

**Title:** Supplementary Data 1:

**Description:** Genetic alterations of DNA damage response (DDR) genes in prostate cancer cell lines (Exome sequencing data)

**Title:** Supplementary Data 2:

**Description:** Genes identified from negative selection (CRISPR screen data)

**Title:** Supplementary Data 3:

**Description:** Common negatively selected genes (CRISPR screen data)

**Title:** Supplementary Data 4:

**Description:** Genes identified from positive selection (CRISPR screen data)

**Title:** Supplementary Data 5:

**Description:** Common positively selected genes (CRISPR screen data)

**Title:** Supplementary Data 6:

**Description:** Olaparib upregulated genes (RNA-seq data)

**Title:** Supplementary Data 7:

**Description:** Materials (antibodies, small molecule inhibitors, kits, cell lines, siRNA sequences, sgRNA sequences, primers, vectors)