**SUPPLEMENTARY MATERIAL**

**Table S1.** Level of Chromosomal instability (CIN), Clonal Heterogeneity (True Diversity Index) and Aneuploidy observed in luminal B BC patients

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RS** | **PAT** | **CHR** | **CIN** | **CH** | **ANE** |
| **%** | **TD index** | **%** |
| **ER+/PR+/HER2-** | **B1** | CEP2 | 43 | 3.3 | 63 |
| CEP3 | 48 | 3.4 | 63 |
| CEP8 | 66 | 4.7 | 44 |
| CEP11 | 17 | 1.7 | 82 |
| CEP15 | 40 | 2.4 | 85 |
| CEP17 | 49 | 2.7 | 80 |
| **Total** | **44** | **3.0** | **70** |
| **B2** | CEP2 | 58 | 4.3 | 41 |
| CEP3 | 47 | 3.8 | 49 |
| CEP8 | 57 | 3.7 | 46 |
| CEP11 | 32 | 2.2 | 78 |
| CEP15 | 20 | 1.8 | 80 |
| CEP17 | 37 | 3.0 | 41 |
| **Total** | **42** | **3.1** | **56** |
| **B3** | CEP2 | 50 | 4.2 | 52 |
| CEP3 | 42 | 3.3 | 50 |
| CEP8 | 43 | 3.2 | 58 |
| CEP11 | 34 | 2.3 | 82 |
| CEP15 | 37 | 2.3 | 81 |
| CEP17 | 42 | 2.3 | 90 |
| **Total** | **41** | **2.9** | **69** |
| **B4** | CEP2 | 51 | 4.0 | 43 |
| CEP3 | 60 | 4.0 | 55 |
| CEP8 | 48 | 2.3 | 92 |
| CEP11 | 21 | 1.9 | 86 |
| CEP15 | 53 | 2.7 | 85 |
| CEP17 | 63 | 5.1 | 43 |
| **Total** | **49** | **3.3** | **67** |
| **ER+/PR-/HER2-** | **B6** | CEP2 | 60,61 | 4.1 | 51 |
| CEP3 | 49 | 4.5 | 39 |
| CEP8 | 62 | 4.3 | 48 |
| CEP11 | 30,3 | 2.2 | 69 |
| CEP15 | 15 | 1.6 | 80 |
| CEP17 | 67 | 3.8 | 46 |
| **Total** | **47** | **3.4** | **56** |
| **B8** | CEP2 | 51 | 4.0 | 43 |
| CEP3 | 59 | 4.7 | 37 |
| CEP8 | 42 | 3.1 | 60 |
| CEP11 | 19 | 1.7 | 89 |
| CEP15 | 45 | 3.6 | 53 |
| CEP17 | 44 | 2.9 | 66 |
| **Total** | **43** | **3.3** | **58** |
| **B10** | CEP2 | 40 | 2.5 | 80 |
| CEP3 | 39 | 3.0 | 46 |
| CEP8 | 46 | 3.1 | 50 |
| CEP11 | 21 | 1.9 | 71 |
| CEP15 | 30 | 2.3 | 70 |
| CEP17 | 21 | 1.9 | 57 |
| **Total** | **33** | **2.5** | **62** |
| **ER+/PR+/HER2+** | **B5** | CEP2 | 44 | 3.0 | 73 |
| CEP3 | 54 | 4.4 | 54 |
| CEP8 | 33 | 2.6 | 70 |
| CEP11 | 13 | 1.6 | 85 |
| CEP15 | 12 | 1.4 | 100 |
| CEP17 | 50 | 2.7 | 82 |
| **Total** | **34** | **2.6** | **77** |
| **B7** | CEP2 | 38 | 2.9 | 47 |
| CEP3 | 58 | 4.4 | 43 |
| CEP8 | 62 | 4.4 | 48 |
| CEP11 | 32 | 2.2 | 84 |
| CEP15 | 64 | 3.9 | 52 |
| CEP17 | 56 | 3.5 | 64 |
| **Total** | **52** | **3.5** | **56** |
| **B9** | CEP2 | 42 | 2.9 | 69 |
| CEP3 | 38 | 3.0 | 47 |
| CEP8 | 38 | 2.4 | 79 |
| CEP11 | 12 | 1.6 | 58 |
| CEP15 | 22 | 1.8 | 86 |
| CEP17 | 61 | 3.8 | 52 |
| **Total** | **36** | **2.6** | **65** |

**Notes:** According to the CIN level (% CIN), each patient was classified as having low CIN (CIN=0-25%), intermediate CIN (CIN=26%-50%), high CIN (CIN=51%-70%), or extreme CIN (CIN>70%). Stable or unstable aneuploidy was determined for each chromosome. A chromosome was considered to have stable aneuploidy if more than 20% (>20%) of the cells have identical probe signal patterns, while a chromosome, with fewer than 20% (<20%) of the cells with identical probe signal patterns was considered to have unstable aneuploidy.

**Abbreviations:** RS, Receptor Status; PAT, Patient; CHR, Chromosome; CIN, Chromosomal Instability; ANE, Aneuploidy

**Table S2.** CEP copy number variation (gains and losses) observed in luminal B BC patients

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **RS** | **PAT** | **CHR** | **% CNV** | **TOTAL CNV** |
| **ER+/PR+/HER2-** | **B1** | CEP2 | 1.77 | **1.17** |
| CEP3 | 1.53 |
| CEP8 | 1.41 |
| CEP11 | 0.2 |
| CEP15 | 0.47 |
| CEP17 | 1.65 |
| **B2** | CEP2 | 1.47 | **0.93** |
| CEP3 | 1.54 |
| CEP8 | 1.22 |
| CEP11 | 0.39 |
| CEP15 | 0.24 |
| CEP17 | 0.69 |
| **B3** | CEP2 | 2.01 | **1.14** |
| CEP3 | 1.58 |
| CEP8 | 0.76 |
| CEP11 | 0.43 |
| CEP15 | 0.45 |
| CEP17 | 1.6 |
| **B4** | CEP2 | 1.5 | **1.78** |
| CEP3 | 2.46 |
| CEP8 | 1.55 |
| CEP11 | 0.25 |
| CEP15 | 1.66 |
| CEP17 | 3.27 |
| **ER+/PR-/HER2-** | **B6** | CEP2 | 1.54 | **1.15** |
| CEP3 | 2.08 |
| CEP8 | 1.51 |
| CEP11 | 0.39 |
| CEP15 | 0.18 |
| CEP17 | 1.21 |
| **B8** | CEP2 | 1.75 | **1.09** |
| CEP3 | 1.61 |
| CEP8 | 0.7 |
| CEP11 | 0.21 |
| CEP15 | 0.87 |
| CEP17 | 1.38 |
| **B10** | CEP2 | 1.33 | **0.82** |
| CEP3 | 1.37 |
| CEP8 | 1.27 |
| CEP11 | 0.27 |
| CEP15 | 0.4 |
| CEP17 | 0.3 |
| **ER+/PR+/HER2+** | **B5** | CEP2 | 1.49 | **0.93** |
| CEP3 | 1.93 |
| CEP8 | 0.5 |
| CEP11 | 0.15 |
| CEP15 | 0.12 |
| CEP17 | 1.41 |
| **B7** | CEP2 | 1.1 | **1.28** |
| CEP3 | 1.56 |
| CEP8 | 1.65 |
| CEP11 | 0.38 |
| CEP15 | 1.41 |
| CEP17 | 1.57 |
| **B9** | CEP2 | 1.33 | **0.83** |
| CEP3 | 1.23 |
| CEP8 | 0.47 |
| CEP11 | 0.17 |
| CEP15 | 0.25 |
| CEP17 | 1.55 |

**Notes:** CEP2, CEP3, CEP8, CEP11, CEP15 and CEP17 copy number variations (gains and losses) were evaluated in all cases. According to the criteria for CEP copy number gain (mean CEP count ≥3) and loss (mean CEP count <1.6).

**Abbreviations:** RS, Receptor Status; PAT, Patients; CHR, Chromosome; CNV, Copy number variation

**SUPPLEMENTARY FIGURE LEGEND**

**Figure S1.** Multivariate analysis with Pearson correlation coefficient between clonal heterogeneity (CH) and clinicopathologic characteristics.Values greater than 0.5 are indicative of a statistically significant correlation.No correlation was found between CH with any of the variables studied: histotype (HT), tumor size (T), lymph nodes (N), lymphovascular invasion (LI), progesterone receptor (PR), HER2 and KI67.