

**Supplementary Table S1. Summarization of clinical features of ACC subtypes in TCGA-ACC cohort.**

| Parameters                            | level     | ACC 1                     | ACC 2                    | ACC 3                     | P value |
|---------------------------------------|-----------|---------------------------|--------------------------|---------------------------|---------|
| number                                |           | 32                        | 22                       | 24                        |         |
| Age, years                            |           | 48.53 ± 15.01             | 45.82 ± 19.17            | 45.12 ± 14.02             | 0.668   |
| Status (%)                            | Alive     | 30 (93.8)                 | 5 (22.7)                 | 16 (66.7)                 | <0.001* |
|                                       | Dead      | 2 (6.2)                   | 17 (77.3)                | 8 (33.3)                  |         |
| Overall survival (days, median [IQR]) |           | 1407.00 [898.00, 2464.50] | 570.50 [490.00, 1174.00] | 1541.00 [912.75, 2079.75] | <0.001* |
| Gender (%)                            | Female    | 18 (56.2)                 | 13 (59.1)                | 16 (66.7)                 | 0.727   |
|                                       | Male      | 14 (43.8)                 | 9 (40.9)                 | 8 (33.3)                  |         |
| Stage (%)                             | Stage I   | 7 (21.9)                  | 1 (4.5)                  | 1 (4.2)                   | 0.022*  |
|                                       | Stage II  | 20 (62.5)                 | 7 (31.8)                 | 10 (41.7)                 |         |
|                                       | Stage III | 4 (12.5)                  | 6 (27.3)                 | 6 (25.0)                  |         |
|                                       | Stage IV  | 1 (3.1)                   | 7 (31.8)                 | 6 (25.0)                  |         |
|                                       | unknow    | 0 (0.0)                   | 1 (4.5)                  | 1 (4.2)                   |         |
| Laterality (%)                        | Left      | 17 (53.1)                 | 16 (72.7)                | 11 (45.8)                 | 0.164   |
|                                       | Right     | 15 (46.9)                 | 6 (27.3)                 | 13 (54.2)                 |         |

\*, P < 0.05

**Supplementary Table S2. Summarization of clinical features of ACC subtypes in GEO cohort.**

| Parameters                            | level     | ACC1                       | ACC2                    | ACC3                      | P value |
|---------------------------------------|-----------|----------------------------|-------------------------|---------------------------|---------|
| number                                |           | 32                         | 34                      | 23                        |         |
| Age, years                            |           | 45.91 ± 13.80              | 46.58 ± 19.35           | 46.79 ± 16.49             | 0.974   |
| Status (%)                            | Alive     | 20 (62.5)                  | 6 (17.6)                | 10 (43.5)                 | 0.001*  |
|                                       | Dead      | 12 (37.5)                  | 28 (82.4)               | 13 (56.5)                 |         |
| Overall survival (days, median [IQR]) |           | 2914.00 [1799.75, 4427.75] | 376.50 [229.00, 754.50] | 1226.00 [632.00, 2330.00] | <0.001* |
| Gender (%)                            | Female    | 26 (81.2)                  | 21 (61.8)               | 16 (69.6)                 | 0.218   |
|                                       | Male      | 6 (18.8)                   | 13 (38.2)               | 7 (30.4)                  |         |
| Stage (%)                             | Stage I   | 3 (9.4)                    | 0 (0.0)                 | 4 (17.4)                  | 0.031*  |
|                                       | Stage II  | 18 (56.2)                  | 12 (35.3)               | 11 (47.8)                 |         |
|                                       | Stage III | 2 (6.2)                    | 3 (8.8)                 | 1 (4.3)                   |         |
|                                       | Stage IV  | 4 (12.5)                   | 16 (47.1)               | 5 (21.7)                  |         |
|                                       | unknow    | 5 (15.6)                   | 3 (8.8)                 | 2 (8.7)                   |         |
| Side (%)                              | left      | 12 (37.5)                  | 15 (44.1)               | 6 (26.1)                  | 0.683   |
|                                       | right     | 10 (31.2)                  | 11 (32.4)               | 10 (43.5)                 |         |
|                                       | unknow    | 10 (31.2)                  | 8 (23.5)                | 7 (30.4)                  |         |

\*, P < 0.05