Supplementary Table 1. Molecular diagnostics tests and laboratory used for next generation sequencing and immunotherapy biomarkers (N=80 unique patients)

| Molecular Diagnostics Tests                  | N, patients |
|---------------------------------------------|-------------|
| **Tissue next-generation sequencing**        | 75          |
| Foundation Medicine                         | 72          |
| Paradigm                                    | 2           |
| Caris                                       | 1           |
| **Cell-free circulating tumor DNA**         | 36          |
| Guardant                                    | 31          |
| Foundation Medicine                         | 5           |
| **Microsatellite Instability**              | 57          |
| Foundation Medicine                         | 54          |
| Caris                                       | 1           |
| OmniSeq                                     | 1           |
| Response Genetics                           | 1           |
| **Tumor Mutational Burden**                 | 64          |
| Foundation Medicine                         | 61          |
| OmniSeq                                     | 2           |
| Caris                                       | 1           |
| **PD-L1 Immunohistochemistry**              | 64          |
| Foundation Medicine                         | 52          |
| Caris                                       | 6           |
| Paradigm                                    | 5           |
| OmniSeq                                     | 1           |
| **PD-L1 RNA**                               | 8           |
| Omniseq                                     | 8           |

*Websites of CLIA-certified testing laboratories:
Caris, https://www.carismolecularintelligence.com/molecular-testing-services/;
Foundation Medicine, https://www.foundationmedicine.com/;
Guardant, http://www.guardant360.com/;
OmniSeq, https://www.omniseq.com/;
Paradigm, https://www.paradigmdx.com/;
Response Genetics, https://www.vyantbio.com/;
### Supplementary Table 2. Types of drugs administered to patients who received >1 drug after MTB discussion (N=52)

| Study ID | Therapies given after MTB discussion | # of therapies | Immune checkpoint inhibitor | Targeted therapy | Second immunotherapy drug given | Chemotherapy | Hormonal therapy |
|----------|-------------------------------------|----------------|-----------------------------|------------------|---------------------------------|--------------|------------------|
| 1837     | IDO inhibitor trial with pembrolizumab | 2              | pembrolizumab               | IDO inhibitor trial |                                |              |                  |
| 1874     | nivolumab, bevacizumab              | 2              | bevacizumab                 |                   |                                 |              |                  |
| 2774     | nivolumab, vismodegib, anastrozole  | 3              | vismodegib                  |                   |                                 |              | anastrozole      |
| 2779     | cetuximab, erlotinib, nivolumab     | 3              | cetuximab, erlotinib        |                   |                                 |              |                  |
| 3043     | trametinib, pembrolizumab           | 2              | pembrolizumab               |                   |                                 |              | trametinib       |
| 1732     | nivolumab, bevacizumab              | 2              | bevacizumab                 |                   |                                 |              |                  |
| 3162     | anti-CD73 trial with durvalumab     | 2              | durvalumab                  | anti-CD73 trial   |                                 |              |                  |
| 2612     | anti-CD73 trial with durvalumab     | 2              | durvalumab                  | anti-CD73 trial   |                                 |              |                  |
| 3332     | olaparib, nivolumab                | 2              | nivolumab                   | olaparib          |                                 |              |                  |
| 3102     | nivolumab, cabozantinib            | 2              | nivolumab                   | cabozantinib      |                                 |              |                  |
| 3175     | nivolumab, anastrozole, sulindac    | 3              | nivolumab                   | sulindac          |                                 |              | anastrozole      |
| 3453     | lenvatinib, nivolumab, palbociclib | 3              | nivolumab                   | palbociclib, lenvatinib |                                 |              |                  |
| 3568     | paclitaxel protein-bound, gemcitabine, nivolumab | 3 | nivolumab | gemcitabine, paclitaxel | | | |
| 3606     | paclitaxel protein-bound, pembrolizumab | 2 | pembrolizumab | | paclitaxel | | |
| 3618     | nivolumab, olaparib                | 2              | nivolumab                   | olaparib          |                                 |              |                  |
| 3799     | cobimetinib, pembrolizumab          | 2              | pembrolizumab               | cobimetinib       |                                 |              |                  |
| 3634     | nivolumab, ibritinib               | 2              | nivolumab                   | ibritinib         |                                 |              |                  |
| 3166     | durvalumab and tremelimumab         | 2              | durvalumab                  | tremelimumab      |                                 |              |                  |
| 2597     | atezolizumab, cobimetinib          | 2              | atezolizumab                | cobimetinib       |                                 |              |                  |
| 3797     | durvalumab with STAT3 inhibitor trial | 2 | durvalumab | STAT3 inhibitor trial | | | |
| 3893     | trametinib, nivolumab              | 2              | nivolumab                   | trametinib        |                                 |              |                  |
| 3867     | nivolumab, lenvatinib, palbociclib | 3              | nivolumab                   | palbociclib, lenvatinib | | | |
| 4014     | anti-CD73 trial with durvalumab     | 2              | durvalumab                  | anti-CD73 trial   |                                 |              |                  |
| 4183     | azacitidine, pembrolizumab          | 2              | pembrolizumab               | azacitidine       |                                 |              |                  |
| 4275     | trametinib, nivolumab              | 2              | nivolumab                   | trametinib        |                                 |              |                  |
| 4340     | palbociclib, pembrolizumab          | 2              | pembrolizumab               | palbociclib       |                                 |              |                  |
| 3984     | ipilimumab, nivolumab              | 2              | nivolumab                   | ipilimumab        |                                 |              |                  |
| 3515     | atezolizumab, trastuzumab          | 2              | atezolizumab                | trastuzumab       |                                 |              |                  |
| 4760     | trametinib, pembrolizumab, pazopanib | 3 | pembrolizumab | trametinib, pazopanib | | | |
| 4188     | pembrolizumab, cisplatin, trametinib, sulindac | 4 | pembrolizumab | trametinib, sulindac | cisplatin | | |
| 2837     | pembrolizumab, lenvatinib           | 2              | pembrolizumab               | lenvatinib        |                                 |              |                  |
| 3692     | gemcitabine, paclitaxel protein-bound, nivolumab | 3 | nivolumab | gemcitabine, paclitaxel | | | |
| 4222     | ipilimumab, nivolumab              | 2              | nivolumab                   | ipilimumab        |                                 |              |                  |
| 4912     | nivolumab, lenvatinib, everolimus   | 3              | nivolumab                   | lenvatinib, everolimus | | | |
| Code  | Combination                                                                 | Count | Drugs                                                                 |
|-------|-----------------------------------------------------------------------------|-------|----------------------------------------------------------------------|
| 4914  | ipilimumab, nivolumab                                                      | 2     | nivolumab, ipilimumab                                                |
| 4486  | ramucirumab, paclitaxel, trastuzumab, pembrolizumab                        | 4     | pembrolizumab, trastuzumab, ramucirumab, paclitaxel                  |
| 3026  | nivolumab, trametinib, anastrozole, afatinib                               | 4     | nivolumab, trametinib, afatinib, anastrozole                         |
| 3571  | pembrolizumab, trastuzumab                                                | 2     | pembrolizumab, trastuzumab                                           |
| 5079  | ibritinib, pembrolizumab                                                   | 2     | pembrolizumab, ibritinib                                             |
| 3374  | nivolumab, bevacizumab, palbociclib                                       | 3     | nivolumab, bevacizumab, palbociclib                                 |
| 4411  | brentuximab, nivolumab                                                    | 2     | nivolumab, brentuximab                                               |
| 5084  | caboziyntinib, nivolumab                                                  | 2     | nivolumab, caboziyntinib                                             |
| 4455  | brentuximab, pembrolizumab                                                | 2     | pembrolizumab, brentuximab                                           |
| 4778  | brentuximab, pembrolizumab                                                | 2     | pembrolizumab, brentuximab                                           |
| 3794  | pembrolizumab, trastuzumab                                                | 2     | pembrolizumab, trastuzumab                                           |
| 4504  | nivolumab, palbociclib, everolimus                                         | 3     | nivolumab, palbociclib, everolimus                                   |
| 4926  | nivolumab, trametinib, olaparib                                           | 3     | nivolumab, trametinib, olaparib                                      |
| 4946  | pembrolizumab, venetoclax                                                  | 2     | pembrolizumab, venetoclax                                             |
| 5490  | selective PI3Kγ Inhibitor, nivolumab                                       | 2     | nivolumab, selective PI3Kγ Inhibitor                                 |
| 3351  | brentuximab, pembrolizumab                                                | 2     | pembrolizumab, brentuximab                                           |
| 5465  | pembrolizumab, trametinib                                                  | 2     | pembrolizumab, trametinib                                             |
| 5686  | caboziyntinib, nivolumab                                                  | 2     | nivolumab, caboziyntinib                                             |

* Twenty-one of the 28 patients (75%) who received one drug (single immune checkpoint inhibitor) following the MTB discussion had high Matching Score (≥50%) and 39 of the 52 (75%) patients who received >1 drug had high Matching Score. Of the 52 patients who received >1 drug, 40/52 (77%) received targeted therapy, 8/52 (15%) received a second immunotherapy, 3/52 (6%) received a hormonal agent, and 6/52 (12%) received chemotherapy as part of their regimen. Some patients received more than 2 drugs.
### Table 3: Clinical characteristics, molecular alterations, and therapies for all patients treated with immune checkpoint inhibitors after MTB presentation (N=80)

| Study ID | Diagnostic category | Matching Score ≥50% | Progression | OS (months) | Death | Clinical benefit | Therapy given after MTB | Pathogenic Molecular Alterations | MSI-High | Tumor Mutational Burden | PD1L IHC |
|----------|---------------------|---------------------|-------------|------------|-------|-----------------|-------------------------|---------------------------------|---------|----------------------|---------|
| 1        | Other malignancies  | 0                   | 1           | 1          | 1     | 5               | nivolumab               | CCND1 amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |
| 2        | Head and Neck cancer| 0                   | 1           | 1          | 1     | 5               | nivolumab               | EGFR amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |
| 3        | Head and Neck cancer| 1                   | 1           | 1          | 1     | 5               | nivolumab               | CCND1 amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Low positive |
| 4        | Colorectal cancer   | 1                   | 1           | 1          | 1     | 5               | nivolumab               | EGFR amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |
| 5        | Colorectal cancer   | 1                   | 1           | 1          | 1     | 5               | nivolumab               | CCND1 amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |
| 6        | Colorectal cancer   | 1                   | 1           | 1          | 1     | 5               | nivolumab               | CCND1 amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |
| 7        | Colorectal cancer   | 1                   | 1           | 1          | 1     | 5               | nivolumab               | CCND1 amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |
| 8        | Colorectal cancer   | 1                   | 1           | 1          | 1     | 5               | nivolumab               | CCND1 amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |
| 9        | Colorectal cancer   | 1                   | 1           | 1          | 1     | 5               | nivolumab               | CCND1 amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |
| 10       | Colon cancer        | 1                   | 1           | 1          | 1     | 5               | nivolumab               | CCND1 amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |
| 11       | Colon cancer        | 1                   | 1           | 1          | 1     | 5               | nivolumab               | CCND1 amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |
| 12       | Colon cancer        | 1                   | 1           | 1          | 1     | 5               | nivolumab               | CCND1 amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |
| 13       | Colon cancer        | 1                   | 1           | 1          | 1     | 5               | nivolumab               | CCND1 amplification, ERBB2 amplification – equivocal, MET amplification – equivocal, CDKN2AB loss, IGFR1 amplification, MET amplification – equivocal, MYC amplification. NOTCH1 V1676I, VHL E186K | No       | unknown              | Unknown |

Note: The table includes matching score ≥50%, progression, OS, death, clinical benefit, therapy given after MTB, pathogenic molecular alterations, MSI-High status, tumor mutational burden, and PD1L IHC status.
| 14 | 3214 | Gastroesophageal cancer | 1 | 4 | 4 | 1 | 5 | pembrolizumab | ABL1 NUP154-ABL1 fusion, CCNE1 amplification, NOTCH1 R365C – subclonal, TP53 R248W, ERBB2 777L, KRAS Q61H, PIK3CA K111_I112insEK, TP53 1195T – equivocal, R248W | No | Intermediate | Negative |
| 15 | 1732 | CNS malignancies | 1 | 2 | 1 | 5 | nivolumab, bevacizumab | PIK3CA Q546L, MTOR E542K, CCNE1 amplification, NOTCH1 R365C – subclonal, TP53 R248W, ERBB2 V777L, KRAS Q61H, PIK3CA K111_I112insEK, TP53 1195T – equivocal, R248W | No | Intermediate | Low Positive |
| 16 | 1162 | Pancreatic cancer | 1 | 24 | 0 | 24 | 0 | 3 | anti-CD3/7 trial with durvalumab | ERBB3 Q284H, ERBB1 R223C, CCNE1 amplification, NOTCH1 R365C – subclonal, TP53 R248W, ERBB2 V777L, KRAS Q61H, PIK3CA K111_I112insEK, TP53 1195T – equivocal, R248W | No | Unknown | High Positive |
| 17 | 1285 | Other malignancies | 1 | 1 | 1 | 8 | 1 | nivolumab | CENPQ amplification, CCND1/A/B loss, IGF1R amplification, TP53 loss exons 2-9, VEGFA amplification | No | Intermediate | Negative |
| 18 | 2812 | colorectal cancer | 0 | 1 | 1 | 4 | 0 | 4 | anti-CD3/7 trial with durvalumab | NTRK1 I709D, NTRK1 L846R, PIK3CA Q546L, MTOR S1641F, CDK4 amplification, PIK3CA Q546L, MDM2 amplification, FRS2 amplification, GLI1 amplification, TERT promoter -124C>T | No | Low | Negative |
| 19 | 3322 | Gynecologic cancer | 1 | 11 | 1 | 12 | 0 | 2 | Pembrolizumab, nivolumab | ATM R592X, BRCAT G257T, PIK3CA amplification – equivocal, TP53 R248W, BCCORL1 V676F, MAG2 splice site 3031+1G>C, PRKDC amplification, TERC amplification, BRCAT Q242X, NFI Copy Number Loss, NOTCH1 c.7082A>T (Q2361L), PCKR1 Copy Number Loss | No | Intermediate | Negative |
| 20 | 3102 | CNS malignancies | 1 | 6 | 1 | 15 | 1 | nivolumab, bevacizumab | CD274 (PD-L1) amplification, CDK4 amplification – equivocal, KDR amplification, KIT amplification, MET amplification, PDCD1LG2 (PD-L2) amplification, PDGFRA amplification, MDM2 amplification – equivocal, CDKN2A/B loss, FRS2 amplification – equivocal, JAK2 amplification, RB1 splice site 2107-1G>C | No | Low | Negative |
| 21 | 3284 | Gastroesophageal cancer | 1 | 24 | 0 | 24 | 0 | 2 | Pembrolizumab | BNP43 loss exons 3-6, CCND2 p.168N4A L784K+41 and p14ARF H568K/I, CTNMA1 loss, TP53 R248Q, CDKN2A p.168N4A L784K+41 and p.14ARF H568K/I, TP53 R248Q | No | Intermediate | Negative |
| 22 | 3375 | Breast cancer | 0 | 2 | 1 | 2 | 1 | 5 | Pembrolizumab | TP53 G515E, RET I552M, MET AMP, BRAF AMP | No | Unknown | Negative |
| 23 | 3397 | Gastroesophageal cancer | 1 | 3 | 1 | 3 | 5 | Pembrolizumab | CCND1 amplification, ERBB1 R223C, CCND1/A/H, PIK3CA amplification – equivocal, SOX2 amplification – equivocal, ARID1A K1907S+32, FGFR1 amplification, FGFR3 amplification, FGFR4 amplification, NPEFL2 029G, NOTCH1 C422P, TP53 C277F | No | Low | Unknown |
| 24 | 2412 | Other malignancies | 1 | 2 | 1 | 5 | Pembrolizumab | STK11 loss exons 1-6, RB1 truncation exon 31, CCNE1 AMP | No | Intermediate | Low Positive |
| 25 | 2414 | Other G1 cancer | 1 | 2 | 1 | 4 | 1 | 5 | Pembrolizumab | NTRK1 I709D, NTRK1 L846R, PIK3CA Q546L, MTOR E542K, CCNE1 amplification, NOTCH1 R365C – subclonal, TP53 R248W, ERBB2 V777L, KRAS Q61H, PIK3CA Q546L, MDM2 amplification – subclonal, MSH2 Q288, RB1 V564H, SMAD4 R314H, TP5 T667 | Yes | Intermediate | Negative |
| 26 | 3528 | Sarcoma | 0 | 14 | 0 | 14 | 0 | 3 | Pembrolizumab | NTRK3 Q618T, TP53 R273C | No | Unknown | Negative |
| 27 | 3775 | Hepatocellular carcinoma | 1 | 2 | 0 | 2 | 0 | 9 | Pembrolizumab, amantadine, sutimilac | L11981R S333P, ARID1A Q648H+71, RETI promoter -124C>T | No | Intermediate | Negative |
| 28 | 1453 | Gastroesophageal cancer | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 29 | 1558 | Gastrointestinal stromal tumors | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 30 | 1543 | Gastric cancer | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 31 | 1504 | Breast cancer | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 32 | 1618 | Hepatocellular Carcinoma | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 33 | 1799 | Colorectal cancer | 2 | 1 | 1 | 1 | 2 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 34 | 1634 | Hematoologic malignancies | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 35 | 1699 | Colorectal cancer | 2 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 36 | 1551 | Colorectal cancer | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 37 | 1797 | Hematoologic malignancies | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 38 | 1693 | Hematoologic malignancies | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 39 | 1661 | Gastroesophageal cancer | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 40 | 1614 | Pancreatic cancer | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 41 | 1633 | Colorectal cancer | 1 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 42 | 1662 | Rare cancers | 2 | 1 | 1 | 1 | 3 | 0 | 2 | nivolumab, nivolumab, palbociclib | CORD1 amplification, MET amplification, CDK4/6 amplification, ARID1A R1276*, FGFR9 amplification, FGFR1 amplification, PIK3CG amplification, ERCC1 expression, TP53 P270L, MGMT 0, 100 negative, RRMT 2, 10 negative, TOP2A 2, 10 positive, TOP1 1, 10 positive | No | Intermediate | Low Positive |
| 43 | 0187 | Breast cancer | 2 | 2 | 1 | 2 | 1 | 3 | alemtuzumab | PBCCA RT147R, 9345, BRCA2 (30184660), CDH1 (598188), splice site 1320+1G>A, MUTYH rearrangement, intron 1, PET5 ES1*, SMAD3 V531, TP53 C176Y | No | High | Negative |
| 44 | 0216 | Gynecologic cancer | 19 | 19 | 0 | 4 | ramatinib, nivolumab | No | Unknown | Negative |
| 45 | 0240 | Pancreatic cancer | 0 | 1 | 1 | 3 | pembrolizumab, panobinotuzumab | No | Unknown | Unknown |
| 46 | 0584 | Head and Neck cancer | 5 | 1 | 16 | 0 | pembrolizumab | No | Intermediate | Negative |
| 47 | 0644 | Gastroesophageal cancer | 2 | 2 | 5 | 0 | pembrolizumab | No | Intermediate | Negative |
| 48 | 0515 | Bladder/Urologic cancer | 3 | 1 | 1 | 0 | pembrolizumab, vaskuzumab | No | Intermediate | Negative |
| 49 | 0760 | Colorectal cancer | 11 | 11 | 12 | 0 | pembrolizumab, nivolumab, pembrolizumab, ipilimumab | No | Intermediate | Negative |
| 50 | 0156 | Ovarian cancer | 12 | 12 | 10 | 0 | pembrolizumab, capivas, alemtuzumab, strabum | No | Intermediate | Negative |
| 51 | 0383 | Sarcoma | 13 | 13 | 0 | 12 | pembrolizumab, lornalsemb | No | Intermediate | Unknown |
| 52 | 0392 | Pancreatic cancer | 1 | 1 | 1 | 10 | pembrolizumab, gemcitabine, paclitaxel, protein-bound, nivolumab | No | Intermediate | Negative |
| 53 | 0422 | Gynecologic cancer | 1 | 1 | 1 | 10 | pembrolizumab, revusumab | No | Unknown | Low Positive |
| 54 | 0436 | Gynecologic cancer | 1 | 1 | 13 | 0 | pembrolizumab | No | Unknown | Positive |
| 55 | 0491 | Ovarian cancer | 0 | 0 | 1 | 2 | pembrolizumab | No | True | Positive |
| 56 | 0494 | Ovarian cancer | 2 | 2 | 0 | 2 | pembrolizumab | No | True | Positive |
| 57 | 0512 | Ovarian cancer | 2 | 2 | 0 | 2 | pembrolizumab, neratinib, erlotinib | No | True | Negative |
| 58 | 0514 | Ovarian cancer | 14 | 14 | 14 | 0 | pembrolizumab, vaskuzumab | No | Intermediate | Negative |
| 59 | 0486 | Gastroesophageal cancer | 1 | 1 | 4 | 1 | pembrolizumab, panobinotuzumab, pembrolizumab, ipilimumab | No | Low | Negative |
| 58 | 1026 | Pancreatic cancer | 1 | 3 | 1 | 3 | 0 | 0 | nivolumab, framelitinib, anaftonicel, alkinitib | CDKN2A p R80*, KRAS G12D, SMARCD1 R201Q, NF2 H246S, ERBB2 R816H | No | Intermediate | Negative |
| 59 | 4211 | Bladder/Ureter cancer | 1 | 0 | 1 | 10 | 1 | 3 | pembrolizumab, trastuzumab | CDKN2A/B amplification, ERBB2 amplification, ERBB3 amplification, MYCN amplification, CCNE1 amplification – equivocal, CDKN2A/B loss, KDM6A Q240*, MCL1 amplification, TERT promoter – 124C>T, TP53 Q192* | No | Intermediate | Negative |
| 60 | 4019 | Gastroesophageal cancer | 1 | 15 | 1 | 10 | 0 | 5 | pembrolizumab, trastuzumab | BRCA2 splice site 17_1707delATGAAAT, IDH1 R132C, RNF43 truncation intron 5, ARID1A Q1519fs*13, TP53 splice site 685+1G>A, p14ARF R175H, VEGFA amplification | No | Unknown | Unknown |
| 61 | 1374 | Bladder/Ureter cancer | 1 | 0 | 1 | 11 | 0 | 3 | pembrolizumab, bevacizumab, palbociclib | CDKN2A/B loss, FAS G238*, TNFAIP3 K287fs*8, V273fs*5 | No | Low | Low Positive |
| 62 | 4411 | Hematologic malignancies | 1 | 2 | 1 | 3 | 1 | 5 | pembrolizumab | CD274 (PD-L1) amplification – equivocal, FGFR1 N546K, NF1 C1016*, PIK3CA amplification – equivocal, E545K, SOX2 amplification – equivocal, ATRX E361fs*1, CDKN2A/B loss, JAK2 amplification – equivocal | No | Intermediate | High Positive |
| 63 | 3896 | Gastroesophageal cancer | 0 | 3 | 1 | 5 | 1 | 5 | cabozantinib, nivolumab | CDKN2A/B loss, FAS G238*, TNFAIP3 K287fs*8, V273fs*5 | No | Intermediate | Negative |
| 64 | 5084 | Bladder/Ureter cancer | 1 | 6 | 1 | 11 | 0 | 3 | pembrolizumab | PIK3CA Y1021C, RICTOR amplification, BCOR Q312*, FGF10 amplification, MYST3 S1496L, PIK3CG R839C, TET2 R550*, TP53 R273C | No | Intermediate | Negative |
| 65 | 4086 | Gastroesophageal cancer | 1 | 0 | 1 | 1 | 0 | 0 | nivolumab | CDKN2A/B loss, FAS G238*, TNFAIP3 K287fs*8, V273fs*5 | No | Low | Unknown |
| 66 | 3374 | Bladder/Ureter cancer | 1 | 6 | 1 | 11 | 0 | 3 | pembrolizumab | CDKN2A/B loss, FAS G238*, TNFAIP3 K287fs*8, V273fs*5 | No | Intermediate | Negative |
| 67 | 4455 | Gastroesophageal cancer | 1 | 1 | 1 | 2 | 1 | 5 | pembrolizumab | BRCA2 splice site 17_1707delATGAAAT, IDH1 R132C, RNF43 truncation intron 5, ARID1A Q1519fs*13, TP53 splice site 685+1G>A, p14ARF R175H, VEGFA amplification | No | Intermediate | High Positive |
| 68 | 4778 | Gastroesophageal cancer | 1 | 0 | 1 | 1 | 0 | 0 | nivolumab, trastuzumab | CDKN2A/B loss, FAS G238*, TNFAIP3 K287fs*8, V273fs*5 | No | Intermediate | Positive |
| 69 | 4504 | Gastroesophageal cancer | 1 | 0 | 1 | 1 | 0 | 0 | nivolumab, pembrolizumab, trastuzumab | CDKN2A/B loss, FAS G238*, TNFAIP3 K287fs*8, V273fs*5 | No | Intermediate | Negative |
| 70 | 3794 | Gastroesophageal cancer | 1 | 0 | 1 | 10 | 0 | 1 | pembrolizumab | CDKN2A/B loss, FAS G238*, TNFAIP3 K287fs*8, V273fs*5 | Yes | High | Negative |
| ID | Tumor Type                      | Other Malignancies | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|----|---------------------------------|--------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|
| 71 | Other malignancies              |                    | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | nivolumab, trametinib, olaparib |       |       |       |       | Yes  |
| 72 | Hematologic malignancies        |                    | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 0  |
| 73 | Head and Neck cancer            |                    | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0  |
| 74 | Hematologic malignancies        |                    | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0  |
| 75 | Opthalogenic cancer             |                    | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |
| 76 | Sarcoma                         |                    | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0  |
| 77 | Other malignancies              |                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 78 | Gynecologic cancer              |                    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  |
| 79 | Gastroesophageal cancer         |                    | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 80 | Gynecologic cancer              |                    | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |