

Supplementary Materials

Table S1. – Detailed information about miRNAs expression and their implication in ovarian cancer progression.

miRNA	Patient samples	Cell lines, xenografts	Deregulation	Cellular function	Target	Reference
miR-9	pairs of OC tumor and adjacent control tissue (n=4)	ES–2	↓ expression in OC tissue compared to control samples	downregulation led to NF-κB overexpression, miR-9 overexpression suppresses cell growth	NF-κB*	[94]
miR-23b	EOC tissue samples (n=116) control tissue samples (n=5)	SKOV3, OVCAR3	↓ expression in EOC tissue compared to control tissue	ectopic expression inhibits proliferation and tumorigenicity, downregulation correlate with tumor aggressiveness	RUNX2*	[95]
miR-30b-3p	-	OVCAR3, IOSE80	↓ in OVCAR3 cells compared to IOSE80 cells	overexpression suppressed proliferation, promoted apoptosis, slowed cell cycle, inhibited migration and invasion	E-cadherin, β-catenin, vimentin**, CTHRC1*	[44]
miR-101	-	SKOV3	-	overexpression led to inhibition of EMT, migration and invasion	ZEB1, ZEB2*	[61]
miR-106a	pairs of OC tumor and adjacent control tissue (n=15) OC tumor tissue samples (n=94) control tissue samples (n=17)	SKOV3, OVCAR3	↑ expression in OC tissue compared to control tissue	inhibition suppress proliferation and invasion	PTEN**	[92]
miR-106b	benign tissue samples (n=13) metastases samples (n=21) borderline tumor tissue samples (n=14)	OVCAR3, HO8910PM, SKOV3/DDP, mouse xenograft	↓ expression in OC tissue and borderline tumors than non-malignant ovarian tissue and benign tumors	probably inhibits tumorigenesis and progression	RhoC**	[96]
miR-122	-	SKOV3, OVCAR3, mouse xenograft	-	suppress EMT	P4HA1*	[77]

miR-138	OC tumor tissue samples (n=78)	SKOV3, TOV-112D, A1847, mouse xenograft	↓ expression in invasive cells	expression inhibits OC metastasis to other organs	SOX4, HIF-1 α *	[97]
miR-141	OC tumor tissue samples (n=49) control tissue samples (n=12)	SKOV3, OVCA433, A2780cp, HOSE 96-9-10, HOSE11-12, HOSE 17-1, mouse xenograft	↑ expression in OC tissue compared to control tissue	knockdown led to inhibition of proliferation, anoikis resistance, tumor growth and peritoneal metastasis	KLF12*	[98]
miR-145	HGSC tissue samples (n=48) control tissue samples (n=19)	HO8910, HO8910PM, OVCAR3, HEK293T, FTE187, HEY, A2780, mouse xenograft	↓ expression in OC tissue compared to fimbria	overexpression suppresses proliferation, migration and invasion <i>in vitro</i> and inhibits tumor growth and metastasis <i>in vivo</i>	MTDH*	[93]
miR-193b	pairs of HGSC omental metastases and adjacent control omentum (n=7)	Skov3ip1, HeyA8, ES2, mouse xenograft	↓ expression in OC lines, in omental metastases compared to normal omentum	downregulation caused by microenvironment through DNMT1	uPA*	[31]
miR-199a-5p	-	HO-8910, ES-2, FTE187	↓ expression in OC cell lines compared to control cell line	exogenous expression inhibits proliferation, overexpression inhibit invasion <i>in vitro</i>	NF- κ B1*	[99]
miR-200a	OC tumor and control tissue (n=57)	OVCAR3, A2780, HOSEpiC, HEK293T	↑ expression in tumor tissue and cell lines compared to control tissue and cell line	enhances migration and invasion, expression associated with lymph node metastases	PTEN*	[75]
miR-200c	-	SKOV3	↓ expression in CD117+CD44+ CSCs from SKOV3 cell line	overexpression led to EMT inhibition	ZEB1, vimentin, E-cadherin**	[45]
	-	SKOV3	-	overexpression reduces invasion ability of cells <i>in vitro</i> , <i>in vivo</i> decrease tumorigenicity, overexpression decreases expression of HOTAIR, Snail and increase E-cadherin <i>in vitro/in vivo</i>	HOTAIR, Snail, E-cadherin**	[100]
miR-204	dataset (TCGA-OV)	SKOV3, mouse xenograft	somatic loss	possible suppressor of tumor growth and metastasis, loss led to activation AKT/mTOR signaling	BDNF*	[101]

miR-205	OC tumor tissue samples (n=110) control tissue samples (n=3)	HO-8910, SKOV3, HO-8910PM, SKOV3ip, SKOV3/DDP, COC1, mouse xenograft	↑ expression in OC tissue compared to control tissue	ectopic expression led to enhanced proliferation, migration, invasion, <i>in vivo</i> expression promoted the growth and metastasis of tumor	SMAD4, PTEN*	[90]
miR-219-5p	-	SKOV3, mouse xenografts	-	overexpression led to suppression of proliferation, invasion and migration	HMGA2*	[87]
miR-219-5p	pairs of EOC tissue and adjacent control tissue (n=20)	SKOV3, OVCAR3, CAOV3, A2780	↓ expression in tumor tissue compared to adjacent control tissue	overexpression led to inhibition of progression, Wnt/β-catenin signaling pathway	Twist*	[62]
miR-222	pairs of OC tumor and adjacent control tissue (n=40)	SKOV3, OVCAR3, A2780, HOSEpiC	↑ expression in OC tissue compared to control cervical tissue and cell lines	overexpression led to enhanced migration and invasion	PTEN*	[89]
miR-337-3p	EOC tissue samples (n=105) control tissue samples (n=51)	HEK293T, A2780, SKOV3, OVCAR3, ES-2, OV-90, CAOV3, HOSEpiC, mouse xenograft	↓ expression in EOC tissue compared to control tissue	ectopic expression inhibits proliferation, induces apoptosis, cell cycle arrest in G0/G1 phase <i>in vitro</i> , through interaction with PIK3CA/B reducing activity of PI3K/Akt signaling pathway, <i>in vivo</i> miR-337-3p acts as TSG	PIK3CA, PIK3CB*	[102]
miR-376a	OC tumor tissue samples (n=32) control tissue samples (n=10)	SKOV3, A2780, HO8910, HO8910PM, mouse xenograft	↑ expression in OC tissue compared to adjacent tissue, higher expression in high metastatic HO8910PM compared to less metastatic HO8910 OC cell line	overexpression stimulates the proliferation, migration and invasion, <i>in vivo</i> showed role in cancer progression	KLF15, Caspase-8*	[91]
miR-506	EOC tissue samples (n=204)	mouse xenograft	↑ expression in early stages vs. late stages	regulates E-cadherin, vimentin, N-cadherin in the suppression of EMT/metastasis	SNAIL2*	[63]
miR-532 miR-3064	EOC tissue samples (n=60)	SKOV3, ES-2, NOEC, mouse xenograft	↓ expression in OC tissue compared to	overexpression suppresses the proliferation, EMT and	hTERT*	[88]

miR-542-3p	control tissue samples (n=20) EOC tissue samples (n=28) control tissue samples (n=12)	OVCAR3, SKOV3, HO8910, HOSEpiC	control ovarian tissue and cell lines ↓ expression in tumor tissue and cell lines vs. normal human ovarian epithelial cell line ↓ expression in OC tissue than in non-malignant ovarian tissue, lower expression also in cell lines	invasion, <i>in vivo</i> overexpression inhibits the growth of OC cells overexpression suppresses the proliferation of OC cells <i>in vitro/in vivo</i> , migration and invasion <i>in vitro</i>	CDK14*	[86]
miR-718	pairs of OC tumor and adjacent control tissue (n=20)	ES-2, SKOV3, CAOV3, OVCAR3	↓ expression in OC tissue compared to control samples	expression led to inhibition of proliferation <i>in vitro/in vivo</i> expression correlates with tumor differentiation, overexpression inhibits proliferation, colony formation, cell arrest in G0/G1 arrest <i>in vitro</i> , <i>in vivo</i> overexpression suppresses tumor growth	VEGF*	[103]
miR-1299	EOC tissue samples (n=35) control tissue samples (n=16)	A2780, CAOV3, SKOV3	↓ expression in OC tissue compared to control samples	expression correlates with tumor differentiation, overexpression inhibits proliferation, colony formation, cell arrest in G0/G1 arrest <i>in vitro</i> , <i>in vivo</i> overexpression suppresses tumor growth	TUG1, NOTCH3*	[70]
miR-4443 miR-5159-3p	tumor tissue samples (serous n=31, endometrioid n=8, mucinous n=6) control tissue (n=45)	-	↓ expression in OC tissue compared to controls, higher downregulation in metastatic samples	-	-	[104]

* target (connection) predicted by bioinformatics tools like - TargetScan, DIANA-MicroT-CDS, miRWALK, miRDB, RNA22, PicTar, microRNA.org, PITA, miRNAnder, Starbase etc. and/or dual-luciferase assay; ** connection predicted by expression correlation; - not part of the study.

Table S2. – Detailed information about lncRNAs expression and their implication in ovarian cancer progression.

lncRNA	Patient samples	Cell lines, xenografts	Aberration	Cellular function	Target	Reference
ADAMTS9-AS2	OC tumor tissue samples (n=47) control tissue samples (n=?)	SKOV3, HO8910, A2780, OVCAR, HOSEpiC, mouse xenograft	↓ expression in OC tissue compared to control tissue and cell lines	reduces proliferation, invasion, migration, EMT, restrained tumor growth <i>in vivo</i>	miR-182-5p*	[140]
ANRIL	EOC tumor tissue samples (n=102) control tissue samples (n=30)	SKOV3, OVCAR3, A2780, Hey, OVCA429, OVCA433, mouse xenograft	↑ expression in OC tissue compared to noncancerous tissue	promotes proliferation (cell cycle progression, apoptosis and senescence inhibition), downregulation of P15INK4b and upregulation Bcl-2	P15INK4b, Bcl-2**	[141]
	HGSC tumor tissue samples (n=68) control tissue samples (n=30)	SKOV3, HO8910, SKO3.ip1, HO8910-PM	↑ expression in OC tissue compared to noncancerous tissue	expression higher in metastatic cell lines, silencing impaired migration and invasion	MET, MMP3**	[125]
AOC4P	EOC tumor tissue samples (n=70) control tissue samples (n=10)	HEY-A8, HEY, HO8910-PM, HO8910, SKOV3-IP, SKOV3	↓ expression in OC cell lines and tissue compared to controls	enhances migration, invasion, overexpression in highly metastatic cell lines	MMP9, COL1A2**	[142]
AP000695.4	TCGA-OV data	SKOV3, A2780, OVCAR3, mouse xenograft	↑ expression in mesenchymal subtype vs. epithelial subtype	reduces metastatic capabilities	miR-101**	[127]
ASAP1-IT1 FAM215A LINC00472	EOC tumor tissue samples (n=266)	-	↑ expression in OC tissue	expression positively correlates with ZEB1 expression, knockdown reduced tumorigenicity and metastasis <i>in vivo</i>	-	[143]
				higher expression associated with favorable OS, maybe involved in OC progression		

BLACAT1	OC tumor tissue samples (n=30) control tissue samples (n=29)	SKOV3, mouse xenograft	↑ expression in OC tissue compared to control tissue	knockdown inhibits proliferation, migration, invasion, <i>in vivo</i> inhibits tumor growth	miR-519d-3p*	[144]
CASC9	pairs of OC tumor and control tissue (n=43)	SKOV3, CAOV3, OV420, A2780, ES-2), mouse xenograft	↑ expression in OC tissue compared to control tissue and cell lines	promotes proliferation, migration, invasion, <i>in vivo</i> accelerates tumor growth	miR-758-3p*	[145]
CCAT1	pairs of EOC tumor and control tissue (n=72)	HO8910, HO8910PM, OVCAR3, SKOV3, CAOV3	↑ expression in OC tissue compared to adjacent non-tumor tissue	CCAT1 regulates miR-152/miR-130b (their targets are <i>ADAM17</i> , <i>WNT1</i> , <i>STAT3</i> , <i>ZEB1</i>) - their knockdown inhibits EMT expression stimulated by TGF-β1, knockdown decreased migration, invasion and	miR-152, miR-130b*	[65]
	pairs of EOC tumor and control tissue (n=25)	SKOV3, CAOV3	↑ expression in OC tissue compared to control tissue	downregulated expression EMT-related markers expression correlates with presence of distant metastasis, knockdown suppresses proliferation, migration and invasion	miR-490-3p*	[128]
CCAT2	OC tumor tissue samples (n=109) control tissue samples (n=45)	SKOV3, IGROV1, A2780, OVCAR3	↑ expression in OC tissue compared to control tissue and cell lines	knockdown inhibits EMT, migration and invasion	-	[146]
	-	SKOV3, A2780, HO8910, HOSE-HUM-CELL-0088	↑ expression in OC cell lines compared to controls	knockdown inhibits EMT, migration and invasion	E/N-cadherin, Snail, Twist, Slug	[46]
CDKN2BAS	OC tumor tissue samples (n=44) control tissue samples (n=16)	A2780, HO8910, HEY, SKOV3, IOSE80	↑ expression in OC tissue compared to control tissue	overexpression enhances proliferation, migration	GAS6**	[147]
CTD-2020K17.1	pairs of HGSC primary tumors and omental metastasis (n=38)	SKOV3, OVCAR3, CAOV3	↑ expression in omental metastases tissue compared to primary tumors	overexpression promotes migration, invasion, proliferation	CARD11*	[111]

DANCR	pairs of OC malignant tumor and control tissue (n=20)	A2780, PA-1, SKOV3, HO8910, HOSEpic, mouse xenograft	↑ expression in OC cell lines and malignant tumor tissue compared to controls	knockdown impairs tumor growth through angiogenesis inhibition	miR-145	[148]
DNM3OS MEG3 MIAT	TCGA-OV data	SKOV3	↑ expression in OC tissue	pathway analysis revealed connection with EMT pathway, especially for DNM3OS	-	[149]
DQ786243	pairs of OC tumor and control tissue (n=30)	SKOV3, OVCAR3, PEO1, A 2780, mouse xenograft	↑ expression in OC tissue compared to control tissue and cell lines	knockdown inhibits proliferation, invasion, migration, colony formation, <i>in vivo</i> inhibits tumor growth	miR-506*	[132]
DSCR8	-	IOSE80, A2780, SKOV3, OVCAR3, PEO1	↑ expression in OC cell lines compared to controls	inhibition suppresses proliferation	miR-3192-5p/YY1*	[150]
EBIC	pairs of OC tumor and control tissue (n=126)	OVCA429, SKOV3	↑ expression in OC tissue compared to control tissue	siRNA-EBIC transfection inhibits proliferation, invasion, migration, downregulate expression of β-catenin, vimentin, c-myc and upregulation of E-cadherin	β-catenin, vimentin. E-cadherin**	[151]
EPB41L4A-AS2	datasets (GSE83693, GSE18520), pairs of OC tumor and control tissue (n=126)	HO8910, OV-90, OVCAR3, SKOV3, HOSEpic, mouse xenograft	↓ expression in OC tissue and cells compared to controls	overexpression inhibits proliferation, migration, colony formation and invasion, <i>in vivo</i> represses tumor formation	miR-103a*	[152]
FAL1	-	SKOV3, HO8910PM, mouse xenograft	↑ expression in cells	higher expression in tumor derived exosomes enhances migration, invasion, metastasis, <i>in vivo</i> tumors in mice larger and heavier	PTEN, Akt**	[153]

FAM83H-AS1	pairs of OC tumor and control tissue (n=100)	HOSE6.3, OVCAR3	↑ expression in OC cell lines and tumor tissue compared to controls	expression correlates with distant metastases, downregulation inhibits proliferation and invasion	-	[154]
	pairs of OC tumor and control tissue (n=80) (44 metastatic samples)	ES-2, SKOV3, A2780, SW626, IOSE386	-	inductive effect on metastasis	HuR*	[155]
FEZF1-AS1	pairs of EOC tumor and control tissue (n=52)	PEO1, SKOV3, COC1, CAO3, A2780, 3AO, IOSE80	↑ expression in OC cell lines and tissue compared to controls	silencing suppresses migration, proliferation, invasion, colony formation, enhances apoptosis	miR-130a-5p*	[156]
FLVCR1-AS1	OC serous tumor tissue, control tissue and serum samples (n=50)	A2780, 3AO, PEO1, SKOV3, OVCAR3, OVCAR8	↑ expression in OC cell lines, tumor tissue and serums samples compared to controls	downregulation inhibits cell growth, migration, invasion and EMT	miR-513*	[157]
H19	-	SKOV3, OVCAR3	↑ expression in OC cells	TGF-β upregulates H19 and downregulates miR-370-3p, H19 knockdown/miR-370-3p overexpression suppresses EMT	miR-370-3p**	[158]
HAL	pairs of serous tumor and adjacent tissue (n=30)	SKOV3, OVCAR3, A2780, mouse xenograft	↓ expression in OC tissue and cell lines	overexpression inhibits proliferation, migration, invasion, promoted apoptosis, downregulates Twist1 expression, <i>in vivo</i> inhibits tumorigenicity via EMT inhibition	Twist1**	[159]
HAND2-AS1	datasets (GSE69428, TCGA-OV)	SKOV3, FT-194, PEA1, PEA2, PEO14, PEO23, OVSAMO, KURAMOCHI, HEEyA8, TOV21G	↓ expression in OC lines compared to control cell line	downregulation cause by hypermethylation, HAND2-AS1 acts tumor suppressor gene	-	[160]
HCP5	pairs of OC tumor and control tissue (n=44)	SKOV3, OVCA433, HOSE11-12, mouse xenograft	↑ expression in OC cell lines and tissue compared to controls	silencing decreases proliferation, invasion, migration, EMT process,	miR-525-5p*	[161]

HOTAIR	-	SKOV3, OVCAR3, A2780	↑ expression in SKOV3, OVCAR3 compared to A2780	activates Wnt/ β -catenin pathway silencing inhibits proliferation, migration, invasion, interaction with <i>PIK3R3</i> via miR-214 and miR-217	miR-214, miR-217*	[162]
	EOC tumor tissue samples (n=64) control tissue samples (n=29)	SKOV3.ip1, HO8910-PM, HEY-A8	↑ expression in OC tissue compared to control tissue	suppression reduced migration/invasion in highly metastatic cell lines	-	[163]
HOTAIRM1	OC tumor tissue samples (n=68) control tissue samples (n=48)	SKOV3, OVCAR3, A2780, ES-2, HOSEpiC, mouse xenograft	↓ expression in OC cell lines and tissue compared to controls	overexpression suppresses proliferation, invasion, promoted apoptosis	miR-106a-5p*	[164]
HOTTIP	pairs of OC tumor and control tissue (n=69)	SKOV3, A2780, OVCAR3	↑ expression in OC tissue compared to control tissue	knockdown decreased proliferation, invasion	β -catenin**	[165]
HOXA11-AS1	HGSC tumor tissue samples (n=129) control tissue samples (n=38)	SKOV3, OVCAR3, A2780, OVCA433, OVCA429, TOV112D	↑ expression in OC tissue compared to noncancerous tissue	overexpression enhances proliferation, invasion, migration, expression associated with expression of <i>VEGF</i> , <i>MMP9</i> , β -catenin, E-cadherin, Snail, Twist, vimentin	VEGF, MMP9, E-cadherin, Snail, Twist, vimentin**	[47]
HOXD-AS1	pairs of EOC tumor and control tissue (n=43)	SKOV3, HO8910, ES-2, CAO3	↑ expression in OC tissue compared to control tissue and cell lines	promotes proliferation, invasion, EMT via activating Wnt/ β -catenin signaling pathway	miR-133-3p*	[135]
	EOC tumor tissue samples (n=36) control tissue samples (n=14)	A2780, SKOV3	↑ expression in OC tissue compared to control tissue	inhibition reduces migration, invasion, EMT, interaction with miR-186-5p downregulates <i>PIK3R3</i>	miR-186-5p*	[166]
JPX	pairs of OC tumors and adjacent nontumor tissue (n=32)	OVCAR3	↑ expression in OC tissue compared to para-carcinoma tissue and cell lines	possible activation of PI3K/AKT/mTOR pathway, which led to proliferation,	PI3K/AKT/mTOR pathway**	[138]

KCNQ1OT1	-	SKOV3, OVCAR3, IOSE80	↑ expression in OC cells compared to control	enhances proliferation, migration	miR-142-5p*	[167]
	pairs of EOC tumor and control tissue (n=174)	IOSE80, OVCAR3, SKOV3, A2780, OV90	↑ expression in OC cell lines and tumor tissue compared to controls	overexpression enhances cell growth, migration, invasion	miR-212-3p*	[168]
LEF1-AS1	OC tumor tissue (n=62) (metastatic (n=28), non-metastatic (n=34))	IOSE80, SKOV3, OVCAR3, OVCAR5, A2780	↑ expression in metastatic tissue compared to non-metastatic	knockdown suppresses proliferation, migration, invasion	miR-1285-3p*	[112]
LINC00092	serous tumor tissue samples (n=58) control tissue samples (n=25) TCGA-OV	SKOV3, A2780, mouse xenograft	↑ expression in OC cells, OC patients with metastases compared to OC patients without metastasis and control samples	expression induced by CAF-secreted CXCL14, promotes cancer progression by altering a glycolysis	PFKFB2**	[169]
LINC00176	GSE38666, pairs of OC tumor tissue and control tissue (n=56)	CAOV3, 3AO, SKOV3, HO8910, A2780, CHO 1-15, mouse xenograft	↑ expression in OC cell lines and tissue compared to controls	silencing promotes proliferation, migration, invasion, upregulates CP expression through BCL3	BCL3*	[170]
LINC00339	pairs of OC tumor tissue and control tissue (n=75)	SKOV3, A2780, OVCAR3, HO-8910, HOSEpiC, mouse xenograft	↑ expression in OC tissue compared to control	higher expression associates with proliferation, migration and invasion, <i>in vivo</i> promotes tumor growth	miR-148a-3p*	[171]
LINC00460	pairs of EOC tumor and control tissue (n=98)	SKOV3, A2780, OVCAR, HO8910	↑ expression in OC tissue compared to control tissue and cell lines	knockdown suppresses proliferation, migration, invasion; higher expression associated with lymph node metastasis	miR-338-3p*	[172]
LINC00504	pairs of OC tumor and adjacent tissue (n=45)	HOSEpiC, A2780, CAOV3, HO8910, OVCAR3, SKOV3	↑ expression upregulation in OC	knockdown inhibits proliferation, enhance apoptosis, decreases	miR-1244*, PKM2, HK2, PDK1**	[173]

			tissue compared to control	glycolysis-related genes expression (<i>PKM2</i> , <i>HK2</i> , <i>PDK1</i>)		
LINC00565	datasets (TCGA, GSE26193, GSE52037, GSE38666, GSE40595)	OVCAR3, SKOV3, HO8910, A2780, HEY, IOSE, mouse xenograft	↑ expression in OC tissue compared to control tissue	knockdown inhibits proliferation, invasion, migration, <i>in vivo</i> inhibits tumor growth	cyclin D1, cyclin E1, CDK4, p16, p21**, GAS6*	[174]
LINC00963	OC tumor tissue samples (n=35) control tissue samples (n=35)	A2780, TOV112D, OVCAR3, SKOV3, IOSE80), mouse xenograft	↑ expression in OC tissue compared to control	downregulation inhibits migration, invasion, invert EMT triggered by TGF-β1, represses tumorigenicity <i>in vivo</i>	miR-378g	[175]
Linc-ROR	HGSC tumor tissue samples (n=39) control tissue samples (n=20) fallopian tube tissue (n=20)	SKOV3, A2780, mouse xenograft	↑ expression in OC tissue compared to control tissue and normal fallopian tube tissue	promotes proliferation, migration, invasion, knockdown inhibits EMT via repression of Wnt/β-catenin pathway	Wnt/β-catenin**	[136]
lncARSR	pairs of EOC tumor and adjacent tissue (n=76)	SKOV3, HO8910, ES-2, CAO3, IOSE80	↑ expression in OC tissue compared to control tissue and cell lines	higher expression promotes proliferation, invasion and associate with lymph node metastasis	HuR, β-catenin, ZEB1, ZEB2**, miR-200 family*	[64]
lncRNA-ATB	-	SKOV3, A2780, 293T	-	downregulation inhibits proliferation, induces apoptosis	miR-204-3p*	[176]
	-	SKOV3, HOSEpic	↓ expression in OC cells compared to controls	downregulation led to reduce proliferation, invasion, migration, promoted apoptosis	p-STAT3, E-cadherin**	[177]
LncSOX4	EOC tumor tissue samples (n=30) control tissue samples (n=18)	SKOV3, HO8910-PM, OVCAR3, IOSE-80	↑ expression in OC cell lines and tumor tissue compared to controls	silencing impaired proliferation, expression associated with distant metastasis	-	[178]

LOC100288181	datasets (GSE3668, GSE18520, GSE9891, GSE26193, GSE63885)	HEY-T30, SKOV3, mouse xenograft	↑ expression in OC tissue compared to normal tissue	knockdown suppresses proliferation, colony formation, invasion, migration, <i>in vivo</i> inhibits tumorigenicity	miR-34a, miR-34c*	[179]
LOXL1-AS1	pairs of OC tumor and control tissue (n=45)	A2780, SKOV3, CAOV3, OVCAR3, IOSE80	↑ expression in OC tissue compared to controls	knockdown inhibits growth, aggressive phenotype, through interacting with miR-18b-5p regulate progression and metastasis	miR-18b-5p*	[180]
LUCAT1	-	CAOV3, SKOV3, HO8910, IOSE80	↑ expression in cells	knockdown decreases proliferation and colony formation	miR-199a-5p	[181]
MALAT1	-	SKOV3, SKOV3-CR	↑ expression in non-adherent spheres formed by adherent OC cells	knockdown reduces cell stemness, decreases sphere forming ability	YAP*	[182]
	plasma from EOC patient with distant metastases (n=47), EOC patients without metastases (n=47), control samples (n=47)	-	↑ expression in OC patients with distant metastases compared patients without metastasis and healthy controls	higher expression associated with poorer DFS, possible independent predictor of survival	-	[116]
	serum samples from EOC patients (n=60), control serum samples (n=?)	SKO3.ip1, HO8910.PM, SKOV3, HO8910, HUVEC mouse xenograft	↑ expression in metastatic OC cells compared to OC cells, expression in serum upregulated compared to control samples	elevated serum exosomal expression correlated with metastatic phenotype	-	[183]
	EOC tumor tissue samples (n=64) control tissue samples (n=30)	SKOV3, OVCAR3, HO8910, A2780, mouse xenograft	↑ expression in OC tissue compared to control tissue and cell lines	inhibition of MALAT1 impeded proliferation, invasion, metastasis, downregulation EMT-related genes and MMPs	PI3K/AKT pathway**	[66]

MEG3	pairs of OC tumors and adjacent nontumor tissue (n=30)	SKOV3, A2780, HO8910, CAOV3	↑ expression in OC tissue compared to control tissue and cell lines	promotes tumor growth, knockdown inhibits proliferation and DNA synthesis	miR-506**	[130]
	EOC tumor tissue samples (n=45) control tissue samples (n=37)	OVCAR3, SKOV3	↑ expression in OC cell lines and tumor tissue compared to controls	overexpression enhances proliferation, migration and invasion	MMP13, MMP19, ADAMTS1*	[184]
	pairs of OC tumor and control tissue (n=50)	OVCAR3, CAOV3, SKOV3, PA-1, MES-OV, UWB1.289m OV-90, HEY-T30, HOSEpic	↑ expression in OC cell lines and tumor tissue compared to controls	knockdown suppresses proliferation, viability, migration and invasion	miR-200c*	[185]
	benign tumor tissue samples (n=8), control tissue samples (n=17), borderline tissue samples (n=6), primary EOC carcinoma tissue (n=95), omental metastasis samples (n=25)	OVCAR3, A2780, mouse xenograft	↓ expression in OC tissue, especially in omentum tumors compared to control tissue and benign tumors	upregulation inhibits proliferation, formation, promoted apoptosis, <i>in vivo</i> suppress tumorigenesis	ATG3**	[113]
	EOC tumor tissue samples (n=90)	HOSE, COV318, HEY, PEO1, mouse xenograft	↑ expression in OC tissue associate with better PFS, OS	overexpression inhibits migration, invasion, inhibits spheroid growth in extracellular matrix, <i>in vivo</i> inhibits tumor growth	PTEN**	[186]
	OC tumor tissue samples (n=30) control tissue samples (n=10) datasets (GSE29450, GSE54388)	SKOV3, OVCAR3, CAOV4, IOSE80, HEK293T, HOSEpic	↓ expression in OC tissue compared to normal tissue and cell lines together with LAMA4 and downregulation of miR-30e-3p	overexpression enhances LAMA4 expression by sponging miR-30e-3p	miR-30e-3p	[187]

	-	SKOV3, CAOV3, OVCAR3, mouse xenograft	↓ expression in OC cells	enhanced expression of <i>PTEN</i> suppress proliferation, invasion, migration	<i>PTEN</i> **	[188]
	pairs of OC tumor tissue and adjacent tissue (n=20)	SKOV3, OVCAR3, OVCAR5, OVCAR8	↓ expression in OC tissue compared to control tissue and cell lines	MEG3 overexpression and miR-205-5p knockdown inhibit viability, migration, invasion and promoted apoptosis	miR-205-5p	[189]
MIF-AS1	pairs of OC tumor tissue and control tissue (n=50)	IOSE80, OC3, HO8910, ES-2, SKOV3	↑ expression in OC cell lines and tissue compared to controls	knockdown decreases proliferation, migration, invasion	miR-31-5p	[190]
MIR4435-2HG	pairs of OC tumor and adjacent tissue (n=42)	SKOV3, CAOV3, A2780, OVCAR3, IOSE80, HEK293T	↑ expression in OC cell lines and tissue compared to controls	knockdown inhibits proliferation, invasion, migration, induces apoptosis via miR-128-3p/ <i>CDK14</i> axis	miR-128-3p*	[191]
	pairs of OC tumor and adjacent tissue (n=63)	UWB1.289	↑ expression in OC tissue	overexpression together with <i>ROCK2</i> promote proliferation, inhibits apoptosis	<i>ROCK2</i> **	[192]
MIR4697HG	pairs of OC tumor and control tissue (n=15)	SKOV3, OVCAR3, CAOV3, CoC1, mouse xenograft	↑ OC tissue compared to control tissue, OC cell lines (OVCAR3, SKOV3)	knockdown inhibits proliferation, colony formation, downregulation of <i>MMP9</i> , <i>ERK</i> , <i>AKT</i>	<i>MMP9</i> , <i>ERK</i> , <i>AKT</i> **	[193]
NEAT1	HGSC tumor tissue samples (n=75), control tissue samples (n=75)	A2780, HO8910, SKOV3, OVCAR3, CAOV3, ES-2, OV420, mouse xenograft	↑ expression in OC tissue compared to control tissue	knockdown inhibits proliferation, invasion, <i>in vivo</i> inhibit tumor growth, stability enhanced by LIN28B	miR-506*	[131]
	pairs of OC tumor and control tissue (n=67)	ES-2, SKOV3	↑ expression in OC tissue compared to para-tumor tissue and cell lines	regulating miR-382-3p/ <i>ROCK1</i> in the metastatic process	miR-382-3p*	[194]

NONHSAT076754	EOC tumor tissue samples (n=70) control tissue samples (n=10)	SKOV3, OVCAR5, OVCAR3, OVCAR8, HO8910, HOSEpic, mouse xenograft	↑ expression in OC tissue and cells compared to controls	knockdown inhibits migration, invasion, <i>in vivo</i> depletion reduces EOC metastasis	-	[195]
PCA3	tumor tissue samples (n=29) control tissue samples (n=7)	OVCAR3, A2780	↑ expression in OC tissue compared to control tissue and cell lines	knockdown led to inhibition of proliferation, migration, invasion, downregulation of expression - RhoC, Bcl/xl, MMP2, P70S6K expression silencing reduces proliferation, migration, invasion, increase apoptosis, knockdown repress expression of cyclin D1, CDK3, p53, BAX, cleaved caspase 3, vimentin with restore miR-124-3p expression	miR-106b-5p*	[196]
PCAT-1	pairs of OC tumor and adjacent tissue (n=20)	A2780, SKOV3	↑ expression in OC tissue compared to normal tissue	knockdown repress expression of cyclin D1, CDK3, p53, BAX, cleaved caspase 3, vimentin with restore miR-124-3p expression	Cyclin D1, CDK3, p53, BAX, vimentin, miR-124-5p**	[197]
PCGEM1	EOC tumor tissue samples (n=50) control tissue samples (n=14)	A2780, OVCAR3, mouse xenograft	↑ expression in OC cell lines and tumor tissue compared to controls	upregulation induces proliferation, migration and invasion	RhoA, YAP, MMP2, Bcl-xL, P70S6K**	[198]
PTAF	datasets (TCGA-OV, GSE9891)	SKOV3, A2780, OVCAR3, mouse xenograft	-	silencing inhibits tumor progression and metastasis <i>in vivo</i>	miR-25, SNAIL2**	[67]
PVT1	EOC tumor tissue samples (n=231) control tissue samples (n=58)	SKOV3, HO8910, ES-2, SW626, A2780	↑ expression in OC tissue compared to control tissue and cell lines	knockdown impaired proliferation, migration, invasion, repression miR-214 via <i>EZH2</i>	<i>EZH2</i> **	[199]
RHPN1-AS1	pairs of OC tumor and control tissue (n=42)	HEY, SKOV3, OVCAR3	↑ expression in OC tissue compared to control tissue	knockdown inhibits proliferation, migration, invasion	miR-133a*	[200]
	pairs of EOC tumor and adjacent tissue (n=86)	CAOV3, ES-2, A2780, OV-90, OVCAR3	↑ expression associate with poor prognosis	upregulation promotes proliferation and	miR-596*	[201]

	pairs of OC tumor tissue and control tissue (n=57)	OVCAR5, OVCAR3, A2780, SKOV3, IOSE80	↑ expression in OC tissue compared to controls	metastasis, activation miR-596/LETM1/FAK-PI3K/Akt signaling pathway knockdown inhibits proliferation, migration, invasion and promotes miR-1299 expression	miR-1299*	[202]
SNHG1	pairs of EOC tumor and para-carcinoma tissue (n=20)	IOSE25, CAOV3, SKOV3, ES-2, A2780	↑ expression in OC cell lines and tumor tissue compared to controls	knockdown inhibits proliferation, clone formation, invasion, metastasis, promoted apoptosis	MMP2, MMP9**	[203]
SNHG3	pairs of EOC primary tumors and adjacent control tissue (n=76)	OVCAR3, A2780, SKOV3, ES-2	↑ expression in OC tissue compared to control tissue and cell lines	knockdown inhibits proliferation, invasion abilities, downregulation of Cyclin D1, CDK1, MMP9, MMP3	GSK β / β -catenin signaling pathway**	[204]
SNHG16	pairs of EOC tumor and control tissue (n=103)	SKOV3, ES2, HOP8910, OMC685, IOSE-29	↑ expression in OC cell lines and tumor tissue compared to controls	higher expression associated with distant metastasis, knockdown decrease proliferation, invasion and migration	p-AKT, MMP9**	[205]
SNHG20	pairs of OC primary tumors and adjacent control tissue (n=16)	SKOV3, OVCA429, OVCA433, OVCAR3, HOSE	↑ expression in OC tissue compared to non-tumorous tissue	knockdown suppresses the ovarian cancer progression	β -catenin**	[133]
SOCAR	pairs of HGSC primary tumors and omental metastases (n=50)	SKOV3, OVCAR3, CAOV3, HO89PM	↑ expression in OC tissue compared to control	higher expression associates with progression, overexpression promotes proliferation, migration and invasion overexpression reduces	Wnt/ β -catenin, MMP9**	[206]
SPRY4-IT1	pairs of OC tumor and control tissue (n=15)	SKOV3, HO8910, ES-2, CAOV3, IOSE80	↓ expression in OC tissue compared to controls	proliferation, colony formation, migration, invasion, promoted apoptosis, arrest cell cycle	E-cadherin, N-cadherin, vimentin**	[207]

TP73-AS1	pairs of OC tumor and control tissue (n=60)	OVCA429, OVCA433, SKOV3	↑ expression in OC tissue compared control tissue and cell lines	knockdown suppresses proliferation, invasion, migration, overexpression enhanced expression of MMP2 and MMP9	MMP2, MMP9**	[124]
TC0101441	EOC tumor tissue samples (n=74) control tissue samples (n=20)	SKOV3, CAO3, OVCAR3, PEO1, PEO4	↑ expression in OC tissue	<i>in vitro/in vivo</i> loss-of-function assay promotes invasive and metastatic capabilities	KISS1*	[208]
TDRG1	EOC tumor tissue samples (n=95), control tissue samples (n=26)	OVCAR3, A2780	↑ expression in OC cell lines and tumor tissue compared to controls	knockdown suppresses proliferation, migration and invasion	RhoC, R70S6K, Bcl-xL, MMP2**	[209]
THOR	pairs of OC tumor tissue and control tissue (n=90)	SKOV3, A2780, OVCA429, 3AO, PEO-1, HO8910	↑ expression in OC tissue compared to control tissue	knockdown inhibits growth, metastasis, self-renewal of OC cells, drives cell progression via IL-6/STAT3	IL-6/STAT3**	[210]
TLR8-AS1	OC tumor tissue samples (n=158), datasets (TCGA, GSE82059)	OV90, SKOV3, mouse xenograft	↑ expression in OC cell lines and tissue compared to controls	TLR8-AS1 is regulated by CAFs, augment metastasis and chemoresistance, upregulates TLR8, activate NF-κB	TLR8, NF-κB**	[211]
TONSL-AS1	pairs of EOC tumor and adjacent tissue (n=62)	OVCAR3	↑ expression in OC tissue compared to control	through interaction with CDK1 influence cell proliferation	miR-490-3p*	[212]
TPT1-AS1	EOC tumor tissue samples (n=34) control tissue samples (n=20)	ES-2, SKOV3, HOSEpic	↑ expression in OC metastatic tissue and cell lines compared to controls	overexpression enhances proliferation, migration and invasion, <i>in vivo</i> facilitates intraperitoneal metastasis	TPT1, PI3K/AKT**	[213]
TTN-AS1	pairs of OC tumor tissue and control tissue (n=48)	SKOV3, A2780, OVCAR, HO8910, HOSEpic, mouse xenograft	↑ expression in OC cell lines and tumor tissue compared to controls	knockdown inhibits proliferation, colony formation, invasion, migration, <i>in vivo</i>	miR-139-5p*	[214]

	TCGA-OV	A2780, OVCA429, IOSE80	↓ expression in OC tissue and cell lines	suppresses tumor formation overexpression inhibits proliferation, colony formation, promote apoptosis	miR-15b-5p*	[215]
TUG1	pairs of OC tumor and control tissue (n=62)	A2780, ES-2, OV-90, SKOV3, IOSE80	↑ expression in OC tissue compared to control tissue and cell lines	knockdown inhibits proliferation, colony formation, invasion, reversed EMT	E/N-cadherin, vimentin**	[216]
	pairs of OC tumor and control tissue (n=65)	IOSE80, A2780, SKOV3, ES-2, C3O	↑ expression in OC tissue, compared to control tissue and cell lines	knockdown inhibits proliferation, colony formation, migration, invasion, upregulation together with <i>MDM2</i>	<i>MDM2</i> ** miR-29b-3p*	[217]
UCA1	EOC tumor tissue samples (n=53) control tissue samples (n=29)	OMC685, A2780, SKOV3	↑ expression in OC tissue compared to control tissue and cell lines	knockdown reduced invasion, migration, downregulated <i>MMP14</i>	miR-485-5p*	[126]
UNC5B-AS1	TCGA-OV	IOSE-386, A2870, SW626, ES-2, SKOV3	↑ expression of OC tissue and cell lines	depletion of expression hinder proliferation, induce apoptosis	EZH2*	[218]
WDFY3-AS2	pairs of OC tumor and control tissue (n=30) datasets (GSE38666, GSE14407, GSE23383, GSE83693)	A2780, CP70, SKOV3, CAOV3, IOSE80, mouse xenograft	↓ expression in OC tissue compared to control	upregulation reduced tumor growth <i>in vivo</i> , suppresses proliferation, migration, invasion, EMT, enhanced apoptosis	miR-18a*	[219]
XIST	pairs of EOC tumor tissue and adjacent tissue (n=98)	OVCAR3, OV90, A2780, SKOV3, HOSE	↑ expression in OC tissue compared to control tissue and in OC cell lines compared to control cell lines	expression correlates with distant metastasis, stage and grade, <i>in vitro</i> silencing enhances proliferation, migration, invasion	-	[220]

* target (connection) predicted by bioinformatics tools like - TargetScan, DIANA-MicroT-CDS, miRWALK, miRDB, RNA22, PicTar, microRNA.org, PITA, miRNanda, Starbase etc. and/or dual-luciferase assay. ** connection predicted by expression correlation

- not part of the study