# Cancer reversion with oocyte extracts is mediated by cell cycle arrest and induction of tumour dormancy

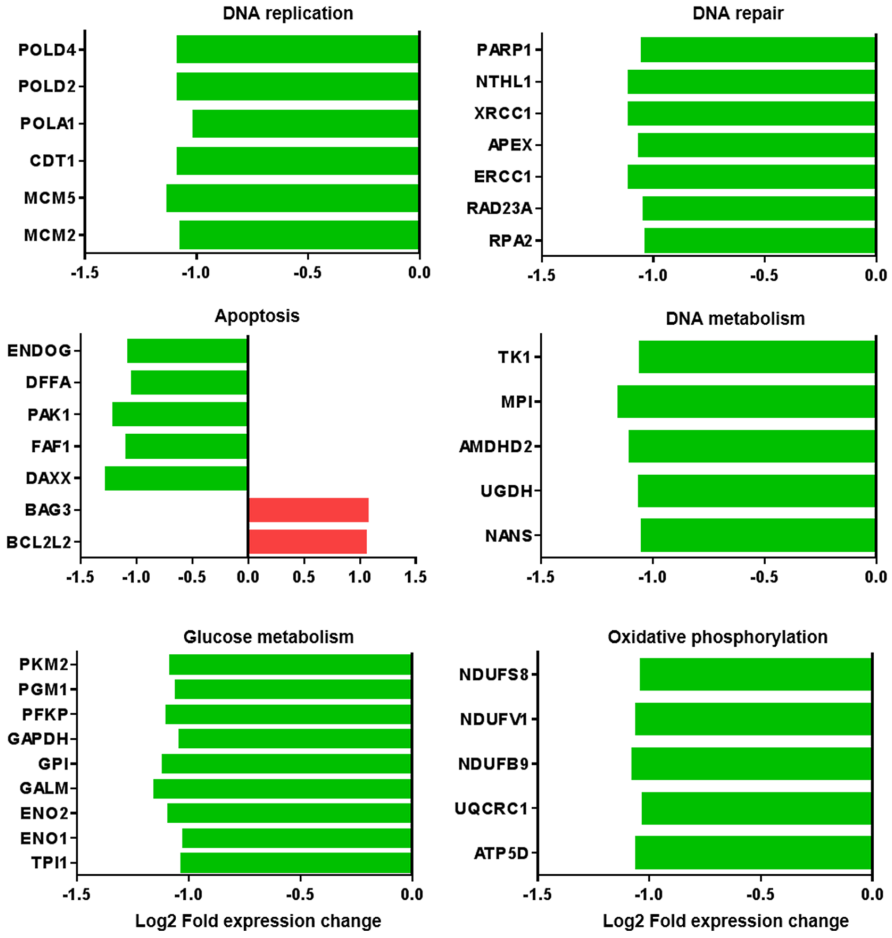
## SUPPLEMENTARY MATERIALS

**A**

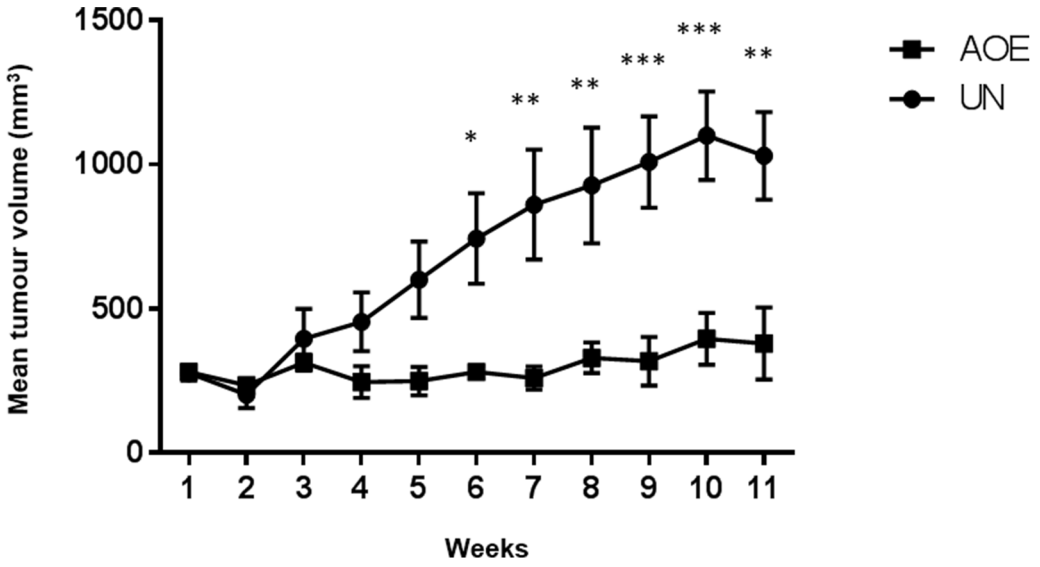
| TOP NETWORKS (Associated network functions) | Score |
|---|---|
| Developmental Disorder, Hereditary disorder, Metabolic disease | 44 |
| Post-translational modification, Protein folding, Cellular assembly and organisation | 44 |
| Hereditary disorder, Metabolic disease, Lipid metabolism | 44 |
| DNA replication, recombination and repair, Hereditary disorder, Neurological disorder | 41 |
| Cell death and survival, cellular growth and proliferation, Cell-to-cell signalling and interaction | 41 |

| TOP BIO FUNCTIONS (Molecular and Cellular functions) | P value | Molecules |
|---|---|---|
| Protein synthesis | 1.17E-02-7.11E-11 | 197 |
| RNA post-transcriptional modification | 9.30E-03-2.05E-10 | 67 |
| Gene expression | 1.49E-02-5.53E-10 | 315 |
| Cellular growth and proliferation | 1.49E-02-7.39E-09 | 463 |
| Cell death and survival | 1.49E-02-7.50E-09 | 463 |

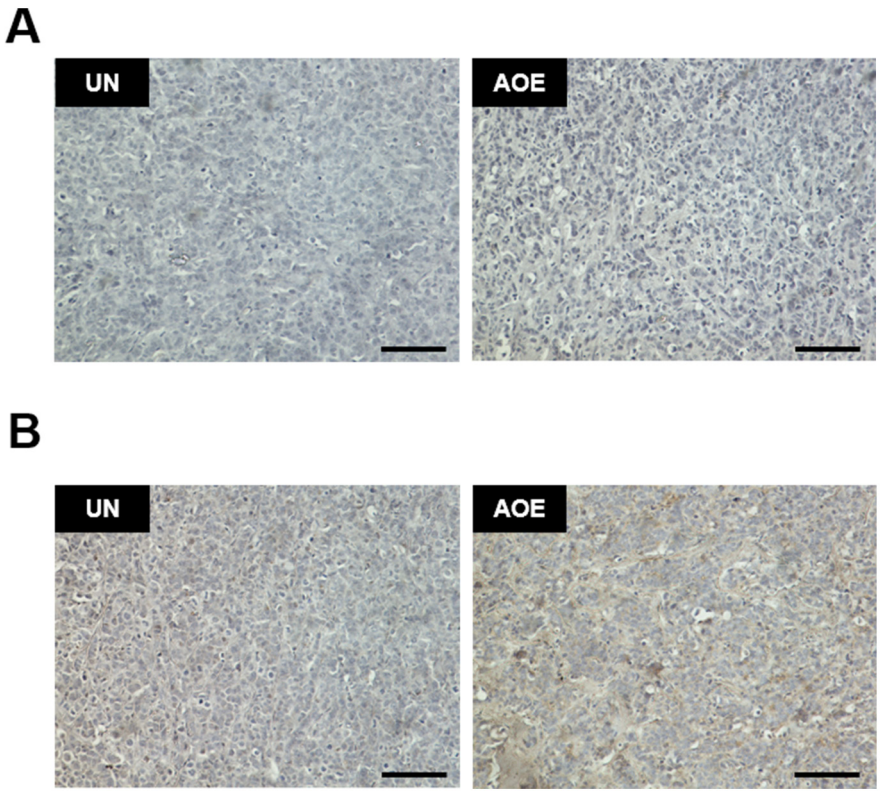
**B**




**Supplementary Figure 1: Gene expression profile of AOE-treated tumour xenografts. (A)** Top five Networks and Bio Functions identified by IPA. **(B)** Fold change in expression of genes involved in DNA replication, DNA metabolism, glucose metabolism and oxidative phosphorylation as determined by microarray analysis.




**Supplementary Figure 2: Growth of AOE-treated tumour xenografts.** Growth curve of tumour xenografts. MCF-7 cells (untreated and AOE-treated, $1.5\times10^6$) were injected sub-cutaneously with Matrigel into the left flank of female MF1 nude mice receiving 17-beta-estradiol pellets (n=6). Tumour dimensions were monitored twice weekly by calliper measurements. For BrdU incorporation experiments, BrdU (10 mg/ml) was injected at a dose of 150mg/kg via intraperitoneal injection 60 minutes before sacrifice. At termination (11 weeks), tumours were excised and analysed. Data were analysed by Two-way Anova followed by Bonferroni's multiple comparisons test. $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$.




**Supplementary Figure 3: Levels of phospho-RB (Ser795) and p38MAPK in AOE-reprogrammed tumours. (A)** Phospho-RB (Ser795) staining of UN and AOE-treated tumour xenografts. Scale bar = 100μm. **(B)** p38MAPK staining of UN and AOE-treated tumour xenografts. Scale bar = 100μm.

**Supplementary Table 1: Most significant canonical pathways.**

**See Supplementary File 1**

**Supplementary Table 2: PCR assays and antibodies used in this study.**

**See Supplementary File 2**