**Supplementary Table 1. Clinical characteristics of Cohort A per molecular subtype.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Clinical**  | **Basal** | **Her2** | **LumA** | **LumB** | **Normal** |
| **characteristics** | **samples** | **%** | **samples** | **%** | **samples** | **%** | **samples** | **%** | **samples** | **%** |
| ER- | 138 | 71.5 | 50 | 44.6 | 9 | 4 | 6 | 4.2 | 30 | 15.6 |
| ER+ | 23 | 11.9 | 33 | 29.5 | 166 | 73.1 | 101 | 70.6 | 105 | 54.7 |
| *n.d.(ER)* | *9* | *4.7* | *29* | *25.9* | *52* | *22.9* | *36* | *25.2* | *57* | *29.7* |
| PR- | 73 | 37.8 | 31 | 27.7 | 14 | 6.2 | 19 | 13.3 | 16 | 8.3 |
| PR+ | 16 | 8.3 | 15 | 13.4 | 74 | 32 | 34 | 23.8 | 42 | 21.9 |
| *n.d.(PR)* | *104* | *53.9* | *66* | *58.9* | *139* | *61.2* | *90* | *62.9* | *134* | *69.8* |
| HER2- | 71 | 36.8 | 18 | 16.1 | 63 | 27.8 | 32 | 22.4 | 33 | 17.2 |
| HER2+ | 1 | 0.5 | 22 | 19.6 | 0 | 0 | 4 | 2.8 | 3 | 1.6 |
| *n.d.(HER2)* | *121* | *62.7* | *72* | *64.3* | *164* | *72.2* | *107* | *74.8* | *156* | *81.3* |
| T1 | 75 | 38.9 | 53 | 47.3 | 137 | 60.4 | 68 | 47.6 | 123 | 64.1 |
| T2 | 116 | 60.1 | 56 | 50 | 82 | 36.1 | 75 | 52.4 | 65 | 33.9 |
| T3 | 1 | 0.5 | 2 | 1.8 | 6 | 2.6 | 0 | 0 | 3 | 1.6 |
| T4 | 1 | 0.5 | 1 | 0.9 | 1 | 0.4 | 0  | 0 | 1 | 0.5 |
| G1\* | 1 | 0.5 | 3 | 2.7 | 27 | 11.9 | 3 | 2.1 | 15 | 7.8 |
| G2\* | 9 | 4.7 | 10 | 8.9 | 32 | 14.1 | 23 | 16.1 | 16 | 8.3 |
| G3\* | 64 | 33.2 | 27 | 24.1 | 8 | 3.5 | 18 | 12.6 | 9 | 4.7 |
| G1# | 3 | 1.6 | 2 | 1.8 | 35 | 15.4 | 6 | 4.2 | 45 | 23.4 |
| G2# | 28 | 14.5 | 28 | 25 | 82 | 36.1 | 54 | 37.8 | 75 | 39.1 |
| G3# | 68 | 35.2 | 102 | 91.1 | 12 | 5.3 | 24 | 16.8 | 8 | 4.2 |

Abbreviations: ER: estrogen receptor; Her2; human epidermal growth-factor receptor 2; G: clinical grade; n.d.: not determined; PR: progesterone receptor; T: tumor size.

\*clinical grade determined by Bloom-Richardson grading

#clinical grade obtained via public repository (unspecified GSE11121, Elston and Ellis method for GSE7390 and GSE2990)