

## Supplemental Material (SM)

### Supplemental Tables

**Supplemental Table S1: Patients' characteristics**

|        | Age | Tumor Type | Stage            | Sites          |
|--------|-----|------------|------------------|----------------|
| Pt #1  | 67  | HGSOC      | yPT1, yN0        | ovary          |
| Pt #2  | 68  | HGSOC      | yPT3c, yN0       | ovary          |
| Pt #3  | 74  | HGSOC      | yPT3c, yN0       | ovary          |
| Pt #4  | 78  | HGSOC      | yPT3c, yN0       | ovary          |
| Pt #5  | 78  | HGSOC      | yPT3             | ovary          |
| Pt #6  | 80  | HGSOC      | yPT3c            | omentum        |
| Pt #7  | 61  | HGSOC      | yPT3             | ovary          |
| Pt #8  | 78  | HGSOC      | yPT3a            | ovary          |
| Pt #9  | 57  | HGSOC      | yPT3c, yN0, ypM1 | ovary          |
| Pt #10 | 59  | HGSOC      | yPT3c            | omentum        |
| Pt #11 | 78  | HGSOC      | ypT3, ypN0       | fallopian tube |
| Pt #12 | 78  | HGSOC      | yPT3c            | omentum        |
| Pt #13 | 50  | HGSOC      | yPT3c, yN1       | omentum        |
| Pt #14 | 81  | HGSOC      | yPT3c            | ovary          |
| Pt #15 | 70  | HGSOC      | yPT3c            | ovary          |
| Pt #16 | 66  | HGSOC      | yPT3a            | omentum        |
| Pt #17 | 74  | HGSOC      | yPT1             | ovary          |
| Pt #18 | 60  | HGSOC      | yPT3b            | omentum        |
| Pt #19 | 76  | HGSOC      | yPT3c            | ovary          |
| Pt #20 | 74  | HGSOC      | yPT3c            | ovary          |
| Pt #21 | 72  | HGSOC      | ypT3c, ypN0, yM0 | omentum        |
| Pt #22 | 78  | HGSOC      | ypT3c            | ovary          |
| Pt #23 | 50  | HGSOC      | pT3c             | omentum        |

**Supplemental Table S2. Primer sequences for selected genes**

| Gene Name      | Primer Sequence            |                            |
|----------------|----------------------------|----------------------------|
|                | Forward (5' to 3')         | Reverse (5' to 3')         |
| 18S            | CGT CTG CCC TAT CAACTTTC   | GATGTGGTAGCC GTTTCTC       |
| <i>ALDH1A1</i> | AGGGGCAGCCATTCTTCTCA       | CACGGGCCTCCTCCACATT        |
| <i>ALDH1A2</i> | AACAACGAGTGGCAGAACTCAGAGAG | ATCGAAAGGTTTTGATGACGCCCTGC |
| <i>FZD7</i>    | GCCATCCCGCCGTGTCGTTCTCT    | GCACACCATTGCACGTGAATGT     |
| <i>GCLC</i>    | CCCAAACCATCCTACCCTTT       | GTGAACCCAGGACAGCCTAA       |
| <i>GPX2</i>    | CGATCCAAGCTCATCATTT        | TAAGGCTCCTCAGGACTGGA       |
| <i>GPX4</i>    | TCAGCAAGATCTGCGTGAAC       | GGGGCAGGTCTTCTCTATC        |
| <i>GSR</i>     | CCAACGTCAAAGGCATCTATGCAG   | ATCTTCCGTGAGTCCCCTGTC      |
| <i>GSS</i>     | GACCAGCGTGCCATAGAGAATGA    | CATGTGACCTCTCCAGCAGTAGAC   |
| <i>IDH2</i>    | GATGGGAAGACGATTGAGGCTGA    | TCAGGAAGTGCTCGTTCAGCTT     |
| <i>Nanog</i>   | AGATGCCTCACACGGAGACT       | TTTGCGACACTCTTCTCTGC       |
| <i>Oct4</i>    | CTTCGCAAGCCTCATTTT         | GAGAAGGCGAAATCCGAAG        |
| <i>P63</i>     | AGAACGGTGATGGTACGAAGCG     | GTACTGCATGAGTCCAGGGACTC    |
| <i>SLC7A11</i> | GTTGCGTCTCGAGAGGGTCA       | GTCGAGGTCTCCAGAGAAGAGC     |
| <i>Sox2</i>    | TGCTGCCTCTTTAAGACTAGGAC    | CCTGGGGCTCAAACCTTCTCT      |

**Supplemental Table S3. Generation of platinum tolerant ovarian cancer cells *in vitro*. IC<sub>50</sub> of SKOV3, OVCAR3, OVCAR5 and COV362 parental and cisplatin/carboplatin tolerant cells are shown.**

| <b>Cell line</b> | <b>IC<sub>50</sub><br/>Range</b>          | <b>Cell Line</b>     | <b>IC<sub>50</sub></b>                      |
|------------------|-------------------------------------------|----------------------|---------------------------------------------|
| SKOV3            | CDDP: 6.5 µM<br>(5.22 - 8.18 µM)          | SKOV3 CDDP_R         | CDDP: 11.08 µM<br>(9.73-12.62 µM)           |
|                  | Carbo: 4.16 µg/ml<br>(3.10-5.59 µg/ml)    | SKOV3 Carboplatin_R  | Carbo: 15.01 µg/ml<br>(10.36-21.74 µg/ml)   |
| OVCAR3           | CDDP 0.083 µM<br>(0.00044 to 0.15 µM)     | OVCAR3 CDDP_R        | CDDP: 0.35 µM<br>(0.23 to 0.52 µM)          |
|                  | Carbo: 2.86 µg/ml<br>(1.58 to 5.17 µg/ml) | OVCAR3_Carboplatin_R | Carbo: 15.2 µg/ml<br>(12.64 to 18.29 µg/ml) |
| OVCAR5           | CDDP:2.59 µM<br>(2.31-2.82 µM)            | OVCAR5 CDDP_R        | CDDP: 8.38 µM<br>(7.47-9.42 µM)             |
| COV362           | CDDP: 3.32 µM<br>(3.05-3.63 µM)           | COV362_CDDP_R        | CDDP: 8.45 µM<br>(6.58-10.84 µM)            |

**Supplemental Table S4. Differentially expressed genes in cisplatin and carboplatin-tolerant SKOV3 cells compared to parental cells (fold change cutoff is 2, n = 1)**

| Function                           | Refseq           | Symbol             | CDDP vs. control | Carbo vs. control |
|------------------------------------|------------------|--------------------|------------------|-------------------|
| Membrane protein                   | NM_000118        | <i>ENG</i>         | 28.79            | 15.55             |
|                                    | NM_005618        | <i>DLL1</i>        | 20.98            | 17.50             |
|                                    | NM_001954        | <i>DDR1</i>        | 13.50            | 12.53             |
|                                    | NM_004448        | <i>ERBB2</i>       | 10.24            | 8.90              |
|                                    | NM_001018016     | <i>MUC1</i>        | 9.84             | 6.90              |
|                                    | <b>NM_003507</b> | <b><i>FZD7</i></b> | <b>9.79</b>      | <b>13.04</b>      |
|                                    | NM_021950        | <i>MS4A1</i>       | 8.14             | 17.50             |
|                                    | NM_001775        | <i>CD38</i>        | 8.09             | 17.50             |
|                                    | NM_001719        | <i>BMP7</i>        | 7.49             | 17.50             |
|                                    | NM_019074        | <i>DLL4</i>        | 7.49             | 17.50             |
|                                    | NM_000264        | <i>PTCH1</i>       | 7.49             | 17.50             |
|                                    | NM_001773        | <i>CD34</i>        | 6.92             | 16.17             |
|                                    | NM_000885        | <i>ITGA4</i>       | 4.94             | 3.76              |
|                                    | NM_006017        | <i>PROM1</i>       | 4.50             | 10.50             |
|                                    | NM_017617        | <i>NOTCH1</i>      | 4.33             | 4.12              |
|                                    | NM_005631        | <i>SMO</i>         | 4.31             | 10.24             |
|                                    | NM_002659        | <i>PLAUR</i>       | 4.17             | 3.78              |
|                                    | NM_002203        | <i>ITGA2</i>       | 3.95             | 2.24              |
|                                    | NM_001627        | <i>ALCAM</i>       | 2.91             | 2.30              |
|                                    | NM_000610        | <i>CD44</i>        | 2.81             | 2.87              |
|                                    | NM_000214        | <i>JAG1</i>        | 2.22             | 3.48              |
|                                    | NM_006288        | <i>THY1</i>        | 2.15             | 6.20              |
| NM_004612                          | <i>TGFBR1</i>    | 2.02               | 2.47             |                   |
| Transcriptional factors/activators | NM_024674        | <i>LIN28A</i>      | 19.90            | 17.50             |
|                                    | NM_003106        | <i>SOX2</i>        | 10.51            | 8.20              |
|                                    | NM_000116        | <i>TAZ</i>         | 7.77             | 8.49              |
|                                    | NM_002051        | <i>GATA3</i>       | 7.49             | 17.50             |
|                                    | NM_000474        | <i>TWIST1</i>      | 6.79             | 5.31              |
|                                    | NM_057179        | <i>TWIST2</i>      | 5.13             | 8.65              |
|                                    | NM_005985        | <i>SNAIL</i>       | 5.09             | 21.17             |
|                                    | NM_004475        | <i>FLOT2</i>       | 4.88             | 4.41              |
|                                    | NM_014757        | <i>MAML1</i>       | 4.85             | 8.53              |
|                                    | NM_032682        | <i>FOXP1</i>       | 3.10             | 6.78              |
|                                    | NM_004392        | <i>DACH1</i>       | 3.04             | 7.68              |
|                                    | NM_005378        | <i>MYCN</i>        | 2.98             | 6.95              |
|                                    | NM_014795        | <i>ZEB2</i>        | 2.79             | 4.12              |
|                                    | NM_001556        | <i>IKBKB</i>       | 2.74             | 2.70              |
|                                    | NM_030751        | <i>ZEB1</i>        | 2.17             | 2.22              |

|        |           |              |      |       |
|--------|-----------|--------------|------|-------|
| Others | NM_178559 | <i>ABCB5</i> | 7.80 | 17.50 |
|        | NM_000930 | <i>PLAT</i>  | 5.86 | 6.08  |
|        | NM_001101 | <i>ACTB</i>  | 5.13 | 3.80  |
|        | NM_004827 | <i>ABCG2</i> | 2.69 | 2.79  |

