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 | RLL  LUL | AD pred S  AD pred S | N0 | 0  0 | 2  2 | 1 |
| 2 | RLL  RML | AD mucinous  AD mucinous | N0 | 0  0 | 5  5 | 2 |
| 3 | RML  LUL | AD pred S  AD pred S | N0 | 60  0 | 5  25 | 1 |
| 4 | RUL  LUL  LLL | SQCC  AD pred A\*  SQCC | N0 | 0  5  0 | 10  10  1 | 1  2 |
| 5 | RML  LLL | AD mucinous  AD mucinous | N0 | 0  0 | 1  10 | 2 |
| 6 | LLL  RUL | ADSQCC  AD pred S | N0 | 0  0 | 10  1 | 1 |
| 7 | RLL  LUL | AD pred A  LPA | N0 | 0  0 | 0  1 | 1 |
| 8 | RML/RLL  LLL | SQCC  SQCC | N2 | 0  0 | 40  30 | 2 |
| 9 | RUL  LUL | SQCC  SQCC | N0 | 5  0 | 1  15 | 1 |
| 10 | RLL  LLL | AD mucinous  AD pred A | N0 | 0  0 | 0  1 | 1 |
| 11 | RUL  LUL | AD pred S  AD pred S | N0 | 0  0 | 5  1 | 1 |
| 12 | LUL  RUL | AD pred A  AD pred A | N0 | 0  10 | 10  0 | 1 |
| 13 | RLL  LLL | AD pred S  AD pred A | N0 | 0  0 | 1  1 | 1 |
| 14 | RUL  LLL | LPA  LPA | N0 | 0  0 | 5  0 | 1 |
| 15 | LUL  RUL | AD pred A  LPA | N0 | 5  0 | 1  5 | 1 |
| 16 | RUL  RLL | AD pred S  AD pred S | N0 | 30  25 | 1  0 | 2 |
| 17 | RUL/RLL  RML | AD pred A  AD pred A | N0 | 20  0 | 0  0 | 2 |
| 18 | RLL  RLL | AD pred A  AD pred A | N0 | 0  0 | 1  0 | 2 |
| 19 | RLL  LLL | AD pred A\*  AD pred A\* | N0 | 0  0 | 50  50 | 2 |
| 20 | RUL  LLL | AD pred A  AD pred A | N0 | 20  20 | 0  5 | 2 |
| 21 | RML/RLL  RUL | AD pred C  AD pred A | N2 | 0  1 | 5  1 | 2 |
| 22 | LUL  RUL | AD pred S  AD pred A | N0 | 10  0 | 1  10 | 1 |
| 23 | LLL  RUL | AD pred A  AD pred A | N0 | 0  0 | 0  10 | 1 |
| 24 | LUL  RUL  LLL | AD pred A  AD pred S  AD pred A | N0 | 0  20  10 | 15  10  10 | 1 for all |
| 25 | LUL  RUL | AD pred A  AD pred S | N0 | 0  60 | 10  1 | 1 |
| 26 | RML  LLL | AD pred S  SQCC | N0 | 80  1 | 1  10 | 1 |
| 27 | LUL  RLL  Brain | AD pred S  AD pred C  AD pred P | N0 | 0  0  0 | 10  0  0 | 1  2 |
| 28 | RUL  LUL | LCNEC  AD pred A | N1 | 0  5 | 0  0 | 1 |
| 29 | LLL  RLL | AD pred S  AD pred A | N0 | 0  0 | 1  0 | 1 |
| 30 | LLL  LLL | SQCC  AD pred A | N0 | 0  0 | 5  10 | 1 |
| 31 | LUL  RLL | Sarcomatoid ca  AD pred P | N2 | 30  1 | 0  1 | 1 |
| 32 | LLL  LUL | AD pred A  AD pred A | N0 | 0  0 | 0  0 | 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 |