

Supplemental Figures

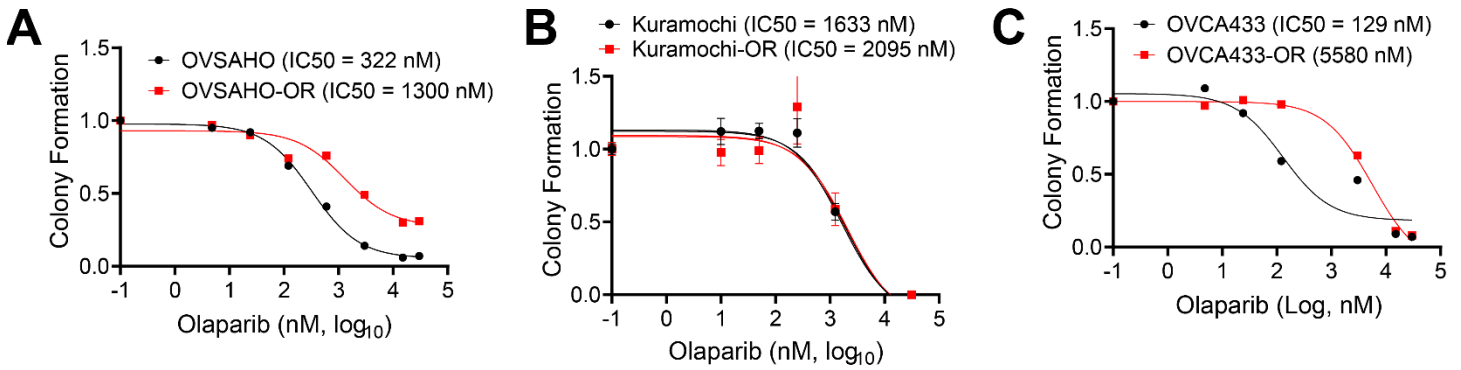
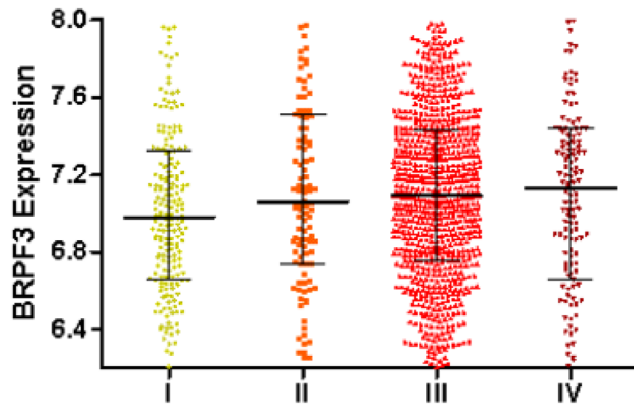


Fig. S1. HGSOC cell lines selected in olaparib exhibit increased olaparib IC₅₀ relative to isogenic parental lines. (A-C) The indicated HGSOC cell lines (OVSAHO, Kuramochi, and OVCA433) were subjected to stepwise dose escalation of olaparib to select for resistant cells. Elevated olaparib IC₅₀ was confirmed in olaparib-resistant (-OR) lines by dose response colony formation assays. The proportion of colonies at each dose are shown relative to vehicle control. Olaparib IC₅₀ values were calculated in GraphPad Prism.

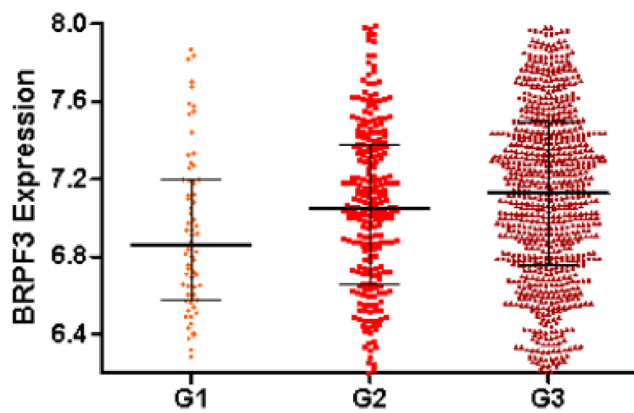
Stage



Mann Whitney Test	I	II	III	IV	Rest
I		1.13e-01	9.70e-03	1.24e-01	1.65e-02
II			9.50e-01	7.95e-01	6.39e-01
III				8.57e-01	1.40e-01
IV					8.10e-01

Description\Stage	I	II	III	IV
Mean	7.016	7.123	7.100	7.078
Quantile 1	6.656	6.742	6.757	6.667
Median	6.981	7.062	7.090	7.128
Quantile 4	7.324	7.513	7.436	7.440

Grade



Mann Whitney Test	Grade 1	Grade 2	Grade 3	Rest
Grade 1		5.07e-02	7.20e-04	3.76e-03
Grade 2			1.13e-02	1.45e-01
Grade 3				5.62e-04

Description\Grade	Grade 1	Grade 2	Grade 3
Mean	6.942	7.021	7.134
Quantile 1	6.576	6.662	6.754
Median	6.861	7.048	7.130
Quantile 4	7.196	7.375	7.493

Fig. S2. BRPF3 expression is positively correlated with higher HGSOC stage and grade. A meta-analysis of HGSOC microarray data was performed using CSIOVDB.

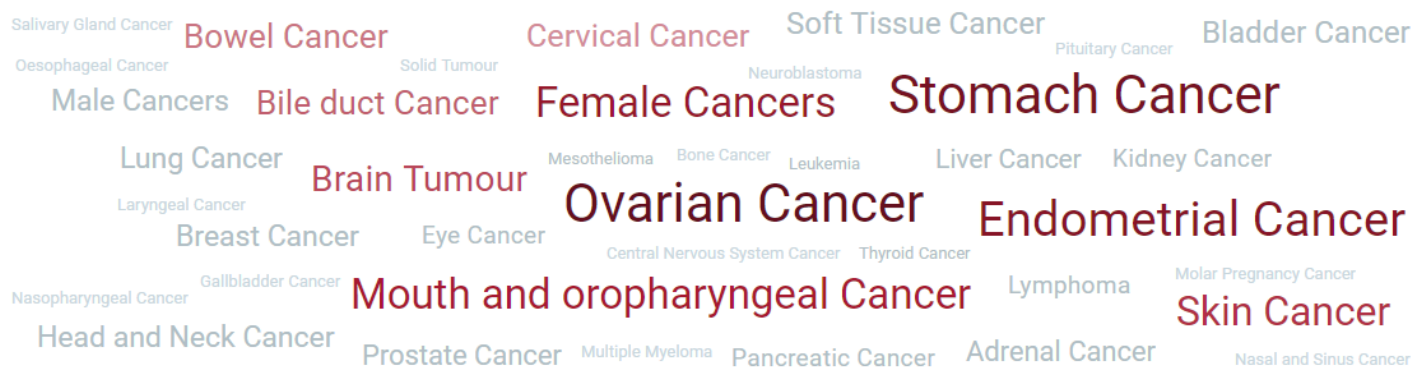


Fig. S3. BRPF3 is significantly associate with ovarian cancer in combined molecular score. Word cloud generated by canSAR Black by meta-analysis of cancer datasets. Combined molecular score includes mutation score, gene expression, and copy number variation.

Supplemental Tables

Gene (Protein)	TPM (834 Ctrl)	TPM (846 Ctrl)	TPM (827 Olap)	TPM (878 Olap)	logFC	P-value	FDR
<i>KAT2A</i> (GCN5)	6.35	5.98	15.09	13.61	1.093	5.11E-05	0.003
<i>KAT2B</i> (PCAF)	4.92	3.93	3.63	4.62	-0.149	0.593	1.000
<i>KAT3A</i> (CBP)	8.66	10.12	13.46	13.13	0.532	0.041	0.363
<i>KAT3B</i> (P300)	10.85	15.09	12.62	14.84	0.236	0.369	1.000
<i>KAT7</i> (HBO1)	7.42	6.56	6.88	9.45	0.185	0.497	1.000
<i>BRPF3</i> (BRPF3)	5	6.15	8.21	8.96	0.642	0.019	0.234

Table S1. RNA-Seq analysis of PDX-GTFB1009 olaparib-treated and -untreated ascites. For each of the indicated genes, the transcripts per million (TPM) are shown for the four indicated mice, as well as log fold change (logFC), P-value, and false discovery rate (FDR).

Table S2. shRNA

shRNA	The RNAi Consortium Number	Target Sequence
shCTRL	N/A (Sigma-Aldrich #SHC016)	N/A
shKAT2A#1	TRCN0000038879	GCTGAACTTTGTGCAGTACAA
shKAT2A#2	TRCN0000286981	GCTGAACTTTGTGCAGTACAA
shKAT2B#1	TRCN0000018528	GCAGACTTACAGCGAGTCTTT
shKAT2B#2	TRCN0000364134	CCTAAACCGCATCAACTATTG
shKAT3A#1	TRCN0000356081	ATCGCCACGTCCCTTAGTAAC
shKAT3A#2	TRCN0000356082	CGTTTACCATGAGATCCTTAT
shKAT3B#1	TRCN0000231133	TAACCAATGGTGGTGTATTA
shKAT3B#2	TRCN0000009883	CAATTCCGAGACATCTTGAGA
shKAT7#1	TRCN0000021630	CGGGATAAGCAGATAGAAGAA
shKAT7#2	TRCN0000021632	CTCGTTCATCTGGTTCAGAAA
shBRPF3#1	TRCN0000382105	AGGAGGACTTTAACCTTATAG
shBRPF3#2	TRCN0000277697	TCACACTCTCTCCCGCTTATC

Table S3. RT-qPCR Primers

Name	Sequence	Usage
GAPDH_F	GTCTCCTCTGACTTCAACAGCG	Control ($\Delta\Delta$ Ct)
GAPDH_R	ACCACCCTGTTGCTGTAGCCAA	Control ($\Delta\Delta$ Ct)
KAT2A_GCN5_F	GCAGGTCAAGGGTTATGGGAC	Gene expression
KAT2A_GCN5_R	GCTCTTGGGCACCTTGATGT	Gene expression
KAT2B_PCAF_F	GGTGAAGAGCCATCAAAGCG	Gene expression
KAT2B_PCAF_R	GACTCGCTGTAAGTCTGCCA	Gene expression
KAT3A_CBP_F	GGCCTTCAGGTTTTGTGTGC	Gene expression
KAT3A_CBP_R	TTCCCAGTCTTGTGGTCTGC	Gene expression
KAT3B_P300_F	TGCCAAACCAGATGATGCCT	Gene expression
KAT3B_P300_R	ATAGCCCATAGGCGGGTTGA	Gene expression
KAT7_HBO1_F	CACCAACGGAGAGACAGCTT	Gene expression
KAT7_HBO1_R	GCAGCCTTAACTTCTCCAAATCC	Gene expression
BRPF3_F	CCCATCTGCAGTCCCAAAGA	Gene expression
BRPF3_R	GGACTTTGACCTGCTCTCGTT	Gene expression