**Supplementary Table 1.** Univariate analysis for factors associated with pCR in the luminal subtype.

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristics** |  **Non-pCR** **(n=306)** |  **pCR** **(n=26)** | ***p*-value** |
| **Age (y)** <50≥50 | 177 (57.8%)129 (42.2%) | 16 (61.5%)10 (38.5%) | 0.714 |
| **Menopause**YesNo | 196 (64.1%)110 (35.9%) | 17 (65.4%)9 (34.6%) | 0.892 |
| **Chemotherapy cycles**345-8 | 9 (2.9%)281 (91.8%)16 (5.2%) | 0 (0%)23 (88.5%)3 (11.5%) | 0.306 |
| **Histological type**DuctalLobularOthers | 294 (96.1%)4 (1.3%)8 (2.6%) | 20 (76.9%)1 (3.8%)5 (19.2%) | 0.001 |
| **Tumor size** T1T2T3 | 28 (9.2%)219 (71.6%)59 (19.3%) | 9 (34.6%)16 (61.5%)1 (3.8%) | 0.001 |
| **Clinical nodal status**NegativePositive | 108 (35.3%)198 (64.7%) | 15 (57.7%)11 (42.3%) | 0.023 |
| **Histological Grade**IIIIII | 17 (5.6%)256 (83.7%)33 (10.8%) | 7 (26.9%)18 (69.2%)1 (3.8%) | 0.002 |
| **Ki67 expression (%)**<14≥14  | 137 (44.8%)169 (55.2%) | 3 (11.5%)23 (88.5%) | 0.002 |
| **ALB**<40≥40 | 124 (40.5%)182 (59.5%) | 12 (46.2%)14 (53.8%) | 0.575 |
| **ALP**<100≥100 | 279 (91.2%)27 (8.8%) | 24 (92.3%)2 (7.7%) | 0.845 |
| **AAPR**<0.583≥0.583 | 139 (45.4%)167 (54.6%) | 7 (26.9%)19 (73.1%) | 0.068 |

ALB, albumin; ALP, alkaline phosphatase; AAPR, albumin-to-alkaline phosphatase ratio; pCR, pathologic complete response.

**Supplementary Table 2.** Multivariate analysis for factors associated with pCR in the luminal subtype.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristics** | **Crude OR****(95%CI)** |  ***p*-value** | **Adjusted OR****(95%CI)** | ***p*-value** |
| **Histological type**DuctalLobularOthers | Reference3.675(0.392-34.439)9.187(2.752-30.677) | 0.254<0.001 | Reference2.319(0.058-92.593)1.297(0.152-11.100) | 0.6550.812 |
| **Tumor size** T1T2T3 | Reference0.227(0.092-0.563)0.053(0.006-0.437) | 0.0010.006 | Reference0.092(0.028-0.298)0.015(0.001-0.172) | <0.0010.001 |
| **Clinical nodal status**NegativePositive | Reference0.400(0.177-0.901) | 0.027 | Reference0.552(0.206-1.481) | 0.238 |
| **Histological grade**IIIIII | Reference0.171(0.063-0.465)0.074(0.008-0.648) | 0.0010.019 | Reference0.073(0.012-0.451)0.029(0.002-0.479) | 0.0050.013 |
| **Ki67 expression (%)**<14≥14  | Reference6.215(1.827-21.137) | 0.003 | Reference13.500(3.321-54.882) | <0.001 |
| **AAPR**<0.583≥0.583 | Reference2.259(0.923-5.531) | 0.074 | Reference3.245(1.055-9.980) | 0.040 |

AAPR, albumin-to-alkaline phosphatase ratio; pCR, pathologic complete response.

**Supplementary Table 3.** Univariate analysis for factors associated with pCR in the luminal/HER2 subtype.

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristics** |  **Non-pCR** **(n=154)** |  **pCR** **(n=21)** | ***p*-value** |
| **Age (y)** ＜50≥50 | 96 (62.3%)58 (37.7%) | 10 (47.6%)11 (52.4%) | 0.195 |
| **Menopause**YesNo | 98 (63.6%)56 (36.4%) | 12 (57.1%)9 (42.9%) | 0.563 |
| **Chemotherapy cycles**345-8 | 2 (1.3%)140 (90.9%)12 (7.8%) | 1 (4.8%)19 (90.5%)1 (4.8%) | 0.456 |
| **Histological type**DuctalLobularOthers | 154 (100%)0 (0%)0 (0%) | 20 (95.2%)0 (0%)1 (4.8%) | 0.120 |
| **Tumor size** T1T2T3 | 17 (11.0%)100 (64.9%)37 (24.0%) | 5 (23.8%)13 (61.9%)3 (14.3%) | 0.206 |
| **Clinical nodal status**NegativePositive | 48 (31.2%)106 (68.8%) | 14 (66.7%)7 (33.3%) | 0.001 |
| **Histological Grade**IIIIII | 8 (5.2%)124 (80.5%)22 (14.3%) | 4 (19.0%)14 (66.7%)3 (14.3%) | 0.060 |
| **Ki67 expression (%)**<14≥14  | 50 (32.5%)104 (67.5%) | 2 (9.5%)19 (90.5%) | 0.031 |
| **ALB**＜40≥40 | 58 (37.7%)96 (62.3%) | 7 (33.3%)14 (66.7%) | 0.700 |
| **ALP**＜100≥100 | 143 (92.9%)11 (7.1%) | 21 (100%)0 (0%) | 0.365 |
| **AAPR**<0.583≥0.583 | 58 (37.7%)96 (62.3%) | 5 (23.8%)16 (76.2%) | 0.215 |

ALB, albumin; ALP, alkaline phosphatase; AAPR, albumin-to-alkaline phosphatase ratio; pCR, pathologic complete response.

**Supplementary Table 4.** Multivariate analysis for factors associated with pCR in the luminal /HER2 subtype.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristics** | **Crude OR****(95%CI)** |  ***p*-value** | **Adjusted OR****(95%CI)** | ***p*-value** |
| **Clinical nodal status**NegativePositive | Reference0.226(0.086-0.597) | 0.003 | Reference0.227(0.083-0.622) | 0.004 |
| **Histological grade**IIIIII | Reference0.226(0.060-0.846)0.273(0.050-1.495) | 0.0270.135 | Reference0.176(0.039-0.799)0.255(0.038-1.696) | 0.0240.158 |
| **Ki67 expression (%)**<14≥14  | Reference4.567(1.024-20.378) | 0.047 | Reference5.038(1.068-23.765) | 0.041 |

pCR, pathologic complete response.

**Supplementary Table 5.** Univariate analysis for factors associated with pCR in the HER2 enriched subtype.

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristics** |  **Non-pCR** **(n=125)** |  **pCR** **(n=26)** | ***p*-value** |
| **Age (y)** ＜50≥50 | 49 (39.2%)76 (60.8%) | 8 (30.8%)18 (69.2%) | 0.420 |
| **Menopause**YesNo | 57 (45.6%)68 (54.4%) | 10 (38.5%)16 (61.5%) | 0.525 |
| **Chemotherapy cycles**345-8 | 5 (4.0%)108 (86.4%)12 (9.6%) | 0 (0%)23 (88.5%)3 (11.5%) | 0.678 |
| **Histological type**DuctalLobularOthers | 122 (97.6%)2 (1.6%)1 (0.8%) | 25 (96.2%)0 (0%)1 (3.8%) | 0.534 |
| **Tumor size** T1T2T3 | 11 (8.8%)86 (68.8%)28 (22.4%) | 2 (7.7%)19 (73.1%)5 (19.2%) | 0.939 |
| **Clinical nodal status**NegativePositive | 47 (37.6%)78 (62.4%) | 16 (61.5%)10 (38.5%) | 0.024 |
| **Histological Grade**IIIIII | 3 (2.4%)80 (64.0%)42 (33.6%) | 3 (11.5%)13 (50.0%)10 (38.5%) | 0.077 |
| **Ki67 expression (%)**<14≥14  | 26 (20.8%)99 (79.2%) | 6 (23.1%)20 (76.9%) | 0.796 |
| **ALB**＜40≥40 | 47 (37.6%)78 (62.4%) | 9 (34.6%)17 (65.4%) | 0.774 |
| **ALP**＜100≥100 | 108 (86.4%)17 (13.6%) | 21 (80.8%)5 (19.2%) | 0.540 |
| **AAPR**<0.583≥0.583 | 65 (52.0%)60 (48.0%) | 13 (50.0%)13 (50.0%) | 0.853 |

ALB, albumin; ALP, alkaline phosphatase; AAPR, albumin-to-alkaline phosphatase ratio; pCR, pathologic complete response.

**Supplementary Table 6.** Multivariate analysis for factors associated with pCR in the HER2 enriched subtype.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristics** | **Crude OR****(95%CI)** |  ***p*-value** | **Adjusted OR****(95%CI)** | ***p*-value** |
| **Clinical nodal status**NegativePositive | Reference0.377(0.158-0.898) | 0.028 | Reference0.311(0.124-0.784) | 0.013 |
| **Histological grade**IIIIII | Reference0.163(0.030-0.893)0.238(0.042-1.360) | 0.0370.107 | Reference0.105(0.017-0.633)0.157(0.025-0.983) | 0.0140.048 |

pCR, pathologic complete response.

**Supplementary Table 7.** Univariate analysis for factors associated with pCR in the TNBC subtype.

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristics** |  **Non-pCR** **(n=92)** |  **pCR** **(n=30)** | ***p*-value** |
| **Age (y)** ＜50≥50 | 53 (57.6%)39 (42.4%) | 20 (66.7%)10 (33.3%) | 0.379 |
| **Menopause**YesNo | 57 (62.0%)35 (38.0%) | 21 (70.0%)9 (30.0%) | 0.426 |
| **Chemotherapy cycles**345-8 | 4 (4.3%)74 (80.4%)14 (15.2%) | 1 (3.3%)27 (90.0%)2 (6.7%) | 0.556 |
| **Histological type**DuctalLobularOthers | 84 (91.3%)3 (3.3%)5 (5.4%) | 30 (100%)0 (0%)0 (0%) | 0.328 |
| **Tumor size** T1T2T3 | 5 (5.4%)66 (71.7%)21 (22.8%) | 6 (20.0%)19 (63.3%)5 (16.7%) | 0.068 |
| **Clinical nodal status**NegativePositive**Histological Grade**IIIIII | 45 (48.9%)47 (51.1%)6 (6.5%)53 (57.6%)33 (35.9%) | 26 (86.7%)4 (13.3%)2 (6.7%)17 (56.7%)11 (36.7%) | <0.0011.000 |
| **Ki67 expression (%)**<14≥14  | 15 (16.3%)77 (83.7%) | 2 (6.7%)28 (93.3%) | 0.237 |
| **ALB**＜40≥40 | 37 (40.2%)55 (59.8%) | 17 (56.7%)13 (43.3%) | 0.115 |
| **ALP**＜100≥100 | 83 (90.2%)9 (9.8%) | 28 (93.3%)2 (6.7%) | 0.605 |
| **AAPR**<0.583≥0.583 | 44 (47.8%)48 (52.2%) | 8 (26.7%)22 (73.3%) | 0.042 |

ALB, albumin; ALP, alkaline phosphatase; AAPR, albumin-to-alkaline phosphatase ratio; pCR, pathologic complete response.

**Supplementary Table 8.** Multivariate analysis for factors associated with pCR in the TNBC subtype.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristics** | **Crude OR****(95%CI)** |  ***p*-value** | **Adjusted OR****(95%CI)** | ***p*-value** |
| **Tumor size** T1T2T3 | Reference0.240(0.068-0.873)0.198(0.043-0.922) | 0.0300.039 | Reference0.193(0.044-0.839)0.212(0.038-1.201) | 0.0280.080 |
| **Clinical nodal status**NegativePositive | Reference0.147(0.048-0.456)  | 0.001 | Reference0.153(0.047-0.494)  | 0.002 |
| **AAPR**<0.583≥0.583 | Reference2.521(1.018-6.242) | 0.046 | Reference2.868(1.048-7.849) | 0.040 |

AAPR, albumin-to-alkaline phosphatase ratio; pCR, pathologic complete response.