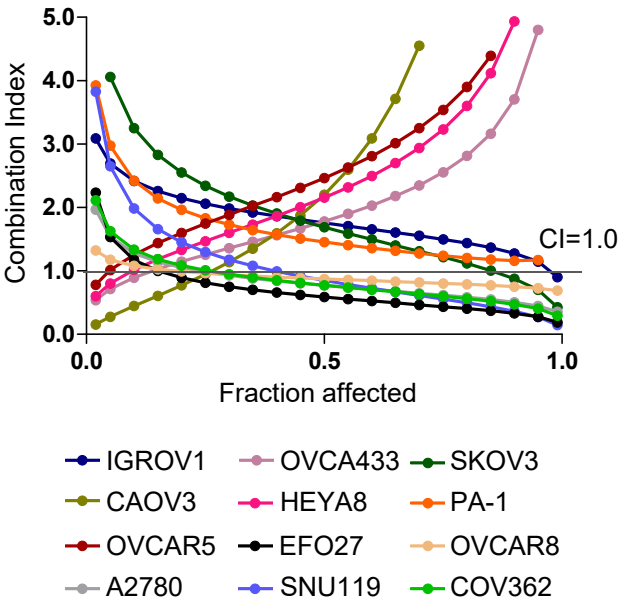
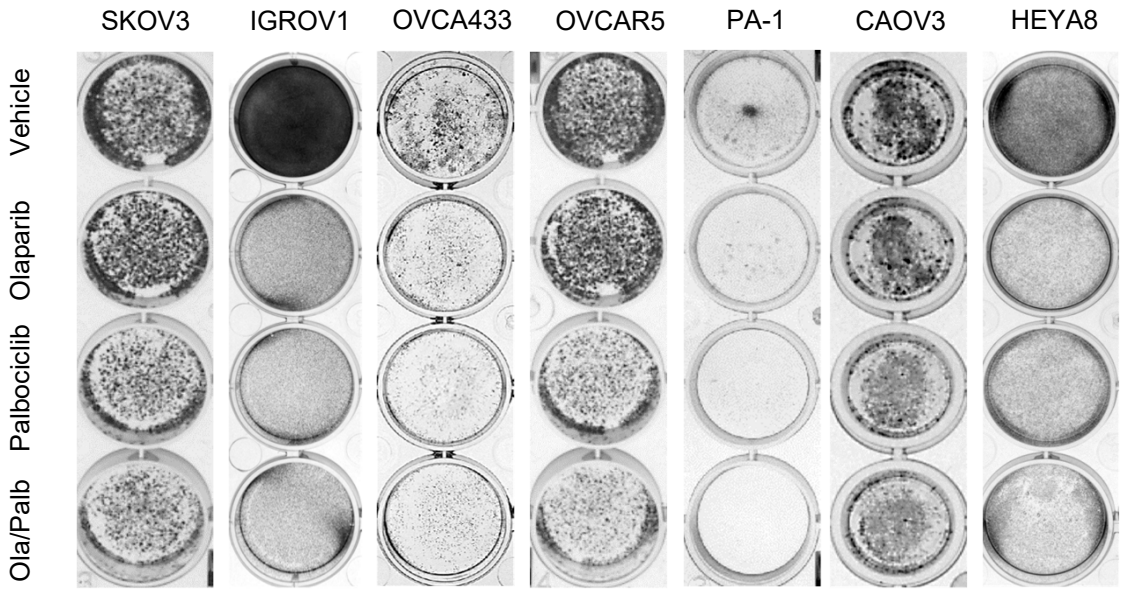
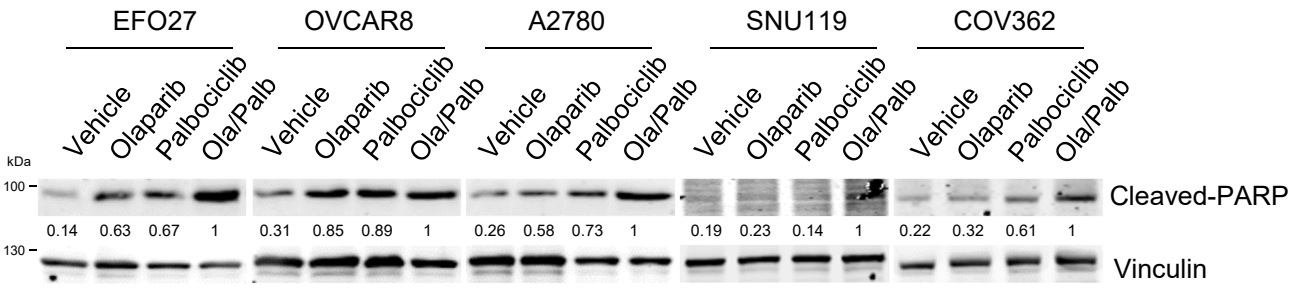


Supplementary Fig. 1. Measurement of the synergistic effect of Olaparib and Palbociclib in a panel of ovarian cancer cell lines. Cell viability assays were conducted as shown in Figure 1.

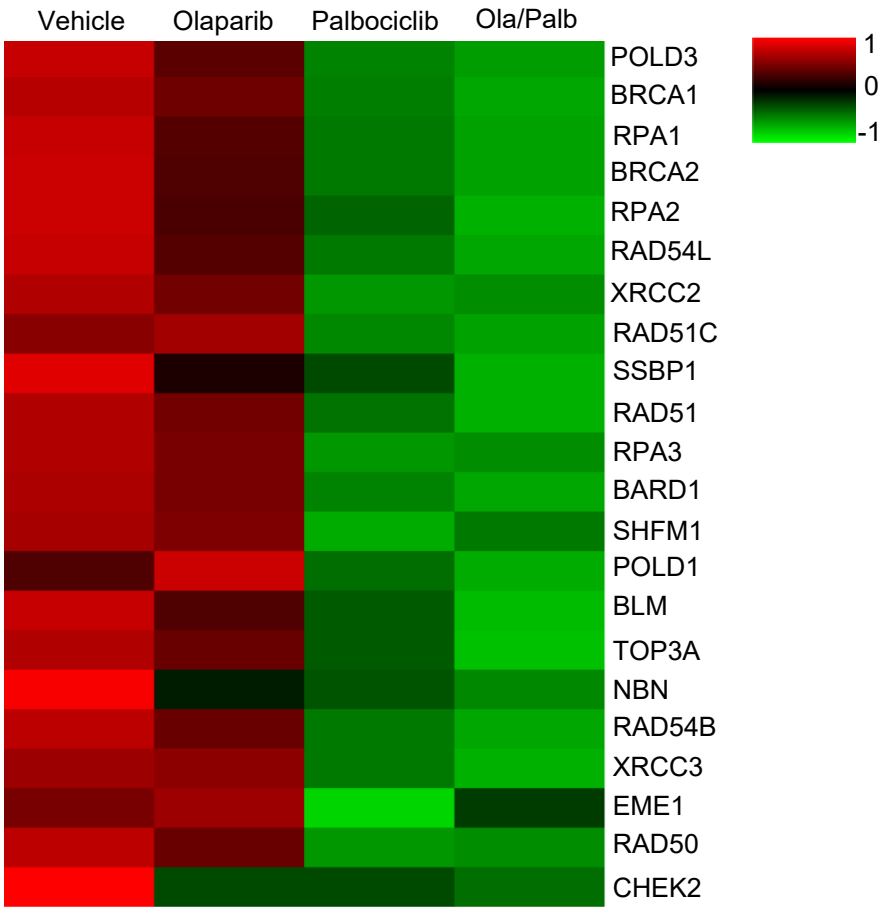


Supplementary Fig. 2. Clonogenic survival assay. Seven ovarian cancer cell lines were treated with drugs for 7–10 days. Fresh medium with drugs was replaced every 3 days. At the end point, plates were fixed and stained with crystal violet stain. All experiments were performed in triplicate. Representative images of plates are shown. Error bars represent standard deviations (S.D.) from the mean. Olaparib, 2μM; Palbociclib, 1μM.



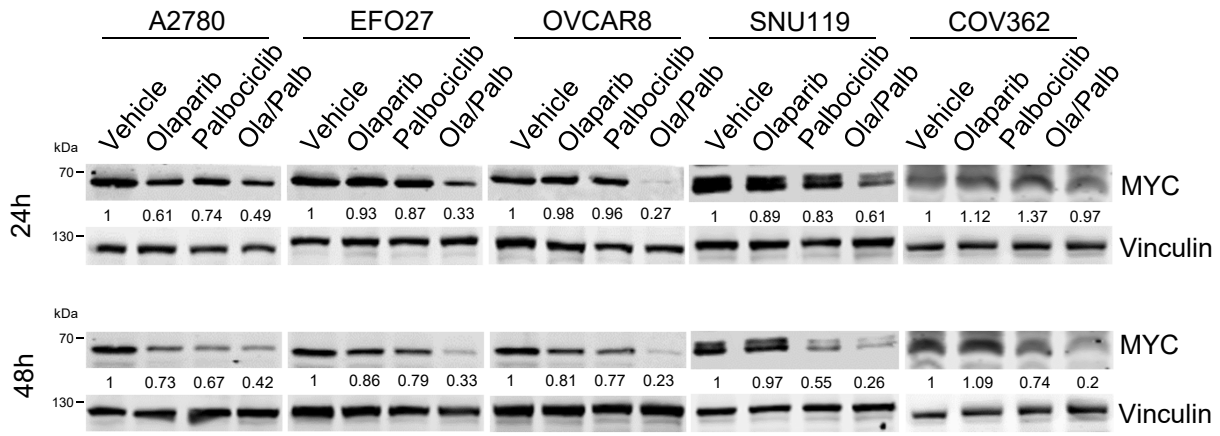
Supplementary Fig. 3. Western blot analysis of Cleaved-PARP in ovarian cancer cell lines with drug treatments as indicated for 48 hours. Vinculin was used as a loading control. Cleaved-PARP protein abundance was quantified and normalized to Vinculin. EFO27, OVCAR8 and A2780: Olaparib, 2μM; Palbociclib, 1μM. SNU119 and COV362: Olaparib, 8μM; Palbociclib, 4μM.

Supplementary Figure 4

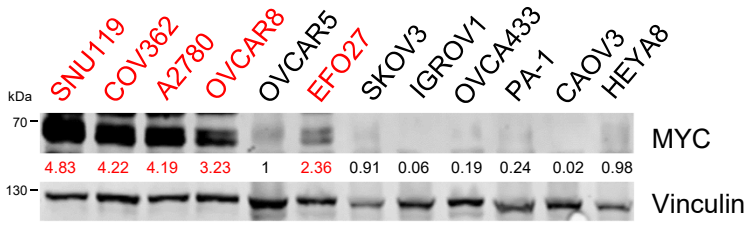


Supplementary Fig. 4. Heat map expression plot of 22 downregulated HR repair pathway genes in A2780 cells treated with drugs as indicated for 24 hours. The gene expression was calculated according to the FPKM value.

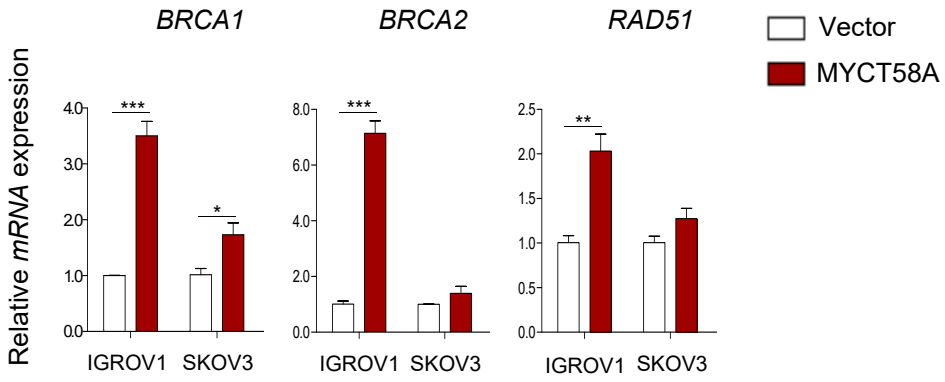
Supplementary Figure 5



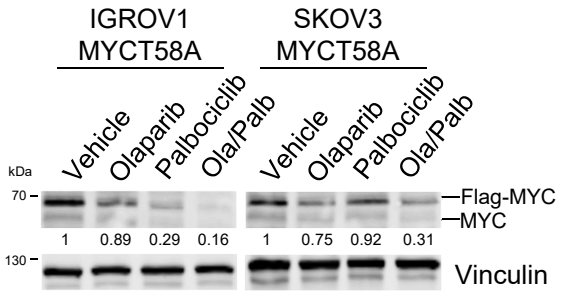
Supplementary Fig. 5. Western blot analysis of MYC protein in ovarian cancer cell lines with drug treatment as indicated for 24 hours (upper panels) and 48 hours (lower panels). MYC protein abundance was quantified and normalized to Vinculin. A2780, EFO27 and OVCAR8: Olaparib, 2μM; Palbociclib, 1μM. SNU119 and COV362: Olaparib, 8μM; Palbociclib, 4μM.



Supplementary Fig. 6. Western blot analysis of MYC protein abundance in ovarian cancer cell lines as indicated. Vinculin was used as a loading control. MYC protein abundance was quantified and normalized to Vinculin.

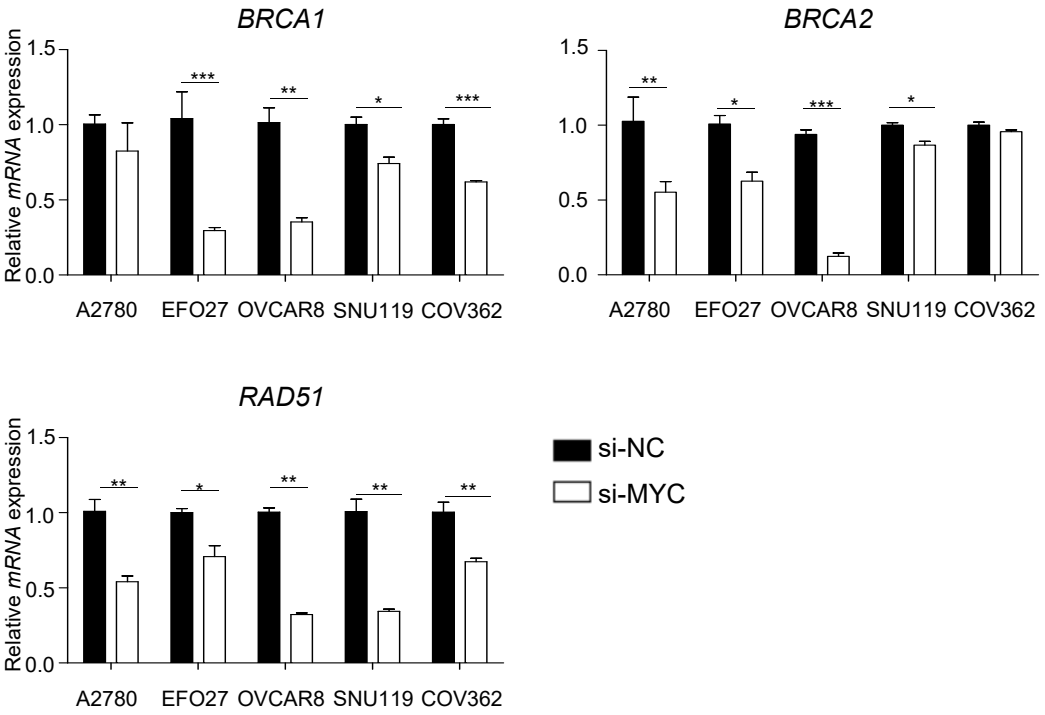


Supplementary Fig. 7. Quantitative reverse transcription PCR analysis of *BRCA1*, *BRCA2* and *RAD51* mRNA expression in combination treatment non-responsive cell lines(IGROV1 and SKOV3 stably overexpressing vector or MYCT58A) treated as indicated. Mean ± S.D. for three independent experiments are shown. *$P < 0.05$; **$P < 0.01$; ***$P < 0.001$ (Student's *t* test).



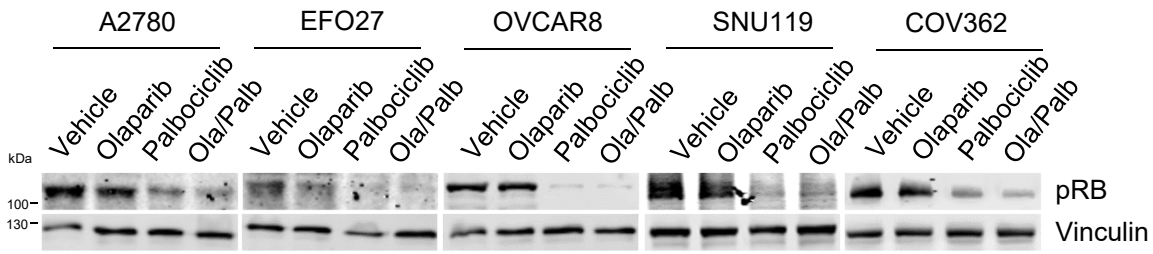
Supplementary Fig. 8. Western blot analysis of MYC protein in ovarian cancer cell lines with drug treatment as indicated for 48 hours. MYC protein abundance was quantified and normalized to Vinculin. Olaparib, 2μM; Palbociclib, 1μM.

Supplementary Figure 9

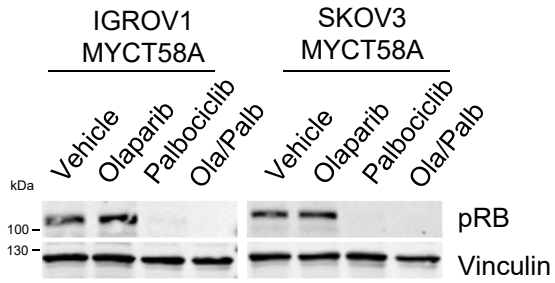


Supplementary Fig. 9. Quantitative reverse transcription PCR analysis of *BRCA1*, *BRCA2* and *RAD51* mRNA expression in combination treatment responsive cell lines(A2780, EFO27, OVCAR8, SNU119 and COV362 with siNC or siMYC overexpression) treated as indicated. Mean ± S.D. for three independent experiments are shown. *$P < 0.05$; **$P < 0.01$; ***$P < 0.001$ (Student's *t* test).

a



b



Supplementary Fig. 10. Western blot analysis of phosphorylated RB protein in A2780, EFO27, OVCAR8, SNU119 and COV362 cells (a)**,** and IGROV1 and SKOV3 cells stably overexpressing MYCT58A (b) with drug treatment as indicated for 24 hours. Vinculin was used as a loading control. A2780, EFO27, OVCAR8, IGROV1 and SKOV3: Olaparib, 2μM; Palbociclib, 1μM. SNU119 and COV362: Olaparib, 8μM; Palbociclib, 4μM.