**Table S1. The percentage of p27+ cells by breast tissue type.**

N: sample size, Range: percentage, IQR: interquartile range, BBD: benign breast disease.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Normal TDLUs** | **Non-proliferative BBD lesion** | **Proliferative BBD without atypia** | **Proliferative BBD with atypical hyperplasia** |
| **N** |  280 |  22 | 52  |  34 |
| **Range** |  0 – 72.1 |  0 – 82.0 | 0 – 74.7  | 0 – 67.5  |
| **Median (IQR)** |  15.4 (25.6) |  9.8 (11.9) |  7.4 (21.9) |  17.9 (30.5) |

**Table S2. The percentage of ER+ cells by breast tissue type.**

N: sample size, Range: percentage, IQR: interquartile range, BBD: benign breast disease.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Normal TDLUs** | **Non-proliferative BBD lesion** | **Proliferative BBD without atypia** | **Proliferative BBD with atypical hyperplasia** |
| **N** | 265 | 22 | 58 | 35 |
| **Range** | 0 – 71.3 | 0 – 32.6 | 0 – 34.3 | 0 – 37.5 |
| **Median (IQR)** | 6.0 (11.9) | 0.95 (7.4) | 10.9 (12.9) | 9.7 (13.3) |

**Table S3. The percentage of Ki67+ cells by breast tissue type.**

N: sample size, Range: percentage, IQR: interquartile range, BBD: benign breast disease.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Normal TDLUs** | **Non-proliferative BBD lesion** | **Proliferative BBD without atypia** | **Proliferative BBD with atypical hyperplasia** |
| **N** | 216 | 21 | 48 | 28 |
| **Range** | 0 – 30.0 | 0 – 14.1 | 0 – 11.2 | 0 – 7.5 |
| **Median (IQR)** | 0.85 (2.5) | 0.17 (0.56) | 0.31 (1.9) | 0.51 (1.0) |

**Table S4. Spearman correlations between markers (percentage of p27+, ER+, and Ki67+ cells) in normal breast tissue in the Nurses’ Health Study and the Nurses’ Health Study II.**

Number in each box represents the spearman r-value. N: sample size

|  |  |  |  |
| --- | --- | --- | --- |
|  | **All women** | **Premenopausal women only** | **Postmenopausal women only** |
|  | **p27** | **ER** | **Ki67** | **p27** | **ER** | **Ki67** | **p27** | **ER** | **Ki67** |
| **p27** | 1.0 | 0.21(n=282) | 0.05(n=229) | 1.0 | 0.19(n=208) | -0.01(n=170) | 1.0 | 0.33(n=55) | 0.17(n=41) |
| **ER** |  | 1.0 | 0.10(n=213) |  | 1.0 | 0.16(n=159) |  | 1.0 | -0.02(n=38) |
| **Ki67** |  |  | 1.0 |  |  | 1.0 |  |  | 1.0 |