Supplemental file caption: The specimen characteristics with staining results and lineage relationships, and contingency tables of agreement are available in this file.

S1: Characteristics of resected lesions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Case #** | **Location** | **Diagnosis** | **Most Advanced Nodal status** | **PDL1****%+TC** | **PDL1% IC** | **Mate Pair** |
| 1 | RLLLUL | AD pred SAD pred S | N0 | 00 | 22 | 1 |
| 2 | RLLRML | AD mucinousAD mucinous | N0 | 00 | 55 | 2 |
| 3 | RMLLUL | AD pred SAD pred S | N0 | 600 | 525 | 1 |
| 4 | RULLULLLL | SQCCAD pred A\*SQCC | N0 | 050 | 10101 | 12 |
| 5 | RMLLLL | AD mucinousAD mucinous | N0 | 00 | 110 | 2 |
| 6 | LLLRUL | ADSQCCAD pred S | N0 | 00 | 101 | 1 |
| 7 | RLLLUL | AD pred ALPA | N0 | 00 | 01 | 1 |
| 8 | RML/RLLLLL | SQCCSQCC | N2 | 00 | 4030 | 2 |
| 9 | RULLUL | SQCCSQCC | N0 | 50 | 115 | 1 |
| 10 | RLLLLL | AD mucinousAD pred A | N0 | 00 | 01 | 1 |
| 11 | RULLUL | AD pred SAD pred S | N0 | 00 | 51 | 1 |
| 12 | LULRUL | AD pred AAD pred A | N0 | 010 | 100 | 1 |
| 13 | RLLLLL | AD pred SAD pred A | N0 | 00 | 11 | 1 |
| 14 | RULLLL | LPALPA | N0 | 00 | 50 | 1 |
| 15 | LULRUL | AD pred ALPA | N0 | 50 | 15 | 1 |
| 16 | RULRLL | AD pred SAD pred S | N0 | 3025 | 10 | 2 |
| 17 | RUL/RLLRML | AD pred AAD pred A | N0 | 200 | 00 | 2 |
| 18 | RLLRLL | AD pred AAD pred A | N0 | 00 | 10 | 2 |
| 19 | RLLLLL | AD pred A\*AD pred A\* | N0 | 00 | 5050 | 2 |
| 20 | RULLLL | AD pred AAD pred A | N0 | 2020 | 05 | 2 |
| 21 | RML/RLLRUL | AD pred CAD pred A | N2 | 01 | 51 | 2 |
| 22 | LULRUL | AD pred SAD pred A | N0 | 100 | 110 | 1 |
| 23 | LLLRUL | AD pred AAD pred A | N0 | 00 | 010 | 1 |
| 24 | LULRULLLL | AD pred AAD pred SAD pred A | N0 | 02010 | 151010 | 1 for all |
| 25 | LULRUL | AD pred AAD pred S | N0 | 060 | 101 | 1 |
| 26 | RMLLLL | AD pred SSQCC | N0 | 801 | 110 | 1 |
| 27 | LULRLLBrain | AD pred SAD pred CAD pred P | N0 | 000 | 1000 | 12  |
| 28 | RULLUL | LCNECAD pred A | N1 | 05 | 00 | 1 |
| 29 | LLLRLL | AD pred SAD pred A | N0 | 00 | 10 | 1 |
| 30 | LLLLLL | SQCCAD pred A | N0 | 00 | 510 | 1 |
| 31 | LULRLL | Sarcomatoid caAD pred P | N2 | 30 1 | 01 | 1 |
| 32 | LLLLUL | AD pred AAD pred A | N0 | 00 | 00 | 1 |

TC=tumor cells, IC=immune cells

RUL=right upper lobe, RML=right middle lobe, RLL=right lower lobe, LUL=left upper lobe, LLL=left lower lobe

AD=adenocarcinoma, LCC= large cell carcinoma, LCNEC= large cell neuroendocrine carcinoma, SQCC= squamous cell carcinoma

A= acinar P=papillary C= cribriform S= solid LPA= lepedic predominant

1= independent 2= metastasis

\* ALK rearrangement detected

The most advanced nodal disease detected at the time of diagnosis based on pathologic review of biopsied or resected lymph nodes is reported according to the 7th edition of the American Joint Committee on Cancer Staging Manual.

S2. Agreement of PD-L1 expression by tumor cells amongst all paired lesions

|  |  |  |
| --- | --- | --- |
|  | Lesion 1 Positive | Lesion 1 Negative |
| Lesion 2 Positive | 2 | 5 |
| Lesion 2 Negative | 7 | 18 |

S3. Agreement of PD-L1 between tumor cells and immune cells

|  |  |  |
| --- | --- | --- |
|  | Lesion 1 Positive | Lesion 1 Negative |
| Lesion 2 Positive | 7 | 22 |
| Lesion 2 Negative | 10 | 28 |

S4. Agreement of PD-L1 by tumor cells amongst independent primary lesions

|  |  |  |
| --- | --- | --- |
|  | Lesion 1 Positive | Lesion 1 Negative |
| Lesion 2 Positive | 0 | 5 |
| Lesion 2 Negative | 6 | 12 |

S5. Agreement of PD-L1 by immune cells amongst independent primary lesions

|  |  |  |
| --- | --- | --- |
|  | Lesion 1 Positive | Lesion 1 Negative |
| Lesion 2 Positive | 4 | 5 |
| Lesion 2 Negative | 6 | 8 |

S6. Agreement of PD-L1 by tumor cells amongst related lesions

|  |  |  |
| --- | --- | --- |
|  | Lesion 1 Positive | Lesion 1 Negative |
| Lesion 2 Positive | 2 | 0 |
| Lesion 2 Negative | 1 | 6 |

S7. Agreement of PD-L1 by immune cells amongst related lesions

|  |  |  |
| --- | --- | --- |
|  | Lesion 1 Positive | Lesion 1 Negative |
| Lesion 2 Positive | 3 | 2 |
| Lesion 2 Negative | 1 | 3 |