**Inhibition of ceramide kinase is effectively against cisplatin-resistant ovarian cancer cells by regulating ceramide and C1P levels**

**Supplemental Table 1: Clinicopathological features of ovarian cancer patients**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Patient Number** | Age | Cytoreduction | Histology | TNM stage |
| #1 | 31 | Primary | Serous | III |
| #2 | 69 | Primary | Serous | II |
| #3 | 28 | Primary | Serous | III |
| #4 | 76 | Primary | Serous | III |
| #5 | 52 | Primary | Mucinous | III |
| #6 | 45 | Primary  | Serous | I |
| #7 | 49 | Primary | Mucinous | III |
| #8 | 47 | Primary | Serous | III |
| #9 | 49 | Primary | Serous | III |
| #10 | 59 | Primary | Serous | II |
| #11 | 62 | Primary | Mucinous | IV |
| #12 | 21 | Primary | Serous | III |
| #13 | 64 | Primary | Serous | III |
| #14 | 76 | Primary | Endometrioid | III |
| #15 | 52 | Primary | Clear cell | IV |
| #16 | 71 | Primary | Serous | III |
| #17 | 52 | Primary | Serous | IV |
| #18 | 53 | Primary | Serous | III |
| #19 | 56 | Primary | Clear cell | II |
| #20 | 61 | Primary | Serous | III |
| #21 | 63 | Primary | Serous | III |
| #22 | 59 | Primary | Endometrioid | IV |
| #23 | 69 | Primary | Serous | II |
| #24 | 53 | Primary | Mucinous | III |
| #25 | 59 | Primary | Serous | III |
| #26 | 66 | Primary | Serous | IV |
| #27 | 31 | Primary | Clear cell | III |
| #28 | 49 | Primary | Serous | III |
| #29 | 61 | Primary | Serous | III |
| #30 | 63 | Primary | Endometrioid | III |
| #31 | 48 | Primary | Serous | I |
| #32 | 54 | Primary | Mucinous | III |
| #33 | 39 | Primary | Endometrioid | II |
| #34 | 34 | Primary | Serous | II |
| #35 | 42 | Primary | Serous | II |



**Fig. S1: CERK regulates ovarian cancer cell proliferation and apoptosis.** CERK overexpression significantly increased ovarian cancer cell proliferation (A) but not migration (B). CERK depletion significantly decreased proliferation (C) and increased apoptosis (D) in SW626 and A2780 cells. \*p<0.05, compared with vector or NC.



**Fig. S2: CERK regulates ovarian cancer cell response to chemotherapy drug.** CERK overexpression significantly alleviates the anti-proliferative (A) and pro-apoptotic (B) effects of cisplatin in ovarian cancer cells. CERK depletion significantly augments the anti-proliferative (C) and pro-apoptotic (D) effects of cisplatin in SW626 and A2780 cells. Cisplatin at 100 nM were used. \*p<0.05, compared with cisplatin alone.



**Fig. S3: CERK inhibitor NVP-231 effectively suppresses growth, increases apoptosis, and augments cisplatin’s efficacy in ovarian cancer cells.** The combination of NVP-231 and cisplatin are more effective than cisplatin alone in inhibiting proliferation (A) and inducing apoptosis (B) in ovarian cancer cells. Cisplatin at 20 nM and NVP-231 at 12.5 µM were used. \*p<0.05, compared with cisplatin.