

Table S3. Samples repartition.

| Cytological sample specimen types | ALK | | | ROS1 | | |
|---|---------------------------------|--|--------------------------------|--------------------------------|--|---------------------|
| | NGS | ICC | FISH* | NGS | ICC | FISH* |
| EBUS-TBNA lymph nodes (n=59) | Neg = 47 Pos = 6 NE = 6 | Neg = 35 Pos (+ to +++) = 5 NI = 2 NP = 17 | Neg = 2 Pos n = 4 NE = 2 | Neg = 53 NE = 6 | Neg = 41 NI = 2 NP = 16 | Neg = 2 |
| Pleural (n=45) | Neg = 35 Pos = 9 NE = 1 | Neg = 27 Pos (+ to +++) = 12 NI = 2 NP = 4 | Neg = 8 Pos = 9 | Neg = 41 Pos = 3 NE = 1 | Neg = 30 Pos (+ to +++) = 10 NI = 1 NP = 4 | Neg = 8 Pos = 2 |
| EBUS-TBNA mediastinal or pulmonary mass (n=9) | Neg = 9 | Neg = 4 Pos (+ to +++) = 1 NP = 4 | Neg = 1 | Neg = 9 | Neg = 4 Pos (+ to +++) = 1 NP = 4 | Neg = 1 |
| Pericardial (n=7) | Neg = 7 | Neg = 7 | | Neg = 7 | Neg = 4 Pos (+ to +++) = 3 | Neg = 3 |
| Bronchial brush (n=5) | Neg = 5 | Neg = 4 NP = 1 | / | Neg = 5 | Neg = 3 Pos (+ to +++) = 1 NP = 1 | Neg = 1 |
| BAL (n=4) | Neg = 4 | Neg = 2 NP = 2 | / | Neg = 4 | Neg = 2 NP = 2 | / |
| CSF (n=2) | Neg = 1 NE = 1 | NP = 2 | / | Neg = 1 NE = 1 | NP = 2 | / |
| Total (n=131) | Neg = 108 Pos = 15 NE = 8 | Neg = 79 Pos (+ to +++) = 18 NI = 4 NP = 30 | Neg = 11 Pos = 13 NE = 2 | Neg = 120 Pos = 3 NE = 8 | Neg = 84 Pos (+ to +++) = 15 NI = 3 NP = 29 | Neg = 13 Pos = 2 |

ICC: Immunocytochemistry; FISH: Fluorescence *in situ* hybridization; NGS: Next Generation Sequencing; NE: Not exploitable; Neg: negative; Pos: positive; NP: not performed; NI: not interpretable. *FISH was only performed when the result of ICC was + to +++ and when the material was still available.