Supplemental Tables S1 and S2

The ratio of toxic-to-nontoxic microRNAs predicts platinum sensitivity in ovarian cancer

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Table S1: miRNAs involved in therapy resistance or associated with negative treatment outcome in OC

Main miRNA	Other miRNAs	Treatment	OvCa cell lines	Type of OvCa-patient sample	Clinical data/relevance	Identified miRNA target	Ref.
miR-17~92 cluster	-	Taxol	SKOV3 and Taxol-resistant SKOV3-TR30	-	-	BMI	1
miR-17-5p	-	Taxol	OVCAR3, SKOV3	-	-	PTEN	93
miR-21	-	Cisplatin	A2780R (Cis resistant)	-	-	-	2
miR-21-3p	>20 other miRNAs	Cisplatin	A2780, A2780-CP70, OVCAR5, OVCAR8 and IGROV1	Publically available datasets	Yes	NAV3	3
miR-21-5p	-	Taxol	A2780, PEA1, PEA2, ALST, OVCAR432, OVCAR433, HeyA8, HeyA8-MDR, SKOV3ip, SKOV3-TR, SKOV3, cancer asssociated fibroblasts and adipocytes	OvCa	Yes	APAF1	4
miR-21-5p	-	Cisplatin	A2780, A2780- Cp resistant, SKOV-3	Recurrent patients enrolled in TCGA	Yes	PDCD4	5
miR-21-5p	320 other miRNAs	Cisplatin	SKOV3ip1, HeyA8, A2780, A2780CP20	-	-	PDCD4	6
miR-27a	-	Taxol	A2780 and A2780/Taxol resistant cells	-	-	HIPK2	7
miR-31	-	Cisplatin	OVCAR5, A2780 and its cisplatin-resistant derivatives, MCP1, CP70	Publically available datasets	Yes	KCNMA1	8
miR-93-5p	7 other miRNAs	Cisplatin	OVCAR3, SKOV3, OVCAR3/CDDP, SKOV3/CDDP	OvCa	Yes	PTEN	94
miR-98-5p	let-7c-5p, let-7e-5p, let-7g-5p	Cisplatin	C13*, OV2008, A2780, HO8910, SKOV3, CaOV3, Hey, COV362,	Epithelial OvCa	Yes	Dicer1	9
miR-106a-5p	-	Cisplatin	OVCAR3, OVCAR3/CIS	-	-	PDCD4	95
miR-106a-5p	miR-96, miR-629	Taxol	SKOV3 and PTX resistant SKOV3 sublines	Ovarian serous tumors	Yes	BCL10, CASP-7	10
miR-125b-5p	-	Cisplatin	OV2008 and its resistant variant (C13*)	-	-	Bak1	11
miR-125b-2-3p	miR-126-5p	Cisplatin	A2780, A2780CIS, A2780TC1, A2780TC3	-	-	-	15
miR-129-5p	-	Taxol	SKOV3, SKOV3/PTX, HeyA8, HeyA8/PTX	-	-	ABCB	12
miR-130a	miR-374a, miR-146a, miR-182 and 32 others	Cisplatin	A2780, A2780/DDP	-	-	MDR-1/P-gp/PTEN	13
miR-130a	54 other miRNAs	Cisplatin	SKOV3, SKOV3/CIS	-	-	MDR1/P-gp	14
miR-130b	-	Cisplatin, Taxol	A2780, A2780/Taxol	-	-	-	96
miR-141-3p	5 other miRNAs	Cisplatin	A2780 and A2780 DDP, TOV112D, TOV21G, OV56, OAW42	Non-serous tumors	Yes	KEAP1	16
miR-149-5p	-	Cisplatin	TOV-21G, A2780, OVCAR-3, Caov-3, ES-2, HO-8910, SK-OV-3	Ovarian serous cystadenocarcinoma, benign ovarian lesions, TCGA dataset	Yes	Hippo signaling pathway	18
miR-197-3p	-	Taxol	A2780, SKOV3, A2780/Tax	-	-	NLK	20
miR-200c-with cytosolic HuR		Cisplatin, Taxol, Patupilone	-	OvCa patients	Yes	-	113
miR-214	miR-100, miR-199a-3p, miR-200a	Cisplatin	A2780S, A2780CP, OV119	Primary OvCa	Yes	PTEN	97
miR-214-3p	-	Cisplatin	A2780, A2780cp, OVCAR-3, SKOV3	-	-	MEG3	21
miR-216a-5p	-	Cisplatin	SKOV3, SKOV3 CR, OVCA433	-	-	PTEN	22
miR-224-5p	-	Cisplatin	A2780CP/A2780S, C13/OV2008	Ovarian papillary serous carcinoma	Yes	PRKCD	23
miR-363-3p	-	Taxol	SKOV3, KF, KF-TX, OVTOKO	OvCa	Yes	LATS2	24
miR-376c-3p	-	Cisplatin, Carboplatin	OV2008, A2780	Serous OvCa	Yes	ALK7	98
miR-433	-	Taxol	A2780, PEO1, PEO4	-	-	CDK6	25
miR-483-3p	-	Cisplatin, Oxiplatin	IGROV-1, IGROV-1/Pt1, IGROV-1/OHP, A2780, A2780/CP, OVCAR5, OVCAR5/Pt	GEO datasets	Yes	PRKCA	99
miR-490-3p	-	Taxol	A2780, A2780/Taxol	-	-	-	100
miR-493-3p	-	Taxol	CAOV- 3, OVCAR-8	High grade serous OvCa	Yes	Mad2	26
miR-493-5p	7 other miRNAs	PARPi, Platinum	BRCA2 mutant KURAMOCHI, OVSAHO, and VU423 cells	BrCa2 mutated OvCa, TCGA cohort	Yes	RNASEH2A, FEN1, SSRP1	27
miR-520g-3p	-	Cisplatin, Taxol	A2780, SKOV3, OVA433, ES-2, OV2008, CaOV-3, MCAS, OVK17	Epithelial OvCa	Yes	DAPK2	117
miR-551b-3p	-	Cisplatin	Side population from primary ascites-derived OvCA cells, SKOV3, 8910	OvCa	Yes	Foxo3, TRIM31	28
miR-622	-	Taxol, Carboplatin	-	High grade serous OvCa	Yes	-	89
miR-622	-	Cisplatin, Carboplatin, Olarparib, Veliparib	UWB1.289	OvCa datasets	Yes	Ku Complex	101
miR-630	-	Taxol	SKOV3 and SKOV3-TR	-	-	APAF-1	29
miR-1307	-	Cisplatin, Taxol	SKOV3 and SKOV3- TR30	Ovarian serous cystadenocarcinoma	Yes	DAPK3	32
miR-1307	-	Taxol	SKOV3 , A2780, A2780/Taxol	-	-	ING5	33
let-7e	-	Taxol	A2780, A2780TAX	-	-	-	15

Supplemental Table S1: List of miRNAs shown to be involved in therapy resistance or associated with negative treatment outcome in OC. Each row consists of a main miRNA and other miRNAs studied in a published article as well as other details from the study.

Table S2: miRNAs that can sensitize OvCa cells to therapy or are associated with positive treatment outcome in OC

Main miRNA	Other miRNAs	Treatment	OvCa cell lines	Type of OvCa-patient sample	Clinical data/relevance	Identified miRNA target	Ref.
miR-7-5p	-	Taxol	HO8910pm	-	-	EGFR, ERK pathway	43
miR-9	miR-145, miR-429, miR-26a	Cisplatin	Primary ovarian tumor cells	Serous epithelial OvCa	Yes	-	44
miR-9-5p	-	Cisplatin, PARP1 inhibitor	OV2008, C13*, SKOV3, A2780, CaOV3	Serous OvCa	Yes	BRCA1	45
miR-15a-5p, miR-16-5p	-	Cisplatin	A2780, A2780- CP20, OVSAHO, OVCAR4, OSE tsT/hTERT	High grade serous OvCa	Yes	BMI1	46
miR-18a-3p	miR-15a-5p, miR-25-3p	Docetaxel	SKOV3IP1, HeyA8, HeyA8-MDR, A2780, A2780CP20	High grade serous OvCa	Yes	K-RAS	42
miR-29	-	Cisplatin	CP-70, A2780, HeyAC2, SKOV-3	-	-	COL1A1	37
miR-29b	-	Taxol, Platinum, Cyclophosphamide	OVCAR3	High grade serous, clear cell, and mucinous ovarian adenocarcinomas	Yes	MAPK10, ATG9A	38
miR-29b	miR-7, miR-18a, miR-19a	Taxol	ES2, AMOC2	Epithelial OvCa	Yes	Mcl-1	39
miR-30a/c-5p	-	Cisplatin	A2780, A2780/CP70	-	-	DNMT1, Snail	103
miR-31	-	Taxol, Carboplatin	KFrHuman KF OvCa cells and KFr13 cisplatin-resistant KF13, SK-OV-3, OVCAR-3, TU-OM-144	Serous OvCa	Yes	MET	40
miR-34c-5p	-	Carboplatin, Docetaxel	OVS1, SKOV-I6	Ovarian serous cystadenocarcinoma	Yes	AREG	41
miR-100	-	Cisplatin	SKOV3, SKOV3/DDP	-	-	mTOR, PLK1	47
miR-101-3p	-	Cisplatin	A2780,A2780/DDP, SKOV3, SKOV3/DDP	Epithelial OvCa	Yes	EZH2	48
miR-106a-5p	-	Cisplatin	A2780,A2780/DDP	-	-	MCL1	49
miR-125b-2-3p	-	Taxol	A2780, A2780TAX	-	-	-	15
miR-128	-	Cisplatin	SKOV3, SKOV3/CP	-	-	ABCC5, BMI1	50
miR-130a-3p	-	Cisplatin	A2780, A2780/DDP	-	-	XIAP	104
miR-130a-3p	let-7e, miR-335	Cisplatin	A2780, A2780CIS, A2780TC1, A2780TC3	-	-	M-CSF	15
miR-130b-3p	-	Taxol, Cisplatin	A2780, A2780/CP, A2780/TAX, SKOV3, SKOV3/ TAX	Malignant and benign OvCa	Yes	CSF-1	51
miR-133b-3p	-	Taxol, Cisplatin	A2780, A2780/DDP, A2780/Taxol, OVCAR3	OvCa	Yes	GST-π, MDR1	52
miR-134 cluster	-	Taxol	SKOV3, Taxol-resistant SKOV3-TR30	-	-	c-Myc	1
miR-134-5p	-	Taxol	SKOV3, Taxol-resistant SKOV3-TR30	Serous epithelial OvCa	Yes	TAB1	53
miR-134-5p	-	Taxol	SKOV3, Taxol-resistant SKOV3-TR30	Serous epithelial OvCa	Yes	Pak2	54
miR-136-5p	-	Taxol	SKOV3 & its PTX-resistant sublines	High grade serous OvCa	Yes	Notch3	105
miR-136	-	Cisplatin	OV2008, C13	Epithelial OvCa	Yes	-	55
miR-137	-	Cisplatin	PEO1, PEO4 , IGROV1, OV90, IGROV1 CR, OV90 CR	OvCa	Yes	EZH2	56
miR-139-5p	-	Cisplatin	CAOV3, SNU119, CAOV3/cDDP, SNU119/cDDP	OvCa	Yes	ATP7A/B	57
miR-139-5p	-	Cisplatin	SKOV3, A2780, SKOV3-R, A2780-R	-	-	c-Jun	58
miR-141, miR-200a	-	Taxol	SKOV3	OvCa patient, publicly available datasets	Yes	-	116
miR-142-5p	-	Cisplatin	OVCAR3, SKOV3	Epithelial OvCa	Yes	XIAP1, BIRC3, BCL2, BCL2L2, MCL1	59
miR-145-5p	-	Taxol	A2780, SKOV3, A2780/PTX, SKOV3/PTX	Serous epithelial OvCa	Yes	Sp1, Cdk6 , P-gp, pRb	17
miR-146a-5p	-	Cisplatin	OVCAR3, SKOV3	Primary epithelialOvCa cells from freshly collected malignant ascites	Yes	XIAP, BCL2L2 and BIRC5	60
miR-146b-5p	-	Taxol, Cisplatin	SKOV3, HO8910, A2780, OVCAR-3	Epithelial OvCa	Yes	FBXL10	61
miR-149-5p	-	Taxol	A2780	-	-	MyD88	19
miR-152 -3p	-	Cisplatin	C13*, OV2008, A2780, HO8910, SKOV3, CaOV3, Hey, COV362,	Epithelial OvCa	Yes	-	9
miR-152-3p, miR-185-5p	-	Cisplatin	SKOV3, A2780, A2780/DDP, SKOV3/DDP	-	-	DNMT1	62
miR-155-5p	-	Cisplatin	SKOV3, A2780	Primary epithelial OvCa cells from freshly collected malignant ascites	Yes	XIAP	63
miR-182	-	Platinum	-	High grade serous OvCa	Yes		64
miR-186-5p	-	Cisplatin	A2780, OV2008, OVCAR3, SKOV3, CAOV3, the related cDDP-resistant cell lines (ACRP, C13* and OVCAR3/ DDP)	Serous OvCa	Yes	Twist1	65
miR-186-5p	-	Taxol, Cisplatin	OVCAR3, A2780, A2780/DDP, A2780/Taxol	-	-	ABCB1	66

Table S2, cont.: miRNAs that can sensitize OvCa cells to therapy or are associated with positive treatment outcome in OC

Main miRNA	Other miRNAs	Treatment	OvCa cell lines	Type of OvCa-patient sample	Clinical data/relevance	Identified miRNA target	Ref.
miR-199a	-	Taxol, Cisplatin, Adriamycin	CD44+/CD117+ ovarian tumor cells from inpatient clinic patients	Epithelial OvCa	Yes	CD44	67
miR-199a-3p	-	Cisplatin	SKOV3 , SKOV3-CDDP	OvCa	Yes	ITGB8	68
miR-199-3p	-	Cisplatin, 5Aza-dC	SKOV3, HO-8910, IOSE386 (immortalized ovarian epithelial cell line)	Epithelial OvCa	Yes	DDR1	106
miR-199b-5p	-	Cisplatin	A2780s, A2780cp, OV2008, C13*, SKOV3, OVCA433, ES-2	Epithelial OvCa	Yes	JAG1	69
miR-200 family	-	Taxol	-	OvCa	Yes	β-tubulin III	114
miR-200a	-	Taxol	OVCAR3	-	-	-	115
miR-200b, miR-200c	-	Cisplatin	HIOSE-80, MCC-3, SKOV3, A2780CP, A2780, OV119	Primary ovarian tumor	Yes	DNMTs	70
miR-200c	-	Taxol	HEY, SKOV3, OVCA 420, OV 1847, OVCA 433	Serous OvCa	Yes	TUBB3	71
miR-200c-3p	-	Cisplatin, Olaparib	UWB1.289, UWB1.289-BRCA and SKOV3	Serous and mucinous carcinomas	Yes	Neuropilin 1	72
miR-200c-3p	-	Cisplatin, Taxol, Doxorubicin, Mitomycin C, Vincristine, Epothilone	2008, Hey, SKOV3, OVCA 420, OVCA 433	-	-	TUBB3	107
miR-200c-with nuclear HuR		Cisplatin, Taxol, Patupilone	-	OvCa patients	Yes	-	113
miR-204-5p	-	Cisplatin	A2780, SKOV3, OVCAR3, OV2008, C13*	Epithelial OvCa	Yes	IL-6R	73
miR-215	-	Taxol	OVCAR3, CAOV3, SKOV3, HEY	Epithelial OvCa	Yes	XIAP	74
miR-216b-5p		Cisplatin	SKOV3, SKOV3/CDDP	OvCa	Yes	PARP1	75
miR-335	-	-	-	Epithelial OvCa	Yes	-	108
miR-335-5p	8 other miRNAs	Cisplatin	A2780, A2780/DDP, OV90, OVCAR-3,	-	-	BCL2L2	76
miR-338-3p	-	Cisplatin	A2780, A2780/DDP, SKOV3, SKOV3/CDDP	PrimaryOvCa	Yes	WNT2B	77
miR-363-3p	-	Cisplatin	OV2008, A2780, C13, A2780cp	OvCa	Yes	Snail	78
miR-370-3p	-	Cisplatin	SKOV3, UWB1.289, HEY, OV2008, IGROV1, TOV112D, ES-2, TOV21G	Endometriod OvCa	Yes	ENG	109
miR-378a-3p	-	Cisplatin	OVCAR3, SKOV3	OvCa	Yes	MAPK1, GRB2	79
miR-383-5p	-	Taxol	SKOV3, A2780, OVCAR-3, Caov-3	OvCa	Yes	TRIM27	80
miR-411-5p	-	Cisplatin, Taxol	SKOV3, OVCAR3	Primary OvCa	Yes	ABCG2	81
miR-429	-	Cisplatin	OVCAR3 & Hey	-	-	-	112
miR-449a	-	Cisplatin	A2780, A2780/CDDP, SKOV3, SKOV3/CDDP	-	-	NOTCH1	110
miR-489-3p	-	Cisplatin	SKOV3, OVCAR3, SKOV3/CDDP, OVCAR3/CDDP	-	-	Akt3	82
miR-490-3p	-	Cisplatin	SKOV3, OVCAR3, SKOV3/CDDP, OVCAR3/CDDP	OvCa	Yes	ABCC2	83
miR-497-5p	9 other miRNAs	Cisplatin	A2780, A2780/ CP, SKOV3, SKOV3/CP	OvCa	Yes	mTOR, P70S6K1	84
miR-503	-	Cisplatin	SKOV3, SKOV3/DDP	-	-	PI3K p85	85
miR-503-5p	-	Taxol	CaOV3, SKOV3, OVCAR3, OV90, CaOV3/PTX-R, SKOV3/PTX-R	-	-	CD97	86
miR-506-3p	-	Cisplatin, Olaparib	HeyA8, OVCA433, SKOV3	Serous OvCa	Yes	RAD-51	111
miR-509-3p	-	Cisplatin	SKOV3	OvCa tissue	Yes	GOLPH3, WLS	87
miR-514-5p	-	Cisplatin	SKOV3, OVCA433	NCBI's GEO datasets	Yes	ATP binding cassette subfamily	88
miR-591	miR-106a-5p	Taxol	SKOV3 and PTX resistant SKOV3 sublines	Epithelial OvCa	Yes	ZEB1	10
miR-708-5p	-	Cisplatin	A2780, A2780/DDP, SKOV3, SKOV3/CDDP	-		IGF2BP1	90
miR-770-5p	-	Cisplatin	OV2008, A2780, C13, A2780cp	Epithelial OvCa	Yes	ERCC2	91
miR-873	-	Cisplatin, Taxol	A2780, A2780/DDP, A2780/Taxol, OVCAR3	-	-	ABCB1	30
miR-874-5p, miR-874-3p	-	Taxol	Caov3, SKOV3	Epithelial OvCa	Yes	SIK2	92
miR-1294	-	Cisplatin	SKOV3	Advanced stage OvCa	Yes	IGF1R	31
let-7d-3p	let-7a	Taxol, Carboplatin	SKOV-3	High grade serous, endometrioid, mucinous, serous papillary low grade or clear cell OvCa	Yes	-	34
let-7e-5p	-	Cisplatin	A2780, HO8910, ES2, CAOV3, SKOV3	Serous epithelial OvCa	Yes	BRCA1, Rad51	35
let-7e	-	Cisplatin	A2780, ES2, SKOV3, A2780/CP	-	-	-	102
let-7g	let-7d	Taxol, Carboplatin, Vinblastine	ADR-RES, OVCAR-8, T47D, IGROV1	Epithelial OvCa	Yes	MDR1, IMP-1	36

Supplemental Table S2: List of miRNAs shown to either sensitize OC to therapy or associated with positive treatment outcome in OC. Each row consists of a main miRNA and other miRNAs studied in a published article as well as other details from the study.

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