Supplementary Figure 1

a

|       | p Ct | p Survivin |
|-------|------|------------|
| siCt  | -    | +          |
| siS 3’UTR1 | - | - | + |
| siS 3’UTR2 | - | - | - | + |

DAPI
Active Caspase-3
γH2AX
merge

b

siControl siControl+z-vad-fmk
siSurvivin siSurvivin+z-vad-fmk

P-H2AX Threshold Area %

pCt
PSurvivin
siCt
siS 3’UTR1
siS 3’UTR2
Supplementary Figure 2

| Correlation Table | Parameters | EME1 | EXO1 | BLM | RAD51 | BRCA1 | MUS81 |
|-------------------|------------|------|------|-----|-------|-------|-------|
| BRCS r            | 0.47       | 0.55 | 0.51 | 0.44 | 0.24  | 0.08  |
| BRCS p            | < 0.0001   | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| BRCS No           | 2484       | 5510 | 5263 | 5269 | 4752  | 4862  |
| EME1 r            | 0.40       | 0.46 | 0.36 | 0.26 | 0.07  |
| EME1 p            | < 0.0001   | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 | 0.0008 |
| EME1 No           | 2484       | 5510 | 5263 | 5269 | 4752  | 4862  |
| EXO1 r            | 0.51       | 0.45 | 0.26 | 0.05 |
| EXO1 p            | < 0.0001   | < 0.0001 | < 0.0001 | < 0.0001 | 0.0001 |
| EXO1 No           | 2484       | 5510 | 5263 | 5269 | 4752  | 4862  |
| BLM r             | 0.43       | 0.22 | 0.17 |
| BLM p             | < 0.0001   | < 0.0001 | < 0.0001 | < 0.0001 |
| BLM No            | 2484       | 5510 | 5263 | 5269 | 4752  | 4862  |
| RAD51 r           | 0.23       | 0.07 |
| RAD51 p           | < 0.0001   | < 0.0001 | < 0.0001 |
| RAD51 No          | 2484       | 5510 | 5263 | 5269 | 4752  | 4862  |
| BRCA1 r           | 0.02       |
| BRCA1 p           | 0.1170     |
| BRCA1 No          | 2484       | 5510 | 5263 | 5269 | 4752  | 4862  |

MUS81 Kaplan-Meier survival estimates for pool

Probability of FFN-free survival

Time (years)

Patients at risk:

| 971 | 847 | 735 | 558 | 388 | 221 | 125 |
| 972 | 831 | 698 | 537 | 354 | 192 | 110 |