

SUPPLEMENTARY TABLES

Molecular profiling and molecular classification of endometrioid ovarian carcinomas

Cybulski et al.

Supplementary Table 1. Sequencing statistics of the endometrioid ovarian cancers subjected to targeted massively parallel sequencing (MSK-IMPACT).

Sample ID	Target Territory	Total Reads	Mean Target Coverage (X)	Percent Target Bases 10X	Percent Target Bases 50X	Percent Target Bases 100X
EOC1-T	1362579	26981555	832.6	0.992301	0.9885	0.983727
EOC1-N	1362579	9012589	330.5	0.989449	0.977683	0.952661
EOC2-T	1522367	27799413	821.6	0.992176	0.987666	0.982582
EOC2-N	1522367	25743497	829.6	0.992627	0.988468	0.983672
EOC3-T	1204666	36554101	311.9	0.989513	0.97799	0.962945
EOC3-N	1204666	11067848	319.0	0.986678	0.958737	0.913894
EOC4-T	1362579	24458509	674.6	0.990581	0.983183	0.975235
EOC4-N	1362579	17309231	574.5	0.991264	0.983963	0.974153
EOC5-T	1362579	28828819	806.1	0.990848	0.984312	0.977287
EOC5-N	1362579	9150471	325.9	0.989308	0.975459	0.953571
EOC6-T	1522367	34141414	922.8	0.99497	0.99236	0.989147
EOC6-N	1522367	20865721	683.8	0.99289	0.988869	0.983562
EOC7-T	1362579	31819782	1061.8	0.992413	0.989212	0.985447
EOC7-N	1362579	9739153	362.4	0.990319	0.980521	0.966054
EOC9-T	1362579	32645079	1029.0	0.992224	0.98896	0.98449
EOC9-N	1362579	23521649	812.9	0.992169	0.987702	0.982769

Supplementary Table 2. Clinico-pathologic characteristics of the endometrioid ovarian cancers subjected to targeted massively parallel sequencing (MSK-IMPACT).

Characteristic	N (8)
Median age at diagnosis (years)	
Median (range)	51 (34-68)
FIGO tumor grade at diagnosis	
1	2
2	3
3	3
FIGO (2009) stage at diagnosis	
I	5
II	0
III	2
IV	1
History of endometriosis	
Yes	1
No	7
Endometriosis on pathology report	
Yes	4
No	4
Adjuvant chemotherapy	
IV Carboplatin & Paclitaxel	6
IV/IP Carboplatin & Paclitaxel	2
Median PFS (months) (95% CI)	27.2 (15.0-39.4)
Deceased at time of follow-up	2

CI, confidence interval; FIGO, International Federation of Gynecology and Obstetrics; PFS, progression-free survival.

Supplementary Table 3. Non-synonymous somatic mutations identified in the endometrioid ovarian cancers subjected to targeted massively parallel sequencing (MSK-IMPACT).

Sample Id	Chromosome	Position	Reference Allele	Alternate Allele	Gene	Mutation Type	AA change	LOH	Tumor MAF	Normal MAF	Tumor Depth	Normal Depth	Hotspot	Pathogenicity
EOC1-T	10	89692791	A	G	PTEN	Missense_Mutation	p.D92G	.	0.499	0	359	161	Yes	likely_pathogenic
EOC1-T	3	41266101	C	G	CTNNB1	Missense_Mutation	p.S33C	.	0.243	0	424	271	Yes	likely_pathogenic
EOC1-T	6	152419926	A	G	ESR1	Missense_Mutation	p.D538G	.	0.238	0	676	220	Yes	passenger
EOC1-T	5	67589535	A	G	PIK3R1	Splice_Site	p.X434_splice	.	0.250	0	268	119	Yes	likely_pathogenic
EOC2-T	12	25398284	C	A	KRAS	Missense_Mutation	p.G12V	.	0.203	0.001	710	719	Yes	likely_pathogenic
EOC3-T	20	22562816	AGGTGGGCCGCGGCC	A	FOXA2	Frame_Shift_Del	p.L355Hfs*13	.	0.203	0	69	63	No	likely_pathogenic
EOC3-T	12	25398284	C	A	KRAS	Missense_Mutation	p.G12V	.	0.387	0.006	287	318	Yes	likely_pathogenic
EOC3-T	3	178936095	A	G	PIK3CA	Missense_Mutation	p.Q546R	.	0.189	0	175	159	Yes	likely_pathogenic
EOC3-T	9	21971111	G	A	CDKN2A	Missense_Mutation	p.H83Y	.	0.123	0	155	126	Yes	likely_pathogenic
EOC4-T	4	140810638	GGCT	G	MAML3	In_Frame_Del	p.P647del	Yes	0.081	0	74	63	No	passenger
EOC4-T	11	85979565	G	A	EED	Missense_Mutation	p.D310N	.	0.229	0	520	342	No	passenger
EOC4-T	12	25398284	C	G	KRAS	Missense_Mutation	p.G12A	.	0.335	0	322	386	Yes	likely_pathogenic
EOC4-T	16	89877338	C	G	FANCA	Missense_Mutation	p.R142T	.	0.251	0	303	269	No	passenger
EOC4-T	17	66526133	G	C	PRKAR1A	Missense_Mutation	p.D322H	.	0.242	0.003	425	305	No	likely_pathogenic
EOC4-T	5	35871262	G	A	IL7R	Missense_Mutation	p.V162I	.	0.246	0	496	312	No	passenger
EOC4-T	10	89685269	G	A	PTEN	Splice_Site	p.X55_splice	Yes	0.367	0	139	138	No	likely_pathogenic
EOC4-T	13	48941629	G	T	RB1	Splice_Site	p.X314_splice	Yes	0.457	0	357	264	No	likely_pathogenic
EOC4-T	17	7574035	T	C	TP53	Splice_Site	p.X332_splice	Yes	0.375	0	355	471	Yes	likely_pathogenic
EOC5-T	2	202136299	TCTTTGCAAGAGGAAATCTC	T	CASP8	Frame_Shift_Del	p.L182Qfs*6	.	0.159	0	508	269	No	likely_pathogenic
EOC5-T	5	67589591	TATA	T	PIK3R1	In_Frame_Del	p.Y452del	.	0.323	0	675	194	Yes	likely_pathogenic
EOC5-T	10	89653782	A	G	PTEN	Missense_Mutation	p.Y27C	.	0.370	0	516	211	Yes	likely_pathogenic
EOC5-T	10	89711891	G	A	PTEN	Missense_Mutation	p.S170N	.	0.356	0.005	545	196	Yes	likely_pathogenic
EOC5-T	17	37880261	G	C	ERBB2	Missense_Mutation	p.D769H	.	0.406	0	640	294	Yes	likely_pathogenic
EOC5-T	22	50705458	G	A	MAPK11	Missense_Mutation	p.A172V	.	0.081	0	37	13	No	likely_pathogenic
EOC6-T	12	25398284	C	G	KRAS	Missense_Mutation	p.G12A	.	0.087	0	447	540	Yes	likely_pathogenic
EOC6-T	17	47699369	C	T	SPOP	Missense_Mutation	p.E47K	.	0.068	0	531	499	No	likely_pathogenic
EOC6-T	3	49412973	C	T	RHOA	Missense_Mutation	p.G17E	.	0.028	0	891	652	Yes	likely_pathogenic
EOC6-T	23	44941968	G	C	KDM6A	Missense_Mutation	p.R1073T	.	0.065	0	581	496	No	passenger
EOC7-T	21	36171622	CAG	C	RUNX1	Frame_Shift_Del	p.S314Cfs*285	.	0.179	0	598	183	No	likely_pathogenic
EOC7-T	5	67589149	AT	A	PIK3R1	Frame_Shift_Del	p.L380*	.	0.186	0	581	189	Yes	likely_pathogenic
EOC7-T	12	25398284	C	T	KRAS	Missense_Mutation	p.G12D	.	0.204	0	628	219	Yes	likely_pathogenic
EOC7-T	19	18278049	G	T	PIK3R2	Missense_Mutation	p.D557Y	.	0.362	0	771	270	Yes	passenger
EOC7-T	2	212652853	C	G	ERBB4	Missense_Mutation	p.Q151H	Yes	0.217	0	609	266	No	passenger
EOC7-T	4	153249385	G	A	FBXW7	Missense_Mutation	p.R465C	Yes	0.192	0.007	757	279	Yes	likely_pathogenic
EOC7-T	6	106547379	G	A	PRDM1	Missense_Mutation	p.E206K	.	0.194	0	602	204	No	passenger
EOC9-T	10	63850704	G	GA	ARID5B	Frame_Shift_Ins	p.K494Kfs*31	Yes	0.391	0.003	1146	767	No	likely_pathogenic
EOC9-T	19	18266781	T	TGGTAGTGAGCC	PIK3R2	Frame_Shift_Ins	p.L31*	.	0.222	0	595	499	No	passenger
EOC9-T	3	69928509	C	T	MITF	Missense_Mutation	p.T110M	.	0.422	0	689	553	No	passenger
EOC9-T	8	128750945	C	T	MYC	Missense_Mutation	p.S161L	.	0.520	0	775	516	Yes	likely_pathogenic
EOC9-T	23	47028776	G	A	RBM10	Missense_Mutation	p.G27E	.	0.029	0.001	752	739	No	passenger
EOC9-T	12	57864390	C	T	GLI1	Nonsense_Mutation	p.R623*	.	0.431	0	752	735	No	passenger
EOC9-T	13	32914137	C	A	BRCA2	Nonsense_Mutation	p.S1882*	.	0.422	0.001	740	757	No	likely_pathogenic
EOC9-T	19	41754674	C	T	AXL	Nonsense_Mutation	p.Q554*	.	0.576	0	804	721	No	passenger

Supplementary Table 4. Genes with significantly different mutation frequencies between endometrioid ovarian cancers (n=36, this study) and molecular-subtype matched endometrioid endometrial cancers (n=72; The Cancer Genome Atlas).

Gene Symbol	Endometrioid ovarian cancer (n=36; this study)		Endometrioid endometrial cancer (n=72; TCGA)		p-value	Adjusted p-value (Benjamini-Hochberg)
	Cases altered (n)	Cases altered (%)	Cases altered (n)	Cases altered (%)		
PTEN	12	33.33	59	81.94	1.02E-06	0.000347041
PIK3R1	4	11.11	30	41.67	0.0010399	0.127700181
KRAS	15	41.67	9	12.50	0.00112346	0.127700181
CTCF	1	2.778	18	25.00	0.00307688	0.262303764
CREBBP	0	0	8	11.11	0.04993632	1

TCGA, The Cancer Genome Atlas. 341 cancer-related genes (MSK-IMPACT) were assessed.

Supplementary Table 5: Molecular subtype classification of endometrioid endometrial cancers from The Cancer Genome Atlas (TCGA).

TCGA ID	Histology	Molecular Subtype TCGA	MSI status TCGA	POLE EDM mutation (AA286-471)	TP53 mutation	Surrogate Molecular Subtype Classification
TCGA-D1-A16B	Endometrioid	CN low	MSS	no alteration	no alteration	CN low
TCGA-D1-A16D	Endometrioid	CN low	MSS	no alteration	no alteration	CN low
TCGA-D1-A16E	Endometrioid	CN low	MSS	no alteration	no alteration	CN low
TCGA-D1-A16J	Endometrioid	CN low	MSS	no alteration	no alteration	CN low
TCGA-D1-A16Q	Endometrioid	CN low	MSS	no alteration	no alteration	CN low
TCGA-D1-A17C	Endometrioid	CN low	MSS	no alteration	no alteration	CN low
TCGA-D1-A17L	Endometrioid	CN low	MSS	no alteration	no alteration	CN low
TCGA-D1-A17N	Endometrioid	CN low	MSS	no alteration	no alteration	CN low
TCGA-D1-A17S	Endometrioid	CN low	MSS	no alteration	no alteration	CN low
TCGA-D1-A17T	Endometrioid	CN low	MSS	no alteration	no alteration	CN low
TCGA-AX-A0J1	Endometrioid	MSI	MSI-H	yes (A465V)	no alteration	POLE
TCGA-B5-A11H	Endometrioid	MSI	MSI-H	yes (O453R)	no alteration	POLE
TCGA-AS-A0G9	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AS-A0G9A	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AS-A0G9B	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AS-A0G9C	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AS-A0G9D	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AS-A0G9W	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AS-A0V9	Endometrioid	MSI	MSI-H	no (A1140T)	yes (I232T)	MSI
TCGA-AS-A0V9O	Endometrioid	MSI	MSI-H	no (A1140T)	yes (I232T)	MSI
TCGA-AP-A054	Endometrioid	MSI	MSI-H	no (Y1889C)	yes (R158C)	MSI
TCGA-AP-A05N	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AP-A0LD	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AP-A0LE	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AP-A0LG	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AP-A0LP	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AP-A0LT	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AX-A0SS	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BC-A0U5	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BC-A0X3	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AX-A063	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AX-A064	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AX-A06H	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-B5-A0U9	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-B5-A0UZ	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-B5-A0K2	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-B5-A0K6	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-B5-A11G	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-B5-A11J	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-B5-A11U	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0LX	Endometrioid	MSI	MSI-H	no (E1698D)	S240G	MSI
TCGA-BG-A0M1	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0M1P	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0M4Q	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0W9	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0V7Z	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A1B8	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BK-A0C9	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0TA	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0TE	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0TJ	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0U7	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0U8	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0UA	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0U9	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0U9L	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-BG-A0U9U	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A0Z0	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A0ZS	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A101	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A160	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A163	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A167	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A16N	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A174	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A17E	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A17T	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A17V	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A17W	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A17P	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A17H	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A17M	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A17R	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-A17U	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-D1-AW0H	Endometrioid	MSI	MSI-H	no alteration	no alteration	MSI
TCGA-AS-A0G9	Endometrioid	POLE	MSS	yes (V411L)	no alteration	POLE
TCGA-AP-A051	Endometrioid	POLE	MSS-L	yes (L424I)	no alteration	POLE
TCGA-AP-A056	Endometrioid	POLE	MSS-L	yes (V411L, R182W, L1235)	no alteration	POLE
TCGA-AP-A059	Endometrioid	POLE	MSS-L	yes (L211W, S297F, L35M, A25T)	yes (273C, S240G, P64T)	POLE
TCGA-AP-A0LM	Endometrioid	POLE	MSS	yes (V411L, Q214R)	no alteration	POLE
TCGA-AP-A0LW	Endometrioid	POLE	MSS	yes (V411L, Q214R)	no alteration	POLE
TCGA-AX-A0J0	Endometrioid	POLE	MSS	yes (V411L, S193D, F190L)	no alteration	POLE
TCGA-BG-A0V9	Endometrioid	POLE	MSS	yes (P286R)	no alteration	POLE
TCGA-BG-A0V9Y	Endometrioid	POLE	MSS	yes (P286R, F195L)	no alteration	POLE
TCGA-BG-A11E	Endometrioid	POLE	MSS	yes (R187Q, V411L, R1364C)	yes (R342Z)	POLE
TCGA-BG-A11N	Endometrioid	POLE	MSS	yes (P286R)	yes (T256Nfs*8, R209I)	POLE
TCGA-BG-A0TC	Endometrioid	POLE	MSS	yes (M444K)	no alteration	POLE
TCGA-BG-A0UF	Endometrioid	POLE	MSS	yes (P286R, C2109R)	yes (R213*)	POLE
TCGA-BG-A0U9	Endometrioid	POLE	MSS	yes (P286R, D1129G)	yes (R213*, R158C)	POLE
TCGA-D1-A103	Endometrioid	POLE	MSS-H	yes (A196T, S164L, T104M, A456P, H144Q)	no alteration	POLE
TCGA-D1-A16Y	Endometrioid	POLE	MSS-L	yes (V411L)	yes (R213Q, S241P)	POLE

Molecular subtypes: CN high, copy-number high (serous-like); CN low, copy-number low (endometrioid); MSI, MSI (hypermutated); POLE, POLE (ultramutated).

MSL-H, microsatellite instability high; MSL-L, microsatellite instability low; MSS, microsatellite stable.