.34E-03	CCNE2,DDIT3,FEN1,GPT2,HUNK,MYB,PCNA
Progesterone signaling	Inhibited	-0.388	7.23E-03	ATF3,C5AR1,DDIT3,HGF,HUNK,MYB,PCNA,PLK2,WNT5B
MYC pathway	Activated	0.388	7.65E-03	ASNS,CCNE2,DDIT3,DDIT4,DUSP6,EZH1,FAM129A,IMPACT,NANOG,PCNA,PDCD4,SLC25A19,VLDLR
EGF pathway	Inhibited	-1.029	8.10E-03	ARHGEF2,ATF3,DDIT3,DUSP6,EZH1,HGF,PCNA,PDCD4
IFNG pathway	Activated	0.481	1.54E-02	ASNS,ATF3,C5AR1,CALCOCO2,CHAC1,DDIT3,H6PD,OPN3,PSMB10,SLC7A11,TSC22D3,TTC28,VLDLR,WARS
VEGF signaling	Inhibited	-0.934	2.46E-02	ASNS,CALCRL,ATF3,DUSP6,RGCC,CCNE2,DDIT3

Supplemental Table 3 Y3-treated A2780 vs. untreated A2780 cells, fold>2 or <-2, p<0.05, differently expressed genes.

Transcript Cluster ID	Gene Symbol	Fold change	Transcript Cluster ID	Gene Symbol	Fold change
TC0100016678.hg.1	FAM129A	7.26	TC1000008904.hg.1	PDCD4	2.16
TC0400011920.hg.1	SLC7A11	6.85	TC0500007738.hg.1	MAP1B	2.15
TC0900006481.hg.1	VLDLR	6.26	TC1200012761.hg.1	TAS2R31	2.15
TC0500009488.hg.1	CREBRF	4.29	TC0200008469.hg.1	FAHD2A	2.13
TC1500010723.hg.1	CHAC1	4.18	TC0300007435.hg.1	DOCK3	2.13
TC0100015234.hg.1	SLC16A4	4.08	TC1300006930.hg.1	COG6	2.13
TC1000007990.hg.1	DDIT4	3.94	TC2000008295.hg.1	GPCPD1	2.13
TC0400011994.hg.1	INPP4B	3.35	TC0200009933.hg.1	ERICH2	2.12
TC0700010501.hg.1	DFNA5	3.24	TC0800008198.hg.1	OTUD6B	2.12
TC0200010253.hg.1	ANKAR	3.21	TC1500008635.hg.1	POTEB2	2.12
TC0900012209.hg.1	TTC39B	3.18	TC0100018507.hg.1	ARHGEF2	2.11
TC0700011876.hg.1	ASNS	3.13	TC0200016710.hg.1	ANKRD36C	2.11
TC0100014203.hg.1	ZCCHC11	3.12	TC1300009332.hg.1	RBM26	2.11
TC0200008536.hg.1	ANKRD36	3.08	TC0100006771.hg.1	H6PD	2.1
TC0100014930.hg.1	EVI5	3.07	TC0100017984.hg.1	AKT3	2.1
TC1200011770.hg.1	ALDH1L2	3.01	TC0300010680.hg.1	CLASP2	2.1
TC0500012870.hg.1	STC2	2.94	TC0600012372.hg.1	LCA5	2.1
TC2000006444.hg.1	TRIB3	2.94	TC0800011826.hg.1	ASAP1	2.1
TC1200006688.hg.1	NANOG	2.9	TC2200008364.hg.1	TTC28	2.1
TC0300011009.hg.1	DDIT3	2.89	TC0200007132.hg.1	YPEL5	2.09
TC0X00009929.hg.1	OPHN1	2.89	TC0500013246.hg.1	PCDHB10	2.09
TCUn_GL000213v100006434.hg.	LOC1002889	2.89	TC0100015789.hg.1	POGZ	2.08
TC0X00010375.hg.1	ZMAT1	2.87	TC1000010367.hg.1	ZNF25	2.08
TC0100007958.hg.1	ZFP69B	2.86	TC2200006517.hg.1	CECR2	2.08
TC0100007784.hg.1	AGO4	2.84	TC0X00010473.hg.1	TSC22D3	2.07
TC0600012883.hg.1	TUBE1	2.79	TC1600006870.hg.1	ATF7IP2	2.07
TC1500009336.hg.1	MYEF2	2.79	TC1600007723.hg.1	GPT2	2.07
TC0100014769.hg.1	MMesentery	2.76	TC0200008911.hg.1	ZC3H6	2.06
TC1600011362.hg.1	ACSM3	2.74	TC0200012098.hg.1	RBKS	2.06
TC1200010968.hg.1	DDIT3	2.66	TC0300007050.hg.1	C3orf35	2.06
TC1600011355.hg.1	NPIPA1	2.64	TC1600011354.hg.1	NPIPA2	2.06
TC1100012020.hg.1	SESN3	2.58	TC1500009669.hg.1	VPS13C	2.05
TC1500010869.hg.1	CCPG1	2.56	TC0200016464.hg.1	APLF	2.04
TC0X00011237.hg.1	RAB39B	2.54	TC0600008343.hg.1	BEND6	2.04
TC1900008489.hg.1	FGF21	2.52	TC0600012839.hg.1	CDK19	2.04
TC1100010893.hg.1	SLC43A1	2.51	TC0300006994.hg.1	FBXL2	2.03
TC0900010388.hg.1	TMEM2	2.49	TC0900010056.hg.1	ANKRD18A	2.03
TC0100015716.hg.1	MTMR11	2.48	TC15_KI270727v1_random00006	POTEB3	2.03
TC1700008175.hg.1	CALCOCO2	2.48	TC1700010738.hg.1	EZH1	2.03
TC1400010195.hg.1	WARS	2.46	TC1700011465.hg.1	LRRC37A3	2.03
TC1800007316.hg.1	SKA1	2.45	TC0100008073.hg.1	KDM4A	2.02
TC0200013332.hg.1	PLGLB1	2.44	TC0100009468.hg.1	LRIG2	2.02
TC0100014652.hg.1	ZZZ3	2.42	TC0100013602.hg.1	TMEM234	2.02
TC0400010558.hg.1	ATP8A1	2.42	TC0900007457.hg.1	CNTNAP3P2	2.02
TC0500009010.hg.1	TCERG1	2.42	TC1400009973.hg.1	RPS6KA5	2.02
TC0700008747.hg.1	HBP1	2.42	TC1800006912.hg.1	IMPACT	2.02
TC1000011445.hg.1	MYOF	2.4	TC0400007280.hg.1	WDR19	2.01
TC1200007881.hg.1	INHBE	2.4	TC0400012972.hg.1	RNF150	2.01
TC1500009460.hg.1	FAM214A	2.4	TC0500008157.hg.1	LNPEP	2.01
TC0600009364.hg.1	NCOA7	2.39	TC0100017947.hg.1	OPN3	-2.01
TC1500009200.hg.1	TTBK2	2.36	TC1200011470.hg.1	DUSP6	-2.02
TC0100017548.hg.1	CDC42BPA	2.34	TC1600011553.hg.1	PSMB10	-2.02
TC0800006884.hg.1	PCM1	2.34	TC0400007455.hg.1	SLC10A4	-2.05
TC1500008658.hg.1	POTEB3	2.33	TC2000008279.hg.1	PCNA	-2.05
TC1600011184.hg.1	KLHDC4	2.33	TC1900008036.hg.1	MRPS12	-2.08
TC0200015193.hg.1	CALCRL	2.32	TC2100006909.hg.1	HUNK	-2.09
TC1600007030.hg.1	NPIPA7	2.32	TC1000010439.hg.1	HNRNPF	-2.11
TC0900010607.hg.1	AGTPBP1	2.31	TC1200006469.hg.1	WNT5B	-2.11
TC1400006715.hg.1	PCK2	2.31	TC0100011871.hg.1	HIST3H2BB	-2.12
TC0800010417.hg.1	PCMTD1	2.3	TC0500010835.hg.1	PLK2	-2.2
TC1500006495.hg.1	OR4N4	2.3	TC1600011574.hg.1	GINS2	-2.21
TC1800008189.hg.1	POTEC	2.3	TC1700011746.hg.1	SLC25A19	-2.21
TC0100008033.hg.1	ERMAP	2.29	TC1000008193.hg.1	PPIF	-2.23
TC0200010966.hg.1	RHBDD1	2.28	TC0600009534.hg.1	MYB	-2.28
TC0700012798.hg.1	KDM7A	2.26	TC1700009592.hg.1	MED31	-2.28
TC1200012831.hg.1	DEPDC4	2.26	TC1300006979.hg.1	RGCC	-2.29
TSUnmapped00000341.hg.1	ZNF780A	2.26	TC0200007047.hg.1	DPYSL5	-2.36
TC0200016747.hg.1	TTC21B	2.23	TC1500010946.hg.1	TM2D3	-2.42
TC1600011353.hg.1	NPIPA3	2.23	TC1100013021.hg.1	FEN1	-2.7
TC1600009524.hg.1	NPIPA5	2.22	TC0800011148.hg.1	CCNE2	-2.79
TC2100006554.hg.1	POTED	2.22			
TC0700013579.hg.1	SEMA3A	2.21			
TSUnmapped00000019.hg.1	DYRK1B	2.21			
TC0700011643.hg.1	HGF	2.2			
TC0X00010982.hg.1	CDR1	2.2			
TC0100011533.hg.1	ATF3	2.19			
TC0600009783.hg.1	UST	2.19			
TC0100013303.hg.1	HMGCL	2.18			
TC1900011770.hg.1	C5AR1	2.18			
TC0100009149.hg.1	PTBP2	2.17			
TC0900009417.hg.1	RFX3	2.17			

Supplemental Table 4. ID8 mouse model tumor locations

	Tumor locations
Control#1	pancreas+peritoneum+right kidney+stomach+intestines+mesentery(45 lesions)+spleen+diaphragm+right ovary+fat
Control#2	stomach+liver+intestines+mesentery(21 lesions)+diaphragm
Control#3	peritoneum+right kidney+intestines+mesentery(37 lesions)+2uterus+diaphragm+right ovary+fat
Control#4	pancreas+liver+peritoneum+spleen+diaphragm
Control#5	pancreas+peritoneum+right kidney+stomach+intestines+mesentery(52 lesions)+spleen+diaphragm+right ovary
Control#6	pancreas+peritoneum+right kidney+intestines+mesentery(39 lesions)+spleen+2uterus+diaphragm+right ovary
Control#7	peritoneum+2 kidney+liver+intestines+mesentery(25 lesions)+spleen+diaphragm+left ovary
Control#8	pancreas+peritoneum+right kidney+intestines+mesentery(40 lesions)+diaphragm+ left ovary
Control#9	peritoneum+right kidney+stomach+intestines(26 lesions)+diaphragm+right ovary
Control#10	pancreas+peritoneum+right kidney+intestines+mesentery(43 lesions)+diaphragm+2 ovary+fat
Y3#1	peritoneum+intestines+mesentery(15 lesions)+liver+diaphragm+fat
Y3#2	peritoneum+intestines+mesentery(4 lesions)+diaphragm
Y3#3	pancreas+peritoneum+right kidney+intestines+mesentery+spleen+fat+diaphragm
Y3#4	peritoneum+right kidney+FAT+intestines+mesentery(3 lesions)+diaphragm
Y3#5	peritoneum+right kidney+intestines+Intestines+mesentery(9 lesions)+diaphragm
Y3#6	Pancreas+peritoneum+right kidney+fat+diaphragm
Y3#7	pancreas+peritoneum+left kidney(hydronephrosis)+mesentery(20 lesions)+diaphragm
Y3#8	peritoneum+right kidney+intestines+mesentery(30 lesions)+diaphragm
Y3#9	pancreas+peritoneum+right kidney+uterus+diaphragm
Y3#10	Pancreas+peritoneum+right kidney+intestines(1 lesion)+fat+diaphragm+right ovary