**Table S1: PredicinePLUSTM 180-gene panel**



**Table S2: Treatment data and sites of disease**

|  |  |  |  |
| --- | --- | --- | --- |
| Patient | Prior Therapy in Metastatic Setting  | Number of Prior Therapies | Sites(s) of Disease |
| 1 | capecitabine, docetaxel/carboplatin/trastuzumab/pertuzumab | 2 | liver, lung, bone |
| 2 | palbociclib/letrozole, vinorelbine/capecitabine | 2 | liver, bone, LN, soft/soft tissue |
| 3 | palbociclib/fulvestrant, durvalumab/tremelimumab (clinical trial), ixempra/capecitabine | 3 | liver, bone, LN |
| 4 | cisplatin/radiation (clinical trial) | 1 | bone |
| 5 | none | 0 | skin/soft tissue |
| 6 | fulvestrant, fulvestrant/palbociclib, letrozole, capecitabine | 4 | bone, serosa |
| 7 | carboplatin/paclitaxel, palbociclib/letrozole, liposomal doxorubicin | 3 | lung, LN |
| 8 | carboplatin/abraxane, pembrolizumab/capecitabine (clinical trial) | 2 | bone, LN, lung |
| 9 | anastrozole | 1 | bone, LN |
| 10 | palbociclib/letrozole | 1 | liver, lung, bone |
| 11 | tamoxifen, capecitabine, fulvestrant/everolimus, 5-FU/epirubicin/cyclophosphamide, carboplatin/gemcitabine, abraxane/everolimus/trastuzumab/pertuzumab, eribulin/trastuzumab/pertuzumab | 7 | liver, lung, bone |
| 12 | carboplatin/gemcitabine | 1 | bone, LN, serosa |
| 13 | tamoxifen, palbociclib/letrozole | 2 | lung, bone, serosa |
| 14 | none | 0 | liver, bone, LN |
| 15 | exemestane, docetaxel, everolimus, capecitabine, epirubicin/ixabepilone | 5 | bone, lung, CNS |
| 16 | none | 0 | bone |
| 17 | carboplatin/gemcitabine, paclitaxel, capectabine, doxorubicin, eribulin | 5 | lung, LN, skin/soft tissue |
| 18 | vinorelbine, anastrozole, fulvestrant/palbociclib, everolimus/exemestane | 4 | bone, LN, serosa, CNS |
| 19 | docetaxel/trastuzumab/pertuzumab, T-DM1 | 2 | liver, skin/soft tissue, serosa |
| 20 | adriamycin/cyclophosphamide, carboplatin/paclitaxel, eribulin | 3 | liver, bone, LN, skin/soft tissue |
| 21 | anastrozole, fulvestrant, trastuzumab/capecitabine | 3 | liver, bone |
| 22 | carboplatin/paclitaxel, exemestane, letrozole/palbociclib, capecitabine | 4 | liver, bone, LN, serosa |

LN: lymph node; CNS: central nervous system

**Table S3**: Characteristics of Guardant360 validation cohort

|  |
| --- |
|  |
| Cohort |  |
|  | Number of patients | 84 |
| Pathology |  |
|  IDC | 70 (83.3%) |
|  ILC | 7 (8.3%) |
|  Unknown | 7 (8.3%) |
| Subtype |  |
|  | Luminal | 36 (42.9%) |
|  | HER2+ | 21 (25.0%) |
|  | TNBC | 27 (32.1%) |
| Clinical Subtype |  |
|  | IBC  | 43 (51.2%) |
|  | Non-IBC | 41 (48.8%) |
| Sites of Disease |  |
|  | Bone | 39 (46.4%) |
|  | Visceral | 43 (51.2%) |
| CTC Clusters |  |
|  | Yes | 9 (10.7%) |
|  | No | 75 (89.3%) |

**Figure S1: Mutant allele frequency of 100 most common variants in the cohort**

**Figure** S**2: Case vignette demonstrating the potential clinical utility of serial liquid biopsy assessment**

**Association of a novel circulating tumor DNA next-generating sequencing platform with circulating tumor cells (CTCs) and CTC clusters in metastatic breast cancer**

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