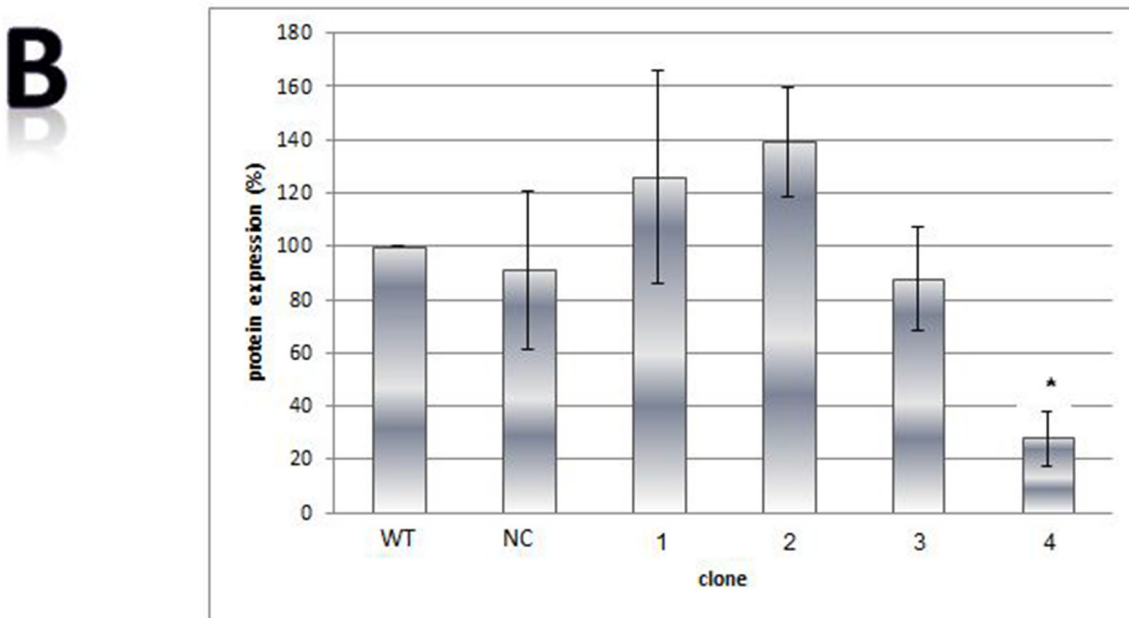
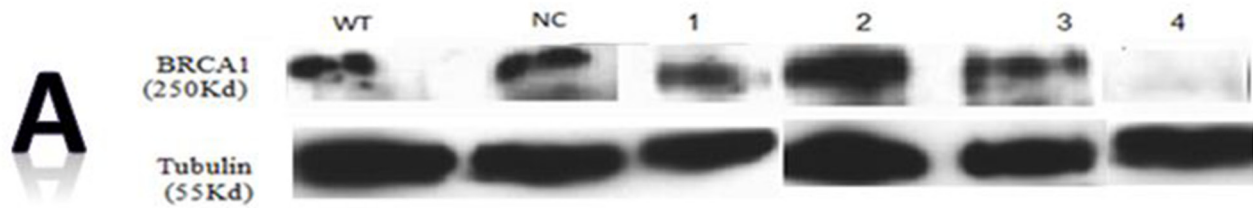
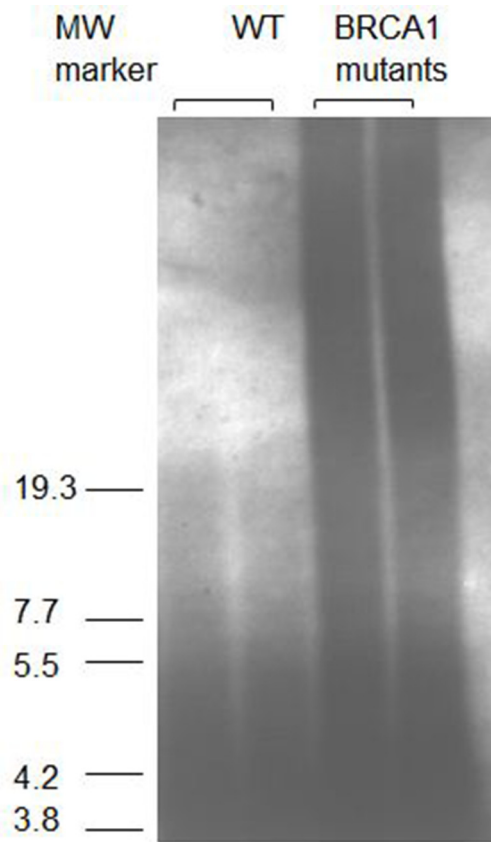


SUPPLEMENTARY FIGURES AND TABLE

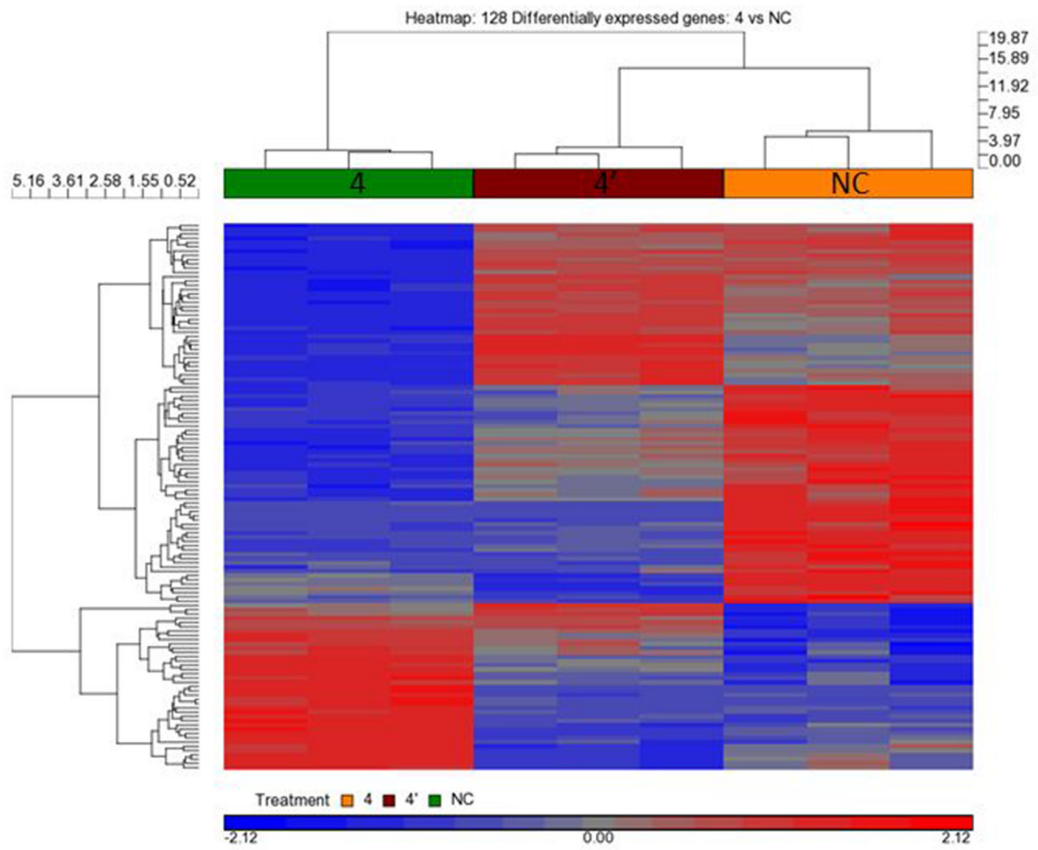


Supplementary Figure S1: BRCA1 silencing. **A.** An example of western blot representing BRCA1 expression of the various clones. **B.** Quantitation of A (two biological repetitions). “WT”- the wild type intact cells; “NC” depicts the cells which were transfected with the negative control ShRNA plasmid.

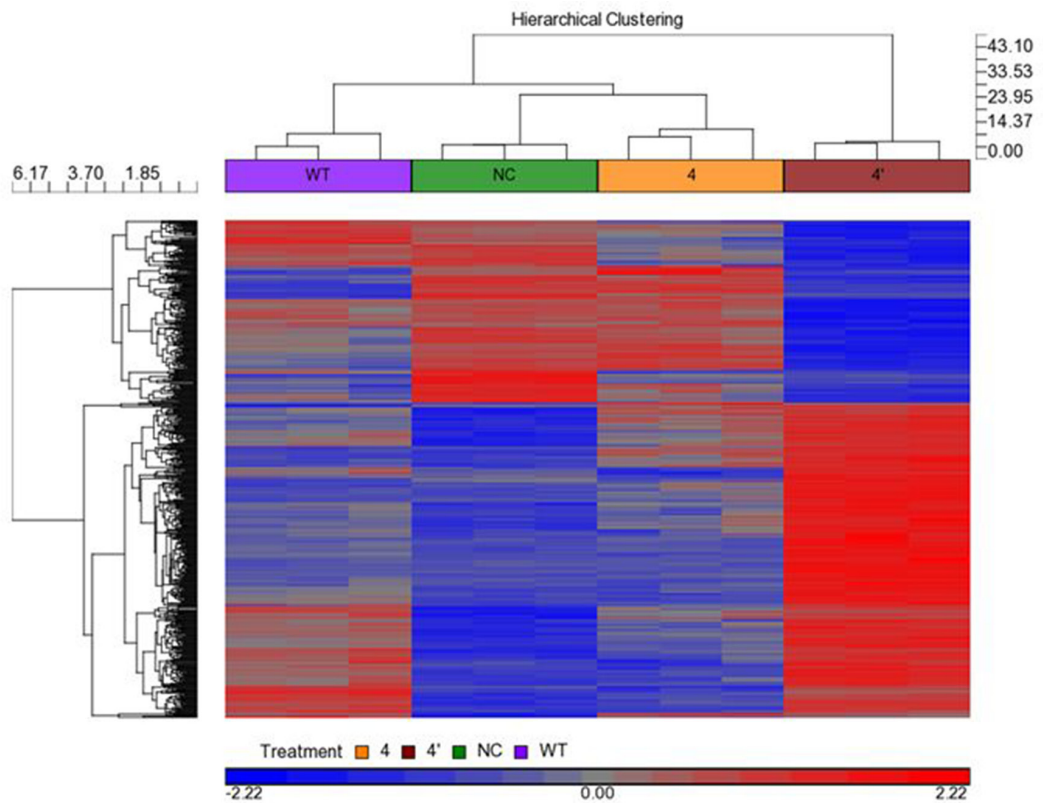


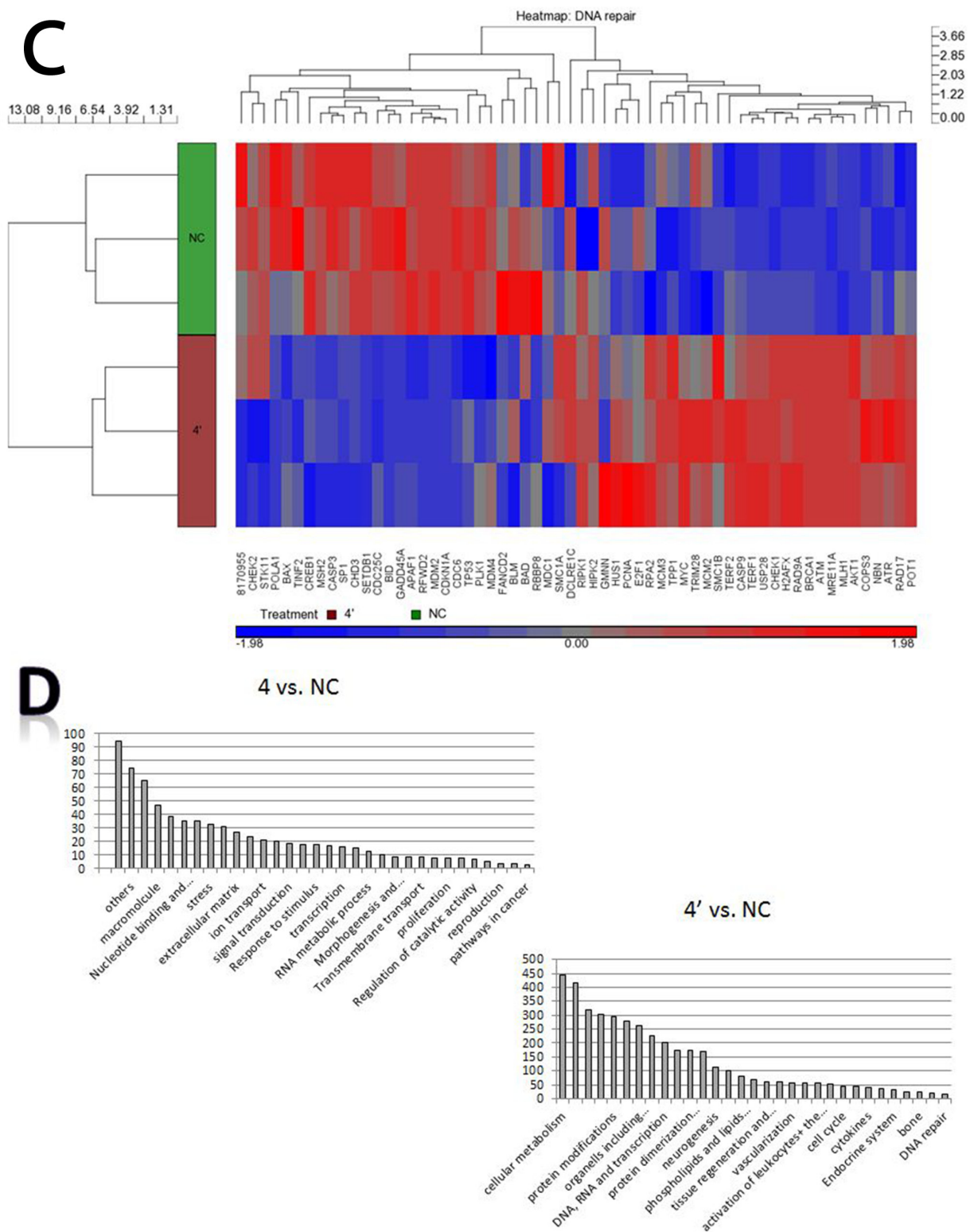
Supplementary Figure S2: Telomere length in cell line with BRCA1 mutation. Telomere length were measured in the wild type HB-2 cells as well as in the BRCA1 mutated cell lines by Southern blotting.

A



B





Supplementary Figure S3: Concrete signature of expressed genes in cells following BRCA1 silencing. A. Heat map of 128 differentially expressed genes: 4 versus NC; B. Heat map of 643 Differentially expressed genes: 4', 4, WT, NC; C. Heat map of DNA repair related genes in 4', NC; D. Gene functions in BRCA1 silenced cells and intact controls; E. Ven representation of all genes obtained with minimal cutoff of <math><0.05</math> and fold-change cutoff of 2. "WT"- the wild type intact cells; "NC" depicts the cells which were transfected with the negative control ShRNA plasmid; "4'" is clone # 4 in which BRCA1 silencing was optimal one month post ShRNA transfection. "4" is clone # 4 in which BRCA1 silencing was optimal 6 months post ShRNA transfection.

Supplementary Table S1: Statistical parameters of telomere lengths in four chromosomal arms in the BRCA1/2 mutations carriers and controls

| | P1 | | P2 | | Q1 | | Q2 | |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | controls | carriers | controls | carriers | controls | carriers | controls | carriers |
| Mean | 117991 | 88539 | 112749 | 83425 | 119423 | 86318 | 107902 | 77382 |
| Std. Error | 15446 | 18644 | 14882 | 17703 | 15361 | 17489 | 14255 | 16203 |
| Median | 116525 | 76703 | 115917 | 72307 | 122672 | 75309 | 105168 | 65939 |
| Std. Deviation | 46337 | 58959 | 44647 | 55982 | 46082 | 55305 | 42765 | 51238 |
| Minimum | 33928 | 23041 | 31698 | 20061 | 31854 | 22270 | 27632 | 20287 |
| Maximum | 179728 | 217019 | 178353 | 204061 | 181094 | 202168 | 152074 | 184792 |