|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Supplementary Table 1** Antibodies applied and immunohistochemistry method | | | | | | | | | | | | | | | |
| Primary antibody | Clone | | Manufacturer | | | | Positive control | | | | Method | | | Antigen retrieval (Enzym time) | | | | Dilution and incubation time | | |
| CK7 | OV-TL12/30 | | Dako | | | | General control\* | | | | Ventana Ultra | | | EDTA/Tris (24’), pH 8 | | | | 1:350, 20’ | | |
| TTF1 | SP/41 | | Ventana | | | | General control\* | | | | Ventana Ultra | | | EDTA/Tris (32’), pH 8 | | | | P.D., 28’ | | |
| CK5.6 | D5/16B4 | | Dako | | | | General control\* | | | | Ventana Ultra | | | EDTA/Tris (32’) | | | | 1:100, 28’ | | |
| Vimentin | V9 | | Dako | | | | Appendix | | | | Ventana Ultra | | | EDTA/Tris (16’) | | | | 1:200, 16’ | | |
| CD56 | MRQ-42 | | Cell Marque | | | | Appendix | | | | Ventana Ultra | | | EDTA/Tris (32’) | | | | 1:300, 32’ | | |
| Ki-67 | MiB-1 | | Dako | | | | Appendix | | | | Ventana Ultra | | | EDTA/Tris (24’) | | | | 1:150, 32’ | | |
| PD-L1 | 22C3 | | Dako | | | | Tonsil | | | | Ventana Ultra | | | EDTA/Tris (48’) | | | | 1:40, 52’ | | |
| \*Tonsil, liver, lung, kidney, prostate, placenta  *ER1* epitope retrieval solution 1, *ER2* epitope retrieval solution 2 | | | | | | | | | | | | | | | | | | | | |
| **Supplementary table 2** PD-L1 expression according to histological and stromal subtype | | | | | | | | | | | | | | | |
|  | | SQC | | |  | ADC | | | | | | | | | | | | | |
|  | | (n = 16) | | |  | Solid | | | Micropapillary | | | Acinar | | | Mucinous | | | | |
|  | |  | (n = 23) | | | (n = 7) | | | (n = 12) | | | (n = 22) | | | | |
|  | | PD-L1 (n) | | |  | PD-L1 (n) | | | PD-L1 (n) | | | PD-L1 (n) | | | PD-L1 (n) | | | | |
|  | | neg. | | pos. |  | neg. | | pos. | neg. | pos. | | neg. | pos. | | neg. | | pos. | |
| Stroma subtype | |  | |  |  |  | |  |  |  | |  |  | |  | |  | |
| Immune-inflamed | | 0 | | 2 |  | 0 | | 5 | 0 | 0 | | 1 | 0 | | 0 | | 1 | |
| Mixed | | 1 | | 3 |  | 1 | | 9 | 1 | 4 | | 4 | 0 | | 6 | | 2 | |
| Fusiform | | 6 | | 4 |  | 1 | | 7 | 1 | 1 | | 6 | 1 | | 6 | | 6 | |
| Lepidic | | 0 | | 0 |  | 0 | | 0 | 0 | 0 | | 0 | 0 | | 1 | | 0 | |
|  | |  | |  |  |  | |  |  |  | |  |  | |  | |  | |
| P value | | 0.202 | | |  | 0.725 | | | 1.000 | | | 0.677 | | | 0.336 | | | | |
| Fisher's exact test results | | | | | | | | |  |  | |  |  | |  | |  | |
| *SQC* squamous cell carcinoma, *ADC* adenocarcinoma, *neg.* negative, *pos.* positive | | | | | | | | | | | | | | | | | | | |

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| **Supplementary Table 3** PD-L1 score in SQC samples (n = 16) by CK7 expression | | | | | | |
|  | PD-L1 stratified score | | | | |
|  | 0 | + | ++ | +++ | All PD-L1+ samples |
| CK7 |  |  |  |  |  |
| Positive | 2 | 0 | 0 | 1 | 1 |
| Negative | 5 | 2 | 2 | 4 | 8 |

|  |  |  |  |
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| **Supplementary Table 4**  Vimentin expression by histological subtype | | | |
|  | n(%) Vimentin | |  |
|  | Negative | Positive | P value |
| Histological subtype |  |  | *0.037* |
| Bronchopulmonary carcinomas | 63 (96.92) | 27 (84.38) |  |
| Pleomorphic carcinoma | 2 (3.08) | 5 (15.63) |  |
| Fisher’s exact test results | | | | |

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| **Supplementary Table 5** Patients’ age and pathological factors by PD-L1 expression in tumor cells | | | |
|  | n (%) PD-L1 | |  |
|  | Negative | Positive | P value |
|  | (n = 41) | (n = 56) |
| Age |  |  | 1.000 |
| ≤ 68 | 21 (51.22) | 28 (50.00) |  |
| >68 | 20 (48.78) | 28 (50.00) |  |
|  |  |  |  |
| IHC markers |  |  |  |
| TTF1 |  |  | 0.369 |
| Positive | 27 (65.85) | 42 (75.00) |  |
| Negative | 14 (34.15) | 14 (25.00) |  |
|  |  |  |  |
| CK7 |  |  | 0.772 |
| Positive | 36 (87.80) | 47 (83.93) |  |
| Negative | 5 (12.20) | 9 (16.07) |  |
|  |  |  |  |
| CK 5.6 |  |  | 1.000 |
| Positive | 11 (26.83) | 14 (25.45) |  |
| Negative | 30 (73.17) | 41 (74.55) |  |
|  |  |  |  |
| PAS-D |  |  | 0.074 |
| Positive | 16 (39.02) | 12 (21.82) |  |
| Negative | 25 (60.98) | 43 (78.18) |  |
|  |  |  |  |
| Histopathological subtype |  |  | 0.549 |
| SQC | 7 (17.07) | 9 (16.07) |  |
| ADC | 28 (68.29) | 36 (64.29) |  |
| ADCSQC | 3 (7.32) | 4 (7.14) |  |
| Carcinoma NOS | 2 (4.88) | 1 (1.79) |  |
| Pleomorphic | 1 (2.44) | 6 (10.71) |  |
| Pearson’s χ2 and Fisher’s exact test results | | | |
| *TTF1* thyroid transcription factor 1, *SQC* squamous cell carcinoma, *ADC* adenocarcinoma, *ADSQC* adenosquamous carcinoma, *NOS* not otherwise specified | | | |