**Supplementary Data**

**Table S1. Patient information for all specimens.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Patient(ID)** | **Age** | **FIGO stage** | **Lymph node metastasis** | **CA125(U/ml)** | **Diagnosis** |
| 1 | 73 | IIB | negative | 227.9 | Ovarian Cancer |
| 2 | 46 | IIIA1 | positive | 137.5 | Ovarian Cancer |
| 3 | 49 | IC2 | negative | 212.5 | Ovarian Cancer |
| 4 | 45 | IIIC | negative | 894.4 | Ovarian Cancer |
| 5 | 49 | IIB | negative | 215.6 | Ovarian Cancer |
| 6 | 50 | ⅣB | positive | 258.3 | Ovarian Cancer |
| 7 | 49 | IC2 | negative | 22.4 | Ovarian Cancer |
| 8 | 56 | Iib | negative | 174.4 | Ovarian Cancer |
| 9 | 54 | IIB | negative | 1332 | Ovarian Cancer |
| 10 | 52 | IIIB | negative | 272 | Ovarian Cancer |
| 11 | 60 | IIIC | positive | 1401 | Ovarian Cancer |
| 12 | 71 | IIIC | positive | 1475.9 | Ovarian Cancer |
| 13 | 51 | IIIC | negative | 150 | Ovarian Cancer |
| 14 | 66 | IVB | negative | 1216 | Ovarian Cancer |
| 15 | 49 | IIIB | positive | 123 | Ovarian Cancer |
| 16 | 61 | IIIB | positive | 1587 | Ovarian Cancer |
| 17 | 57 | IIIC | negative | 2478 | Ovarian Cancer |
| 18 | 66 | IC2 | negative | 1339.7 | Ovarian Cancer |
| 19 | 65 | IIA | negative | 489.5 | Ovarian Cancer |
| 20 | 51 | IIIC | positive | 546.1 | Ovarian Cancer |
| 21 | 65 | IVB | negative | 3118 | Ovarian Cancer |
| 22 | 56 | IIIC | positive | 55.2 | Ovarian Cancer |
| 23 | 67 | IIIC | positive | 1134 | Ovarian Cancer |
| 24 | 50 | IIIC | negative | 8152 | Ovarian Cancer |
| 25 | 77 | IIIC | positive | 3400 | Ovarian Cancer |
| 26 | 63 | IIIC | negative | 8962 | Ovarian Cancer |
| 27 | 57 | IIA | negative | 49 | Ovarian Cancer |
| 28 | 51 | IIIC | positive | 1187 | Ovarian Cancer |
| 29 | 45 | IIIA1i | positive | 1824 | Ovarian Cancer |
| 30 | 63 | IV | positive | 99.8 | Ovarian Cancer |
| 31 | 53 | IIA | negative | 163 | Ovarian Cancer |
| 32 | 56 | IVB | negative | 70.4 | Ovarian Cancer |
| 33 | 65 | IVB | positive | 610 | Ovarian Cancer |
| 34 | 51 | IIIC | negative | 86 | Ovarian Cancer |
| 35 | 77 | ⅢC | positive | 3693 | Ovarian Cancer |
| 36 | 74 | IIIC | negative | 626 | Ovarian Cancer |
| 37 | 35 | IVB | positive | 1049 | Ovarian Cancer |
| 38 | 72 | IIIC | positive | 551.9 | Ovarian Cancer |
| 39 | 52 | IIIC | positive | 578 | Ovarian Cancer |
| 40 | 51 | IIIB | positive | 849.1 | Ovarian Cancer |
| 41 | 66 | IVB | positive | 4239 | Ovarian Cancer |
| 42 | 43 | IV | positive | 356 | Ovarian Cancer |
| 43 | 42 | IVB | positive | 571.9 | Ovarian Cancer |
| 44 | 68 | IIIC | negative | 120 | Ovarian Cancer |
| 45 | 59 | IVB | positive | 144 | Ovarian Cancer |
| 46 | 53 | IVB | positive | 1245 | Ovarian Cancer |
| 47 | 71 | IIIA1（ii） | positive | 105.3 | Ovarian Cancer |
| 48 | 57 | IVB | positive | 217.9 | Ovarian Cancer |
| 49 | 64 | IIIc | negative | 82.1 | Ovarian Cancer |
| 50 | 29 |  |  | 28.3 | Ovarian mucinous cystadenoma |
| 51 | 23 |  |  | 7.8 | Ovarian mucinous cystadenoma |
| 52 | 53 |  |  | 9.4 | Ovarian mucinous cystadenoma |
| 53 | 69 |  |  | 15.5 | Ovarian mucinous cystadenoma |
| 54 | 26 |  |  | 15.1 | Ovarian mucinous cystadenoma |
| 55 | 53 |  |  | 29.3 | Ovarian mucinous cystadenoma |
| 56 | 40 |  |  | 26.9 | Ovarian mucinous cystadenoma |
| 57 | 58 |  |  | 9.1 | Ovarian serous cystadenoma |
| 58 | 44 |  |  | 15.5 | Ovarian teratoma |

**Table S2 Sequences of primers used for RT-qPCR in this study**

|  |  |
| --- | --- |
| Item | Sequence |
| β-actin | Forward: 5-ACAGAGCCTCGCCTTTGCCGAT-3’ |
| Reverse: 5’-CATGCCCACCATCACGCCCTG-3’ |
| RAD51B-AS1 | Forward: 5’- TCACCCCCTTAGATTCTGCATT -3’ |
| Reverse: 5’- TGCACTCATGCCAGCAGTAA -3’ |
| RAD51B | Forward: 5’-CAAGAGCTGTGTGACCGTCTG-3’ |
| Reverse: 5’-TCATGGACACCTCGATAACTCA-3’ |

**Table S3 Sequences of probes used for northern blotting in this study**

|  |  |
| --- | --- |
| Item | Sequence |
| β-actin | CTCCATCCTGGCCTCGCTGTCCACCTTCCAGCAGATGTGGATCAGCAAGCAGGAGTATGACGAGTCCGGCCCCTCCATCGTCCACCGCAAATGCTTCTAGGCGGACTATGACTTAGTTGCGTTACACCCTTTCTTGACAAAACCTAACTTGCGCAGAAAACAAGATGAGATTGGCATGGCTTTATTTGTTTTTTTTGTTTTGTTTTGGTTTTTTTTTTTTTTTTGGCTTGACTCAGGATTTAAAAACTGGAACGGTGAAGGTGACAGC |
| RAD51B-AS1 | GAGCAGTCCCTGGCTGATACCAAGAAAACAAGACTTCAGTTCTAAAGCTGCAGAGGAATGAAATCTGCCAATAAAAGGAATGATCTTGGAAGAGGACTATGAGCTCCAGTTTTTCTTCCAGCTCTCATGGAAACAAGCACTGCCACAGCCCCTTGATGAGCCAGCAGAGTCCAGTCATCTGGCAACAATGACAGGTATCTGGCATCTGAGAGGAATATCAACTGAAGACAATGAGAGAATTAAAAAAGAAGTAAACACAAGACAATCTTTTTTCACCCCCTTAGATTCTGCATTTCCACTTGCTTGATTCAGTAATTGTTTTGTTTTGAATGTTGTGTAAATGAATGCTACAGCCCTATGCAATT |

**Table S4** Sequences of siRNAs against specific targets in this study.

|  |  |
| --- | --- |
| **Item** | **Sequence** |
| Si- RAD51B-AS1#1 | sense: 5’- GCAUCUGAGAGGAAUAUCATT -3’ |
| antisense: 5’- UGAUAUUCCUCUCAGAUGCTT -3’ |
| Si- RAD51B-AS1#2 | sense: 5’- CCACUUGCUUGAUUCAGUATT -3’ |
| antisense: 5’- UACUGAAUCAAGCAAGUGGTT -3’ |
| Si- RAD51B | sense: 5’- GCAAACGGCUUAUGGGAUATT -3’ |
| antisense: 5’- UAUCCCAUAAGCCGUUUGCTT -3’ |

**Table S5:** **Prediction statistics of lncRNA target genes**

|  |  |  |
| --- | --- | --- |
| Transcript | cis\_num | trans\_num |
| ENST00000554679.1 | 1 | 0 |

**Table S6: Prediction of cis-regulation of lncRNAs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| lncRNA | lnc\_pos | mRNA\_pos | mRNA | mRNA\_symbol |
| ENST00000554679.1 | 68591721-68596913 | 68286496-69078703 | NM\_001321809.1 | RAD51B |
| ENST00000554679.1 | 68591721-68596913 | 68290258-69008815 | NM\_001321812.1 | RAD51B |
| ENST00000554679.1 | 68591721-68596913 | 68286496-68964598 | NM\_002877.5 | RAD51B |
| ENST00000554679.1 | 68591721-68596913 | 68286496-68944810 | NM\_133510.3 | RAD51B |
| ENST00000554679.1 | 68591721-68596913 | 68286496-69009091 | NM\_001321814.1 | RAD51B |
| ENST00000554679.1 | 68591721-68596913 | 68286540-68944768 | NM\_001321817.1 | RAD51B |
| ENST00000554679.1 | 68591721-68596913 | 68286496-68938393 | NM\_001321819.1 | RAD51B |
| ENST00000554679.1 | 68591721-68596913 | 68286496-69070404 | NM\_001321810.1 | RAD51B |
| ENST00000554679.1 | 68591721-68596913 | 68286496-69062738 | NM\_133509.3 | RAD51B |
| ENST00000554679.1 | 68591721-68596913 | 68290309-69078678 | NM\_001321815.1 | RAD51B |
| ENST00000554679.1 | 68591721-68596913 | 68286496-69149835 | NM\_001321818.1 | RAD51B |
| ENST00000554679.1 | 68591721-68596913 | 68286496-69078703 | NM\_001321821.1 | RAD51B |

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Figure S1 Supplementary information of the function of anoikis.(A) Apoptosis rate of adherent and suspended cells was observed by flow cytometry.(B,C) Soft-agar assays showed anchor independent growth of HO8910PM and HO8910 cells after knocking down(B) or overexpressing(C) RAD51B-AS1. Results were shown as means ± SD for three separate experiments.\*\*\*p＜0.001，\*\*\*\*p＜0.0001



Fig. S2 Supplementation of regulatory downstream gene RAD51B.(A) schematic diagram of siRNAs of RAD51B-AS1 and primers of RAD51B.(B,C) Soft-agar assays showed anchor independent growth of HO8910PM and HO8910 cells. Results were shown as means ± SD for three separate experiments.\*\*p＜0.01，\*\*\*p＜0.001，\*\*\*\*p＜0.0001