**SUPPLEMENTARY TABLES AND FIGURES**

**FOR**

**THE FGFR LANDSCAPE IN CANCER:**

**ANALYSIS OF** **4853 TUMORS BY NEXT GENERATION SEQUENCING**

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**Supplementary Table S1**. Genes included in Foundation One assay. Initially, the assay consisted of 182 genes, which was then expanded to 236 genes in December 2012 during the course of this study (December 16, 2011 to November 14, 2013). The gene names highlighted in GREEN indicate those genes that were REMOVED from the assay, and the gene names highlighted in YELLOW indicated genes that were ADDED to the assay.

| **Genes that are commonly aberrant in cancers** |
| --- |
| ABL1 | BRCA1 | CREBBP | FANCA | GNAQ | KEAP1 | MYCN | PRDM1 | SPOP |
| ABL2 | BRCA2 | CRKL | FANCC | GNAS | KIT | MYD88 | PRKAR1A | SRC |
| AKT1 | BRIP1 | CRLF2 | FANCD2 | GPR124 | KLHL6 | NF1 | PRKDC | STAG2 |
| AKT2 | BTK | CSF1R | FANCE | GRIN2A | KRAS | NF2 | PTCH1 | STAT3 |
| AKT3 | CARD11 | CTCF | FANCF | GSK3B | LRP1B | NFE2L2 | PTCH2 | STAT4 |
| ALK | CBFB | CTNNA1 | FANCG | GUCY1A2 | LRP6 | NFKBIA | PTEN | STK11 |
| APC | CBL | CTNNB1 | FANCL | HGF | LTK | NKX2-1 | PTPN11 | SUFU |
| AR | CCND1 | DAXX | FBXW7 | HOXA3 | MAP2K1 | NOTCH1 | PTPRD | TBX22 |
| ARAF | CCND2 | DDR2 | FGF10 | HRAS | MAP2K2 | NOTCH2 | RAD50 | TET2 |
| ARFRP1 | CCND3 | DNMT3A | FGF14 | HSP90AA1 | MAP2K4 | NPM1 | RAD51 | TGFBR2 |
| ARID1A | CCNE1 | DOT1L | FGF19 | IDH1 | MAP3K1 | NRAS | RAF1 | TNFAIP3 |
| ARID2 | CD79A | EGFR | FGF23 | IDH2 | MCL1 | NTRK1 | RARA | TNFRSF14 |
| ASXL1 | CD79B | EMSY (C11ORF30) | FGF3 | IGF1R | MDM2 | NTRK2 | RB1 | TNKS |
| ATM | CDC73 | EP300 | FGF4 | IGF2R | MDM4 | NTRK3 | RET | TNKS2 |
| ATR | CDH1 | EPHA3 | FGF6 | IKBKE | MED12 | NUP93 | RICTOR | TOP1 |
| ATRX | CDH2 | EPHA5 | FGFR1 | IKZF1 | MEF2B | PAK3 | RNF43 | TP53 |
| AURKA | CDH20 | EPHA6 | FGFR2 | IL7R | MEN1 | PALB2 | RPTOR | TSC1 |
| AURKB | CDH5 | EPHA7 | FGFR3 | INHBA | MET | PAX5 | RUNX1 | TSC2 |
| AXL | CDK12 | EPHB1 | FGFR4 | INSR | MITF | PBRM1 | SETD2 | TSHR |
| BAP1 | CDK4 | EPHB4 | FLT1 | IRF4 | MLH1 | PDGFRA | SF3B1 | USP9X |
| BARD1 | CDK6 | EPHB6 | FLT3 | IRS2 | MLL (KMT2A) | PDGFRB | SMAD2 | VHL |
| BCL2 | CDK8 | ERBB2 | FLT4 | JAK1 | MLL2 (KMT2D) | PDK1 | SMAD3 | WISP3 |
| BCL2A1 | CDKN1B | ERBB3 | FOXL2 | JAK2 | MPL | PHLPP2 | SMAD4 | WT1 |
| BCL2L1 | CDKN2A | ERBB4 | FOXP4 | JAK3 | MRE11A | PIK3CA | SMARCA4 | XPO1 |
| BCL2L2 | CDKN2B | ERCC2 | GATA1 | JUN | MSH2 | PIK3CG | SMARCB1 | ZNF217 |
| BCL6 | CDKN2C | ERG | GATA2 | KAT6A (MYST3) | MSH6 | PIK3R1 | SMO | ZNF703 |
| BCOR | CEBPA | ESR1 | GATA3 | KDM5A | MTOR | PIK3R2 | SOCS1 |   |
| BCORL1 | CHEK1 | EZH2 | GID4 (C17ORF39) | KDM5C | MUTYH | PKHD1 | SOX10 |   |
| BLM | CHEK2 | FAM123B (AMER1,WTX) | GNA11 | KDM6A | MYC | PLCG1 | SOX2 |   |
| BRAF | CIC | FAM46C | GNA13 | KDR | MYCL1 | PPP2R1A | SPEN |   |
| **Some genes that are commonly rearranged in cancers** |
| ALK | BCR | BCL2 | BRAF | EGFR | ETV1 | ETV4 | ETV5 | ETV6 |
| EWSR1 | MLL | MYC | NTRK1 | PDGFRA | RAF1 | RARA | RET | ROS1 |
| TMPRSS2 |  |  |  |  |  |  |  |  |

**Supplementary Table S2.** Frequencies of FGFR aberrations by histology for all histologies with ≥ 75 cases analyzed

|  |  |  |
| --- | --- | --- |
| **Cancer** | **N** | **Frequency of aberrations with respect to number of cases for each cancer (%)** |
| **All** | **FGFR1** | **FGFR2** | **FGFR3** | **FGFR4** | **Amp** | **Mutation** | **Rearrangement** |
| **Urothelial**  | 126 | 31.7 | 8.7 | 0.8 | 22.2 | 0 | 8.7 | 18.3 | 7.1 |
| **Breast**  | 522 | 17.4 | 13.8 | 2.3 | 0.8 | 0.6 | 16.7 | 0.4 | 0.4 |
| **Endometrial**  | 80 | 11.3 | 1.3 | 7.5 | 2.5 | 0 | 1.3 | 8.8 | 1.3 |
| **Ovarian/fallopian**  | 233 | 8.6 | 4.7 | 1.7 | 1.7 | 0.4 | 8.2 | 0.4 | 0 |
| **Carcinoma unknown primary** | 267 | 8.2 | 1.9 | 2.6 | 3.4 | 0.4 | 4.9 | 1.9 | 1.5 |
| **Glioma** | 144 | 7.6 | 3.5 | 0 | 4.2 | 0 | 0.7 | 5.6 | 1.4 |
| **Cholangiocarcinoma** | 115 | 7.0 | 0.9 | 6.1 | 0 | 0 | 2.6 | 0.9 | 3.5 |
| **Gastric/GE junction**  | 163 | 6.7 | 1.8 | 3.7 | 1.2 | 0 | 5.5 | 0.6 | 1.2 |
| **Non-small cell lung**  | 675 | 5.2 | 2.7 | 0.3 | 1.2 | 1.0 | 3.7 | 1.3 | 0.1 |
| **Pancreatic exocrine** | 172 | 4.7 | 1.2 | 1.2 | 2.3 | 0 | 3.5 | 1.2 | 0.6 |
| **Renal cell**  | 87 | 4.6 | 1.1 | 0 | 2.3 | 1.1 | 3.4 | 1.1 | 1.1 |
| **Head and neck, squamous cell** | 109 | 4.6 | 0.9 | 1.8 | 0.9 | 0.9 | 1.8 | 2.8 | 0 |
| **Colorectal**  | 294 | 4.4 | 2.4 | 1.4 | 0.3 | 0.3 | 3.1 | 0.7 | 0.7 |
| **Sarcoma (all)** | 324 | 4.0 | 2.5 | 0.9 | 0.6 | 0 | 2.5 | 1.9 | 0 |
| **Neuroendocrine**  | 107 | 3.7 | 3.7 | 0 | 0 | 0 | 3.7 | 0 | 0 |
| **Melanoma** | 134 | 1.5 | 0.7 | 0.7 | 0 | 0 | 0.7 | 0.7 | 0 |
| **Leiomyosarcoma** | 77 | 1.3 | 1.3 | 0 | 0 | 0 | 1.3 | 0 | 0 |

**Notes:** Urothelial carcinomas include cancers of the renal pelvis (21 cases), ureter (6), bladder (90), and not otherwise specified (9). Gliomas include glioblastoma (84 cases), astrocytoma (21), ependymoma (7), oligodendroglioma (17), and glioma not otherwise specified (15). Sarcomas include small numbers of several types of sarcoma, with the largest groups being leiomyosarcoma (77 cases, see table), liposarcoma (35), osteosarcoma (30), rhabdomyosarcoma (27), angiosarcoma (23), and chondrosarcoma (12). The sarcomas with FGFR aberrations included sarcoma not otherwise specified (2 cases, *FGFR3* R248C and E627K), leiomyosarcoma (1 case of *FGFR1* amp), osteosarcoma (1 case of *FGFR1* amp), angiosarcoma (1 case of *FGFR3*-R248C), clear cell sarcoma (1 case of *FGFR1* amp), fibrosarcoma (1 case of *FGFR2* amp), liposarcoma (1 case of *FGFR1*-N546K), and breast sarcoma (1 case of *FGFR1* N546K). In some tumor types, the sum of individual frequencies may be greater than the overall frequency if there were tumors harboring more than one aberration.

 **Supplementary Table S3.** Frequencies of FGFR aberrations by histology for all histologies with < 75 cases analyzed

|  |  |  |  |
| --- | --- | --- | --- |
| **Cancer** | **No. of cases** | **No. of Cases with FGFR Aberration** | **% of cases with FGFR Aberration** |
| **Adenoid cystic carcinoma** | 58 | 2 | 3.4 |
| **Adrenal carcinoma** | 26 | 1 | 3.8 |
| **Anal squamous cell carcinoma** | 23 | 3 | 13 |
| **Anaplastic astrocytoma** | 22 | 1 | 4.5 |
| **Basal cell carcinoma** | 7 | 1 | 14.3 |
| **Bladder adenocarcinoma** | 8 | 1 | 12.5 |
| **Carcinoid** | 22 | 3 | 13.6 |
| **Cervical squamous cell carcinoma** | 22 | 1 | 4.5 |
| **Cervical adenocarcinoma** | 26 | 2 | 7.7 |
| **Cutaneous squamous cell carcinoma** | 35 | 3 | 8.6 |
| **Ductal carcinoma in situ (breast)** | 2 | 1 | 50 |
| **Esophageal squamous cell carcinoma** | 21 | 3 | 14.3 |
| **Esophageal adenocarcinoma** | 69 | 2 | 2.9 |
| **Gallbladder carcinoma** | 47 | 5 | 8.5 |
| **Hemangioendothelioma** | 2 | 1 | 50 |
| **Hepatocellular carcinoma** | 44 | 1 | 2.3 |
| **Large cell carcinoma** | 4 | 1 | 25 |
| **Lymphoepithelioma** | 4 | 1 | 25 |
| **Malignant peripheral nerve sheath tumor** | 15 | 1 | 6.7 |
| **Mesothelioma** | 42 | 1 | 2.4 |
| **Neuroblastoma** | 28 | 1 | 3.6 |
| **Osteosarcoma** | 30 | 1 | 3.3 |
| **Paraganglioma** | 4 | 1 | 25 |
| **Peritoneal carcinoma** | 21 | 1 | 4.8 |
| **Pineal tumor** | 2 | 1 | 50 |
| **Prostate carcinoma** | 62 | 4 | 6.5 |
| **Small cell lung carcinoma** | 52 | 2 | 3.9 |
| **Squamous cell carcinoma** | 35 | 2 | 5.7 |
| **Thymic carcinoma** | 16 | 1 | 6.3 |
| **Uterine carcinosarcoma** | 18 | 4 | 22.2 |

**Supplementary Table S4.** Summary of *FGFR* missense mutations and their functional significance

| **FGFR Missense Mutation** | **Location in Protein** | **Reported in COSMIC** | **Functional Effect of Alteration** | **Able to Transform Cells *in vitro*** | **Reference(s)\*** |
| --- | --- | --- | --- | --- | --- |
| FGFR1 T141R | extracellular | Yes | Unknown | Unknown |  |
| FGFR1 R445W | cytoplasmic | Yes | Unknown | Unknown |  |
| FGFR1 N546K | kinase | Yes | **Activating** | **Yes** | (1) |
| FGFR1 K656E | kinase | Yes | **Activating** | **Yes** | (2) |
| FGFR1 G818R | cytoplasmic | Yes | Unknown | Unknown |  |
| FGFR2 S252W | extracellular | Yes | **Activating** | **Yes** | (3,4) |
| FGFR2 P253R | extracellular | Yes | **Activating** | **Yes** | (4) |
| FGFR2 A315T | extracellular | Yes | **Activating** | Unknown | (3,5) |
| FGFR2 D336N | extracellular | Yes | Unknown | Unknown |  |
| FGFR2 Y375C | extracellular | Yes | **Activating** | Unknown | (5,6) |
| FGFR2 C382R | transmembrane  | Yes | **Activating** | **Yes** | (4,5,7) |
| FGFR2 V395D | transmembrane | Yes | Unknown | Unknown |  |
| FGFR2 D471N | cytoplasmic | Yes | Unknown | Unknown |  |
| FGFR2 I547V | kinase | Yes | Unknown | Unknown |  |
| FGFR2 N549K | kinase | Yes | **Activating** | **Yes** | (4,5,8) |
| FGFR2 N549Y | kinase | **No** | Unknown | Unknown |  |
| FGFR2 K659E | kinase | Yes | **Activating** | **Yes** | (5,9) |
| FGFR3 S131L | extracellular | Yes | Unknown | Unknown |  |
| FGFR3 R248C | extracellular | Yes | **Activating** | **Yes** | (10-12) |
| FGFR3 S249C | extracellular | Yes | **Activating** | **Yes** | (13-16) |
| FGFR3 G370C | extracellular | Yes | **Activating** | Unknown | (13) |
| FGFR3 S371C | extracellular | Yes | **Activating** | Unknown | (13) |
| FGFR3 Y373C | extracellular | Yes | **Activating** | **Yes** | (10,14,17) |
| FGFR3 G380R | transmembrane | Yes | **Activating** | Unknown | (18) |
| FGFR3 R399C | cytoplasmic | Yes | Unknown | Unknown |  |
| FGFR3 E627K | kinase | Yes | Unknown | Unknown |  |
| FGFR3 K650E | kinase | Yes | **Activating** | **Yes** | (17,19) |
| FGFR3 K650M | kinase | Yes | **Activating** | Unknown | (10,20) |
| FGFR3 V677I | kinase | Yes | Unknown | Unknown |  |
| FGFR3 D785Y | cytoplasmic | **No** | Unknown | Unknown |  |
| FGFR4 R183S | extracellular | Yes | Unknown | Unknown |  |
| FGFR4 R394Q | cytoplasmic | Yes | Unknown | Unknown |  |
| FGFR4 D425N | cytoplasmic | Yes | Unknown | Unknown |  |
| FGFR4 V510L | kinase | Yes | Unknown | Unknown |  |
| FGFR4 R610H | kinase | Yes | Unknown | Unknown |  |
| \*Note: References used in this table are found at the end of this document. |

**Supplementary Table S5.** Listing of all gene fusions in the data set (total = 28 cases)

| **Gene Partner (N), chromosome** | **Specific Fusion (N)** | **Tumor types (N)** |
| --- | --- | --- |
| TACC3 (12), chromosome 4p | FGFR3-TACC3 (11)FGFR2-TACC3 (1) | CUP (1), cervical carcinoma (1), Endometrial adeno-carcinoma (1), gallbladder carcinoma (1), glioma (1), NSCLC (1), renal cell carcinoma (1), urothelial carcinoma (4).Cholangiocarcinoma (1) |
| NPM1 (3), chromosome 5q | FGFR2-NPM1 (3) | Colorectal carcinoma (2), large cell lung carcinoma (1) |
| TACC2 (2), chromosome 10q | FGFR2-TACC2 (2) | CUP (1), Gastric/GE Junction adeno-carcinoma (1) |
| BICC1 (2), chromosome 10q | FGFR2-BICC1 (2) | CUP (1), Cholangiocarcinoma (1) |
| C10orf68 (1), chromosome 10p | FGFR2-C10orf68 (1) | Gastric/GE Junction adeno-carcinoma (1) |
| JAKMIP1 (1), chromosome 4p | FGFR3-JAKMIP1 (1) | Bladder urothelial (transition cell) carcinoma (1) |
| KIAA1598 (1), chromosome 10q | FGFR2-KIAA1598 (1) | Cholangiocarcinoma (1) |
| NCALD (1), chromosome 8q | FGFR2-NCALD (1) | Breast carcinoma (1) |
| NOL4 (1), chromosome 18q | FGFR2-NOL4 (1) | Cholangiocarcinoma (1) |
| NTM (1), chromosome 11q | FGFR1-NTM (1) | Bladder urothelial (transition cell) carcinoma (1) |
| PPAPDC1A (1), chromosome 10q | FGFR2-PPAPDC1A (1) | Prostate carcinoma (1) |
| TNIP2 (1), chromosome 4p | FGFR3-TNIP2 (1) | Bladder urothelial (transition cell) carcinoma (1) |
| WHSC1 (1), chromosome 4p | FGFR3-WHSC1 (1) | Breast carcinoma (1) |

## Abbreviations: BICC1 = BicC family RNA binding protein 1; C10orf68 = chromosome 10 open reading frame 68; CUP = carcinoma unknown primary; JAKMIP1 (Janus Kinase And Microtubule Interacting Protein 1); KIAA1598 = shootin1; NCALD = Neurocalcin Delta; NPM1 = Nucleophosmin (Nucleolar Phosphoprotein B23, Numatrin); NOL4 = Nucleolar Protein 4; NTM = Neurotrimin; NSCLC = non-small cell lung carcinoma; PPAPDC1A = Phosphatidic Acid Phosphatase Type 2 Domain Containing 1A; TACC2 = Transforming, Acidic Coiled-Coil Containing Protein 2; TACC3 = Transforming, Acidic Coiled-Coil Containing Protein 3; TNIP2 = TNFAIP3 Interacting Protein 2; WHSC1 = Wolf-Hirschhorn Syndrome Candidate 1. Note: FGFR3 is on chromosome 4p, FGFR4 is on chromosome 5q, FGFR1 is on chromosome 8p, FGFR2 is on chromosome 10q.

## Table S6. Co-existent gene aberrations for all cases with FGFR aberrations

| **Case** | **Disease Grouping** | **FGFR** | **TP53** | **PI3Kinase** | **AKT/MTOR/PTEN** | **Cell Cycle** | **DNA repair** | **Transcription/Histone/****Methylation** | **Growth Factor Receptors** | **RAS/RAF/MAPK** | **Other** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Adenoid cystic carcinoma | FGFR2-N549K |  |  |  | APC-S2129fs\*10 | BRCA1-A92fs\*27 |  |  |  | NOTCH1-V2476fs\*3 |
| 2 | Adenoid cystic carcinoma | FGFR1-amp |  | PIK3CA-E545K |  | CDK4-amp |  | MYC-amp | IGF1R-amp |  | MDM2-amp |
| 3 | Adrenal carcinoma | FGFR4-gain |  |  |  |  |  |  | ERBB4-gain |  |  |
| 4 | Anal squamous cell carcinoma | FGFR3-S249C |  | PIK3CA-V344G | PTEN-R130\* | CCND1-amp | MSH6-S1246\* |  |  |  | EPHA5-R417QFBXW7-R505C |
| 5 | Anal squamous cell carcinoma | FGFR1-amp | TP53-H179Y, R175H |  |  | CCND3-ampCDKN2A/B-loss |  |  |  |  | FBXW7-R505GNOTCH1-G481S |
| 6 | Anal squamous cell carcinoma | FGFR3-G380R |  | PIK3CA-E365K, amp |  | CCND1-amp |  | SOX2-amp |  |  | CEBPA-A199fs\*119IKZF1-E304\*NOTCH1-V1686fs\*38 |
| 7 | Anaplastic astrocytoma | FGFR2-I547V | TP53-S127F, K120E | PIK3CA-H1047R |  |  |  | KDM6A-splice site 619+1insT |  |  | MCL1-amp |
| 8 | Basal cell carcinoma | FGFR2-N549Y |  |  |  |  | BRCA2-Q1429\* |  |  |  | PTCH1-Y224fs\*29 |
| 9 | Bladder adenocarcinoma | FGFR2-amp | TP53-R175H |  |  |  |  | MYC-amp |  |  |  |
| 10 | Breast carcinoma | FGFR4-gain | TP53-R273C | PIK3CA-H1047R |  |  |  |  | EGFR-amp |  |  |
| 11 | Breast carcinoma | FGFR1-amp |  |  |  |  |  |  |  |  |  |
| 12 | Breast carcinoma | FGFR1-amp | TP53-R283P |  |  | CCND2-amp |  |  |  | KRAS-amp |  |
| 13 | Breast carcinoma | FGFR1-amp |  | PIK3CA-E545K |  | CDKN2A-loss |  |  |  |  |  |
| 14 | Breast carcinoma | FGFR1-amp |  |  |  |  |  |  |  |  | MDM2-amp |
| 15 | Breast carcinoma | FGFR1-amp |  | PIK3CA-H1047R |  |  |  |  |  |  |  |
| 16 | Breast carcinoma | FGFR1-amp |  |  |  |  |  |  |  |  |  |
| 17 | Breast carcinoma | FGFR1-amp | TP53-Y220C | PIK3CA-H1047R |  |  |  |  |  |  |  |
| 18 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-amp |  |  |  |  | ESR1-D538G |
| 19 | Breast carcinoma | FGFR1-amp | TP53-S99fs\*44 |  |  | RB1-L779\* |  | MYC-amp |  |  | MDM4-amp |
| 20 | Breast carcinoma | FGFR1-amp | TP53-R342\* |  |  |  |  |  |  |  | ZNF703-amp |
| 21 | Breast carcinoma | FGFR2-amp | TP53-Y220C | PIK3CA-H1047L, amp |  |  |  | MYC-amp |  |  |  |
| 22 | Breast carcinoma | FGFR1-amp |  | PIK3CA-M1043L |  | CCND1-amp |  |  |  | KRAS-G12S |  |
| 23 | Breast carcinoma | FGFR1-amp | TP53-C238Y |  |  | CCND2-amp |  |  |  | KRAS-amp | JAK2-amp |
| 24 | Breast carcinoma | FGFR1-amp | TP53-R273H |  |  |  |  |  |  |  | ESR1-Y537S |
| 25 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-amp | BRCA1-E1346fs\*20 |  |  |  | ESR1-D538GMEN1-splice site 669+1G>A |
| 26 | Breast carcinoma | FGFR1-amp |  |  |  |  |  |  |  |  |  |
| 27 | Breast carcinoma | FGFR1-amp |  |  |  |  |  |  |  |  | ARID1A-L113fs\*105 |
| 28 | Breast carcinoma | FGFR1-amp |  |  |  |  | FANCA-splice site 1827-1G>A |  |  |  | CDH1-E310\*SMAD2-C463fs\*6+ |
| 29 | Breast carcinoma | FGFR1-amp |  | PIK3CA-E545K |  | CCND1-ampCDK4-amp |  |  | PDGFRB-amp |  | MDM2-ampSMAD4-splice site 787+1del, deletion (exon 8) |
| 30 | Breast carcinoma | FGFR1-amp | TP53-R273C |  |  | CCND1-amp |  | MYC-amp |  |  | AURKA-ampSRC-ampTOP1-amp |
| 31 | Breast carcinoma | FGFR1-amp |  |  |  | APC-I1307K | ATM-F2958fs\*1 |  |  |  | CDH1-Q23\* |
| 32 | Breast carcinoma | FGFR1-amp |  |  | AKT2-amp | CCND1-amp |  |  | KDR-S620R |  | AURKA-amp |
| 33 | Breast carcinoma | FGFR1-amp | TP53-M237I |  |  | CCNE1-amp |  |  |  |  | MCL1-amp |
| 34 | Breast carcinoma | FGFR1-amp | TP53-R248Q |  |  | CCND3-amp |  |  |  |  | GPR124-G839D |
| 35 | Breast carcinoma | FGFR1-amp | TP53-T125fs\*29 |  |  |  |  | MYC-amp |  | NRAS-amp |  |
| 36 | Breast carcinoma | FGFR2-amp | TP53-splice site 560-1G>A |  | PTEN-splice site 136\_164+94del123 | RB1-E287\* |  |  |  |  |  |
| 37 | Breast carcinoma | FGFR1-amp |  |  |  |  | BRCA2-BRCA2 rearrange |  |  |  |  |
| 38 | Breast carcinoma | FGFR1-amp |  |  | PTEN-Loss | CCND1-amp |  |  |  |  | IKBKE-ampMDM4-amp |
| 39 | Breast carcinoma | FGFR1-amp |  |  |  | CDK4-amp |  |  |  |  | MDM2-amp |
| 40 | Breast carcinoma | FGFR2-amp | TP53-Q192\* |  |  |  |  |  |  |  |  |
| 41 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-amp |  |  |  |  | CDH1-I650fs\*13 |
| 42 | Breast carcinoma | FGFR1-amp |  |  | AKT1-Amp |  |  | MYC-amp |  |  | AURKA-ampMCL1-amp |
| 43 | Breast carcinoma | FGFR1-amp | TP53-Y220C |  | AKT2-amp | CCND3-ampCCNE1-amp |  |  |  |  |  |
| 44 | Breast carcinoma | FGFR2-amp |  |  | AKT1-E17K |  |  |  |  |  |  |
| 45 | Breast carcinoma | FGFR1-amp |  |  |  | APC-I1307KCCND1-ampCDKN2A-R24fs\*20 | BRCA2-S1982fs\*22 |  |  |  |  |
| 46 | Breast carcinoma | FGFR1-amp | TP53-W146\* | PIK3CA-E545K |  | CCND1-amp |  |  |  |  |  |
| 47 | Breast carcinoma | FGFR2-amp | TP53-R273C |  |  |  |  |  |  |  | IRS2-amp |
| 48 | Breast carcinoma | FGFR1-amp |  |  |  | CDK4-amp |  | MYC-amp | IGF1R-amp |  | MDM2-amp |
| 49 | Breast carcinoma | FGFR2-amp | TP53-L194R |  | PTEN-truncation, intron 1 | CDKN2A-loss |  |  |  |  | ESR1-amp |
| 50 | Breast carcinoma | FGFR1-amp | TP53-R248Q | PIK3CA-Q546K |  |  |  | MYC-amp |  |  | CDH1-L681\* |
| 51 | Breast carcinoma | FGFR3-amp |  | PIK3CA-E542K | AKT3-amp | CDK6-amp |  |  |  |  | IKBKE-ampMDM2-ampMDM4-amp |
| 52 | Breast carcinoma | FGFR1-amp | TP53-R213\* | PIK3CA-amp |  | CDKN2A-N42fs\*11 |  |  |  |  | BAP1-loss |
| 53 | Breast carcinoma | FGFR1-amp |  |  |  |  |  |  | MET-amp |  |  |
| 54 | Breast carcinoma | FGFR1-amp | TP53-R273C |  |  |  |  | MYC-amp |  |  | SRC-amp |
| 55 | Breast carcinoma | FGFR1-amp |  |  |  |  | MLH1-splice site 2104-1G>C |  |  |  |  |
| 56 | Breast carcinoma | FGFR1-amp | TP53-P301fs\*44 | PIK3CA-N345K |  |  |  |  |  |  | NF1-L2660fs\*5 |
| 57 | Breast carcinoma | FGFR1-ampFGFR2-amp | TP53-C242fs\*5 |  |  | CCND1-amp |  | MYC-amp |  | MAP2K2-amp |  |
| 58 | Breast carcinoma | FGFR1-amp | TP53-A159V |  |  | CCND1-amp |  | MYC-amp |  |  |  |
| 59 | Breast carcinoma | FGFR1-amp |  |  | PTEN-T319fs\*1 | CCND1-amp | ATM-R337C |  |  |  |  |
| 60 | Breast carcinoma | FGFR2-amp | TP53-H168P | PIK3CA-R93Q, amp |  | CCND3-amp |  | SOX2-amp |  |  |  |
| 61 | Breast carcinoma | FGFR1-amp | TP53-Y107\* |  |  |  | ATR-Q2137fs\*2 | MYC-amp |  |  |  |
| 62 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-amp |  |  |  |  | CDH1-P309fs\*29VHL-P81S |
| 63 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-amp |  |  |  |  | ARID1A-Q708\* |
| 64 | Breast carcinoma | FGFR3-amp | TP53-R249M | PIK3CA-H1047L |  | CCND1-amp |  |  |  |  |  |
| 65 | Breast carcinoma | FGFR1-amp |  |  |  |  |  |  |  |  | MCL1-ampZNF703-amp |
| 66 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-amp |  |  | IGF1R-amp |  | MDM2-ampNOTCH1-lossTOP1-ampAURKA-amp |
| 67 | Breast carcinoma | FGFR1-amp |  |  |  |  |  | MYC-amp |  |  | MDM2-amp |
| 68 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-amp | ATM-V1268fs\*1 |  |  |  |  |
| 69 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-ampCDK4-amp |  |  |  |  | AURKA-ampMCL1-ampTET2-A277T |
| 70 | Breast carcinoma | FGFR1-amp | TP53-R248Q |  |  | CCND2-amp | MSH6-truncation, intron 4 | MYC-ampSMARCA4-D716fs\*58 |  |  | MCL1-amp |
| 71 | Breast carcinoma | FGFR1-amp |  | PIK3CA-E545K |  |  |  |  |  |  | SRC-ampMDM2-amp |
| 72 | Breast carcinoma | FGFR1-amp |  | PIK3CA-H1047R |  |  |  | RUNX1-R201Q |  |  | CDH1-H121fs\*94 |
| 73 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-amp |  | MYC-amp |  |  | PAX5-loss |
| 74 | Breast carcinoma | FGFR3-amp |  |  |  |  |  | MYCN-amp | ERBB2-amp |  | MCL1-amp |
| 75 | Breast carcinoma | FGFR2-amp | TP53-S127F |  |  | CDK8-amp | BRCA1-D825fs\*21 |  |  |  | EPHA3-amp |
| 76 | Breast carcinoma | FGFR1-amp | TP53-R280K, E285K | PIK3CA-E545K |  |  |  | MYC-amp |  |  | CDH1-I594fs\*19NOTCH1-loss |
| 77 | Breast carcinoma | FGFR1-amp | TP53-C176F |  | AKT2-amp | CCNE1-amp |  | EZH2-Truncation intron 4 (loss of exons 1-4)MYC-amp |  |  |  |
| 78 | Breast carcinoma | FGFR1-amp | TP53-P295L, V73fs\*50 |  | PTEN-T319fs\*1 |  |  |  |  |  | ARID1A-H1336fs\*102 |
| 79 | Breast carcinoma | FGFR2-amp | TP53-R273H, R181C |  |  | CCND1-amp |  |  |  |  | MCL1-ampIKBKE-amp |
| 80 | Breast carcinoma | FGFR2-amp | TP53-K132T | PIK3R1-G446\_E458del |  | CCND1-amp |  |  |  |  |  |
| 81 | Breast carcinoma | FGFR3-WHSC1 fusion | TP53-L194R |  |  | CCND1-amp | BRCA2-K3326\* |  |  | MAP2K1-amp | AURKA-ampTOP1-ampSRC-amp |
| 82 | Breast carcinoma | FGFR1-amp | TP53-splice site 993+2T>G |  |  |  |  |  | ERBB2-amp |  | LRP1B-Q824\* |
| 83 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-ampCDKN2A-A57V | ATM-Q1017\* |  | ERBB3-amp |  |  |
| 84 | Breast carcinoma | FGFR4-V510L | TP53-H214D | PIK3CA-E542K |  | CCND1-amp |  |  |  |  | AURKA-amp |
| 85 | Breast carcinoma | FGFR1-amp | TP53-loss |  |  | CCND1-ampCDKN2A/B-loss |  |  | ERBB2-ampKDR-ampKIT-ampPDGFRA-amp |  | NF1-S340fs\*12CRKL-ampBTK-RPL36A-HNRNPH2-BTK fusionMCL1-amp |
| 86 | Breast carcinoma | FGFR1-amp | TP53-K132R | PIK3CA-H1047R |  |  | FANCA-D1325fs\*38 | MYC-amp | ERBB2-amp |  | MCL1-amp |
| 87 | Breast carcinoma | FGFR1-amp |  | PIK3CA-E545K |  | CCND1-amp |  | MYC-ampNKX2-1-amp |  |  |  |
| 88 | Breast carcinoma | FGFR1-amp |  |  |  |  | ATR-S1950\*BRCA2-splice site 7977-1 G>C | MYC-amp |  | RAF1-amp |  |
| 89 | Breast carcinoma | FGFR1-amp | TP53-W53\* | PIK3CA-E545K |  |  |  |  | ERBB2-V777L, S1050\* |  | TET2-S714\* |
| 90 | Breast carcinoma | FGFR2-NCALD possible fusion | TP53-R110P |  | PTEN-Loss |  | BRCA1-E1346fs\*20 |  |  |  | LRP1B-lossARID1A-E1766\* |
| 91 | Breast carcinoma | FGFR1-amp | TP53-E286\* | PIK3CA-amp |  |  |  | SOX2-amp |  |  |  |
| 92 | Breast carcinoma | FGFR1-amp | TP53-P151A |  |  | CCND1-ampCDKN2A/B-loss |  | MYC-amp | EGFR-amp |  |  |
| 93 | Breast carcinoma | FGFR2-S252W |  | PIK3CA-C420R | PTEN-Loss |  | BRCA2-loss |  | EGFR-A750T |  | TET2-L1120fs\*4NF1-LossCDH1-Q351\*ARID1A-P977fs\*30 |
| 94 | Breast carcinoma | FGFR1-amp |  | PIK3CA-E542K | AKT3-amp |  |  |  | EGFR-E282K |  | MCL1-ampESR1-D538GMDM4-ampIKBKE-ampTET2-H1380Y |
| 95 | Breast carcinoma | FGFR4-amp | TP53-E286K |  |  | CCNE1-ampCDK12-truncation, exon 14 |  |  | ERBB2-amp |  | PRKDC-R2729HMCL1-amp |
| 96 | Breast carcinoma | FGFR1-amp |  | PIK3CA-H1047R |  |  |  | MYC-amp |  | MAP2K4-lossRAF1-amp | MDM2-ampTET2-S792\*NF1-S1954\*, Q2582\* |
| 97 | Breast carcinoma | FGFR1-amp |  | PIK3CA-H1047R |  | APC-I1307K |  | MYC-ampNKX2-1-amp |  |  | MDM2-ampNFKBIA-amp |
| 98 | Breast carcinoma | FGFR1-amp | TP53-Y234\* |  | PTEN-Loss | CCNE1-amp |  | MYC-amp |  |  | MCL1-ampBCL2L2-ampNPM1-truncation, 5' UTR |
| 99 | Breast carcinoma | FGFR1-amp |  |  |  | CCND3-amp |  | MYC-amp | ERBB2-ampKIT-ampMET-ampPDGFRA-amp |  | EPHA3-amp |
| 100 | Breast carcinoma | FGFR1-amp | TP53-P219\_E221del |  | AKT2-amp | CCND3-ampCCNE1-amp |  | MYC-amp | IGF1R-ampKDR-ampKIT-ampPDGFRA-amp |  |  |
| 101 | Carcinoid | FGFR4-D425N |  |  |  |  |  |  |  |  |  |
| 102 | Carcinoid | FGFR3-amp |  |  |  |  |  |  |  |  | VHL-P81S |
| 103 | Carcinoid | FGFR4-amp | TP53-R282W |  |  |  |  |  |  |  | ARID1A-K1010\* |
| 104 | Carcinoma of unknown primary | FGFR3-R248C |  | PIK3CA-E545K |  |  |  |  |  |  | ARID1A-S334\*TOP1-R140\* |
| 105 | Carcinoma of unknown primary | FGFR1-amp | TP53-R196\* | PIK3CA-E545K, amp |  | CCND1-ampCDKN2A/B-loss |  | SOX2-amp |  | KRAS-amp |  |
| 106 | Carcinoma of unknown primary | FGFR2-A266\_S267insSTVVGGD |  |  |  |  |  |  |  |  |  |
| 107 | Carcinoma of unknown primary | FGFR3-D785Y | TP53-R248Q |  |  | CDKN2A-H83Y |  |  |  |  |  |
| 108 | Carcinoma of unknown primary | FGFR2-D336N |  | PIK3CG-S353F |  | APC-S1400LCDKN2A-R58\*RB1-R451C |  | MYC-amp | FLT3-E964K |  | IKZF1-Q149\*MDM4-S367LNF1-R1362\* |
| 109 | Carcinoma of unknown primary | FGFR3-R399C |  |  |  |  |  |  |  |  | ARID1A-E2250fs\*28 |
| 110 | Carcinoma of unknown primary | FGFR2-amp | TP53-G245D |  |  |  |  |  |  |  |  |
| 111 | Carcinoma of unknown primary | FGFR1-amp |  | PIK3CA-G118D | PTEN-N69fs\*4 | CCND1-ampCDKN2A/B-loss |  |  |  |  |  |
| 112 | Carcinoma of unknown primary | FGFR3-amp | TP53-A159V, P64fs\*84 |  |  |  |  |  | EGFR-D770\_N771insGTD, amp |  |  |
| 113 | Carcinoma of unknown primary | FGFR3-S249C |  |  |  | CDKN2A/B-loss |  | KDM6A-L1177fs\*2 |  |  |  |
| 114 | Carcinoma of unknown primary | FGFR2-amp | TP53-V172F | PIK3CA-H1047R |  |  |  |  |  |  | ARID1A-Y518\*AURKA-amp |
| 115 | Carcinoma of unknown primary | FGFR3-amp |  |  |  | RB1-splice site 1215+1G>A |  |  |  |  | MCL1-ampARID1A-Y1055fs\*50 |
| 116 | Carcinoma of unknown primary | FGFR2-BICC1 fusion | TP53-R248Q |  | PTEN-G36R |  |  | MYC-amp |  |  |  |
| 117 | Carcinoma of unknown primary | FGFR3-amp | TP53-E285K |  |  | CDKN2A/B-loss |  |  | ERBB2-amp |  |  |
| 118 | Carcinoma of unknown primary | FGFR2-TACC2 fusion |  |  |  |  |  | KMT2D-duplicationMYC-amp |  |  |  |
| 119 | Carcinoma of unknown primary | FGFR1-amp | TP53-M246V |  |  |  |  |  |  |  |  |
| 120 | Carcinoma of unknown primary | FGFR4-amp |  |  |  | CDK4-amp |  |  | PDGFRB-amp |  | MCL1-amp |
| 121 | Carcinoma of unknown primary | FGFR3-amp | TP53-N239fs\*8 |  |  | CDKN2A/B-loss | BRCA1-E23fs\*17 |  | KDR-amp |  |  |
| 122 | Carcinoma of unknown primary | FGFR1-amp | TP53-L45P, Q38fs\*79 |  |  |  |  |  |  |  | NOTCH1-APIP-NOTCH1 fusionFBXW7-splice 726+1 G>AARID1A-Y1211fs\*5ETV1-rearrange |
| 123 | Carcinoma of unknown primary | FGFR2-amp | TP53-loss |  | AKT3-amp |  |  |  |  |  | TMPRSS2-TMPRSS2-ETV4 fusionEPHA3-amp |
| 124 | Carcinoma of unknown primary | FGFR3-TACC3 fusion |  |  |  | CDK4-amp |  |  |  |  | MDM2-ampARID1A-A343\_A348>A |
| 125 | Carcinoma of unknown primary | FGFR1-amp | TP53-loss |  |  | APC-K1561fs\*3 |  | MYC-amp |  |  | TMPRSS2-TMPRSS2-ERG fusion |
| 126 | Cervical adeno-carcinoma | FGFR1-amp |  |  |  |  |  |  |  |  | SMAD4-R445\* |
| 127 | Cervical adeno-carcinoma | FGFR3-TACC3 fusion |  | PIK3CA-E545K |  |  |  |  |  |  |  |
| 128 | Cervical carcinoma | FGFR3-TACC3 fusion (intron 17-intron 7), amp | TP53-R248Q |  |  |  | ATM-V2115fs\*5 |  |  |  |  |
| 129 | Cholangio-carcinoma | FGFR2-BICC1 fusion (intron 17) |  |  |  |  |  |  |  |  | IDH1-G97D |
| 130 | Cholangio-carcinoma | FGFR2-KIAA1598 fusion |  |  |  |  |  |  |  |  |  |
| 131 | Cholangio-carcinoma | FGFR2-TACC3 fusion |  |  |  |  |  |  |  |  | GNAS-R201C |
| 132 | Cholangio-carcinoma | FGFR2-amp |  |  |  | CDKN2A/B-loss |  |  |  |  |  |
| 133 | Cholangio-carcinoma | FGFR2-C382R |  |  |  |  |  |  |  |  | MCL1-amp |
| 134 | Cholangio-carcinoma | FGFR2-amp |  |  | PTEN-splice site 209+1G>A |  |  |  |  |  |  |
| 135 | Cholangio-carcinoma | FGFR2-NOL4 fusion | TP53-R282W, G245S, R175H, A161T |  |  | CDKN2A-D84N | MLH1-L259\* |  |  |  | ARID1A-P2114fs\*21BAP1-I586fs\*57 |
| 136 | Cholangio-carcinoma | FGFR1-amp |  |  |  |  |  | MYC-amp |  | KRAS-G12C |  |
| 137 | Colorectal adeno-carcinoma | FGFR1-amp | TP53-R213\* |  |  |  |  |  |  |  |  |
| 138 | Colorectal adeno-carcinoma | FGFR2-amp | TP53-C275Y |  |  | APC-R564\*, F1491fs\*16CCND2-amp |  |  |  | KRAS-G12D |  |
| 139 | Colorectal adeno-carcinoma | FGFR1-amp | TP53-R196\* |  |  | APC-K534fs\*15 |  |  |  |  |  |
| 140 | Colorectal adeno-carcinoma | FGFR4-R394Q |  |  |  |  |  |  |  |  |  |
| 141 | Colorectal adeno-carcinoma | FGFR2-A315T |  |  |  | APC-P1369fs\*3 |  |  |  | KRAS-G12D |  |
| 142 | Colorectal adeno-carcinoma | FGFR1-amp | TP53-R213\* |  |  | APC-K1030\* |  |  | ERBB2-R678Q |  |  |
| 143 | Colorectal adeno-carcinoma | FGFR1-amp | TP53-R282W |  |  |  |  |  |  |  | ALK-R214HCTNNB1-splice site 14-2delTTATA, L7fs\*8 |
| 144 | Colorectal adeno-carcinoma | FGFR2-NPM1 fusion | TP53-R175H |  |  |  |  |  |  | KRAS-K117N |  |
| 145 | Colorectal adeno-carcinoma | FGFR2-NPM1 fusion | TP53-G245S, R175H, P152fs\*18 | PIK3R1-E145\* |  |  | MSH6-F1104fs\*11 | RUNX1-R320\* |  |  | FBXW7-S668fs\*39STK11-P281fs\*6TET2-K1005fs\*2TGFBR2-R537CKMT2A-R3786H |
| 146 | Colorectal adeno-carcinoma | FGFR3-amp | TP53-T284fs\*21 |  | AKT1-E17K | APC-R1450\* |  |  | ERBB3-S846I | MAP2K4-R355fs\*8 |  |
| 147 | Colorectal adeno-carcinoma | FGFR1-amp | TP53-G245S |  |  | APC-F801fs\*19 |  |  |  | KRAS-G12V |  |
| 148 | Colorectal adeno-carcinoma | FGFR1-amp | TP53-R273H |  |  | APC-R564\* |  | MYC-amp |  |  | TOP1-ampAURKA-ampBCL2L1-amp |
| 149 | Colorectal adeno-carcinoma | FGFR1-amp | TP53-R175H |  |  | CCND3-ampCDK6-amp | ATM-splice site 3993+2T>A | MYC-amp | EGFR-ampMET-amp | KRAS-amp |  |
| 150 | Cutaneous squamous cell carcinoma | FGFR3-G370C | TP53-R248Q, K164\* |  |  | RB1-Q471\* |  | KDM6A-splice site 385-1G>A |  |  | MCL1-amp |
| 151 | Cutaneous squamous cell carcinoma | FGFR3-S371C | TP53-G105S, R248W |  |  | CDKN2A-P114L |  |  |  |  | SMAD4-Q461\*NOTCH1-Q1647\*, C730fs\*42 |
| 152 | Cutaneous squamous cell carcinoma | FGFR1-R445W | TP53-R248W, H179Y |  |  | APC-Q1751\*CDKN2A-Q50\* |  | RUNX1-splice site 509-1G>ASMARCA4-S767F |  |  | ALK-E898KNTRK1-R692CNOTCH1-R365C, Q2546\*, splice site 62-1G>A |
| 153 | Ductal carcinoma in situ (breast) | FGFR1-amp |  | PIK3CA-N345K |  | CCND2-amp |  | MYC-amp |  |  | MDM2-ampMCL1-amp |
| 154 | Endometrial adeno-carcinoma | FGFR3-TACC3 fusion | TP53-W91\* | PIK3CA-E365K |  |  |  |  | FLT3-E978\* |  | KMT2A-complex rearrange |
| 155 | Endometrial adeno-carcinoma | FGFR2-N549K |  | PIK3CA-E542K | PTEN-R130G, A39fs\*15 |  |  |  |  |  | ARID1A-E28fs\*81, A1077fs\*28 |
| 156 | Endometrial adeno-carcinoma | FGFR2-C382R |  |  | PTEN-S170I |  |  |  |  |  | ARID1A-Q372fs\*19, M1564fs\*1PTCH1-L39fs\*41 |
| 157 | Endometrial adeno-carcinoma | FGFR2-S252W |  | PIK3CA-H1047R | PTEN-N63fs\*36, R233\* |  |  | MYCN-P44L |  |  | ARID1A-E1060fs\*45 |
| 158 | Endometrial adeno-carcinoma | FGFR2-P253R |  | PIK3CA-E545D | PTEN-R130G, Y346fs\*6 |  |  | EZH2-R213H |  |  | ARID1A-Q1519fs\*8, L2195fs\*30 |
| 159 | Endometrial adeno-carcinoma | FGFR2-amp | TP53-G245S | PIK3CA-E365K, P539R |  |  |  |  |  |  | FBXW7-R479Q |
| 160 | Endometrial adeno-carcinoma | FGFR1-T141RFGFR2-S252W, amp |  | PIK3R1-splice site 1746-12\_1761del28 | PTEN-Y346\*, splice site 165-2\_168delAGGTTT |  |  |  |  |  | ARID1A-S664fs\*1MCL1-amp |
| 161 | Endometrial adeno-carcinoma | FGFR2-P253R | TP53-R248Q, R196\*, S90fs\*33 | PIK3CA-Q546R | PTEN-R130Q, D268fs\*30 | CDKN2A-P48L | ATM-S2812fs\*3ATR-R1647HMSH6-R248\*, F1088fs\*5 | SMARCB1-T72fs\*4 |  |  | NOTCH1-S2486fs\*71+CTNNB1-L31MARID1A-T294fs\*69 |
| 162 | Endometrial adeno-carcinoma | FGFR3-V677I | TP53-V216M, R196\*, R175C, V157I | PIK3CA-H1047R | MTOR-A469TPTEN-R130Q, R142W | CDKN2A-R128WRB1-E137\*, R552\* | ATM-A1945T, R2832C, R1618\* |  | EGFR-G863DPDGFRA-V499M | MAP2K4-R304\*RAF1-S257L | FBXW7-R393\*, R13\*, Y86fs\*12ARID1A-R1989\*, Q780\*EMSY-R18IEPHA5-R417QSMAD4-R361H, splice site 904+2T>CVHL-W117\*CTNNB1-G34EBCL6-R594QBAP1-R512C |
| 163 | Esophageal adeno-carcinoma | FGFR2-amp | TP53-R196\* |  |  | CCND1-ampCCNE1-amp |  |  | ERBB2-amp |  | PKHD1-R1081C, W3260\*FBXW7-R505L |
| 164 | Esophageal adeno-carcinoma | FGFR4-amp | TP53-D228fs\*1 | PIK3CA-E545K |  | CCNE1-amp |  | MYC-amp | ERBB2-amp |  | NF1-Loss |
| 165 | Esophageal squamous cell carcinoma | FGFR1-amp | TP53-splice site 783-2A>C, T102fs\*42 |  | CCND1-ampRB1-L660fs\*3 |  |  |  |  |  |
| 166 | Esophageal squamous cell carcinoma | FGFR1-amp | TP53-V73fs\*50 |  |  |  | MLH1-R217C |  |  |  | TET2-Q1534\*NOTCH1-Q228fs\*49 |
| 167 | Esophageal squamous cell carcinoma | FGFR1-amp | TP53-L194R | PIK3CA-amp |  | CDKN2A/B-loss |  | SOX2-amp |  | KRAS-amp | BCL2L2-ampNOTCH1-G310R |
| 168 | Gallbladder carcinoma | FGFR2-D471N |  |  |  |  |  |  |  |  |  |
| 169 | Gallbladder carcinoma | FGFR3-TACC3 fusion, amp | TP53-C141\* |  |  | CCNE1-amp |  | MYC-amp |  |  | MCL1-amp |
| 170 | Gallbladder carcinoma | FGFR3-amp | TP53-F134C |  |  |  |  |  |  |  | FBXW7-R479Q |
| 171 | Gallbladder carcinoma | FGFR2-ampFGFR3-amp | TP53-F134C | PIK3CA-H1047R |  |  |  |  |  |  | MDM2-ampFBXW7-R479Q |
| 172 | Gastric/GE Junction adeno-carcinoma | FGFR2-amp | TP53-H179N |  |  |  |  |  |  |  | CDH1-I319fs\*35 |
| 173 | Gastric/GE Junction adeno-carcinoma | FGFR2-C10orf68 possible fusion, amp | TP53-G262V |  |  |  |  |  |  |  |  |
| 174 | Gastric/GE Junction adeno-carcinoma | FGFR3-R399C | TP53-R249S |  |  |  | MSH6-K1358fs\*2 |  |  |  |  |
| 175 | Gastric/GE Junction adeno-carcinoma | FGFR1-amp | TP53-Q167fs\*14 | PIK3CA-E542K |  | CDKN2A-H83Y |  | KDM6A-loss |  |  |  |
| 176 | Gastric/GE Junction adeno-carcinoma | FGFR2-amp | TP53-F113C |  |  | APC-I1307KCDKN2A-loss |  | MYC-amp |  |  | ARID1A-P2139fs\*62 |
| 177 | Gastric/GE Junction adeno-carcinoma | FGFR2-amp |  |  |  | APC-I2541VCDK6-amp |  | DNMT3A-V636MMYC-amp |  |  |  |
| 178 | Gastric/GE Junction adeno-carcinoma | FGFR1-amp | TP53-E285K |  |  | CCNE1-amp |  |  |  |  | FBXW7-R465H |
| 179 | Gastric/GE Junction adeno-carcinoma | FGFR1-amp | TP53-C277F |  | MTOR-amp |  |  |  |  |  |  |
| 180 | Gastric/GE Junction adeno-carcinoma | FGFR3-amp | TP53-S215N |  |  |  | MLH1-R217C | EZH2-truncation, exon 10 |  |  | AURKA-amp |
| 181 | Gastric/GE Junction adeno-carcinoma | FGFR2-amp | TP53-Y205S |  |  |  |  |  | EGFR-amp |  | ARID1A-R1276\*, Q372fs\*28 |
| 182 | Gastric/GE Junction adeno-carcinoma | FGFR2-TACC2 fusion | TP53-P278L |  |  |  |  | MYC-ampRUNX1-R204\* | EGFR-R831H | KRAS-amp |  |
| 183 | Glioma | FGFR1-N546K |  |  |  |  |  |  |  |  |  |
| 184 | Glioma | FGFR3-TACC3 fusion | TP53-E258K |  |  |  |  |  |  |  | NF1 Y2285fs\*5, Q270\*MCL1-ampNFKBIA-ampPTPN11-E76K |
| 185 | Glioma | FGFR1-K656E |  |  |  |  |  |  |  |  |  |
| 186 | Glioma | FGFR1-K656E |  |  |  |  |  |  |  |  |  |
| 187 | Glioma | FGFR3-K650E |  | PIK3CA-G118D |  |  |  |  |  |  | NF1-R1534\*, F1613fs\*11 |
| 188 | Glioma | FGFR3-amp | TP53-D281H |  | PTEN-V133I | CDK4-amp |  |  |  |  |  |
| 189 | Glioma | FGFR3-K650E |  | PIK3CA-E542K |  | APC-I1307K |  |  |  |  |  |
| 190 | Glioma | FGFR1-K656E |  | PIK3CA-Q546KPIK3R1-D560H |  |  |  |  |  |  |  |
| 191 | Glioma | FGFR1-N546K | TP53-R158H |  |  | CDKN2A/B-loss |  |  |  |  | NF1-Q2492\* |
| 192 | Glioma | FGFR3-TACC3 fusion |  |  | PTEN-splice site 209+1delGT | CDK4-amp |  |  |  |  | MDM2-amp |
| 193 | Glioma | FGFR3-K650E | TP53-P278S, A161T |  | PTEN-G127E | APC-I1307KCDKN2A-Q50\*RB1-G449R | MSH6-W142\* | SMARCB1-splice site 795+1G>A | MET-A1251T |  |  |
| 194 | Head and neck carcinoma | FGFR3-S249C | TP53-R248W |  | PTEN-S287\* | CCND1-amp |  |  |  |  | SMAD4-C523\* |
| 195 | Head and neck carcinoma | FGFR1-amp | TP53-Q317\* | PIK3CA-amp | AKT2-amp | CCND1-ampCDKN2A/B-loss |  | SOX2-amp | ERBB4-R711C |  |  |
| 196 | Head and neck carcinoma | FGFR4-amp | TP53-R158fs\*19 | PIK3CA-amp | PTEN-Loss | CDK4-ampCCNE1-ampRB1-L389fs\*4 |  | MYC-ampSOX2-amp | FLT4-amp |  | LRP1B-deletion, exons 9-35 |
| 197 | Hemangio-endothelioma | FGFR1-amp |  |  |  |  |  |  |  |  |  |
| 198 | Hepatocellular carcinoma | FGFR4-amp |  |  |  |  |  | MYC-amp |  |  | MCL1-ampNFKBIA-ampCDH1-R50fs\*6 |
| 199 | Large cell carcinoma | FGFR2-NPM1 fusion | TP53-R273C |  |  | APC-T1556fs\*3 | BRCA1-S36fs\*14 | MYC-amp |  | BRAF-G469R | ARID1A-P225fs\*14 |
| 200 | Leiomyo-sarcoma | FGFR1-amp | TP53-S241V |  |  |  | ATM-Y1252\* | MYCN-amp |  |  |  |
| 201 | Lympho-epithelioma | FGFR3-R248C |  |  |  |  |  |  |  |  |  |
| 202 | Malignant peripheral nerve sheath tumor | FGFR1-N546K |  |  |  |  |  |  |  |  | PTCH1-truncationNF1-I679fs\*21NF1-R1968\* |
| 203 | Melanoma | FGFR2-W156\* | TP53-S241F |  |  | CDKN2A-R80\* |  | DNMT3A-P718L | KDR-R1032QPDGFRA-E459K | NRAS-Q61H | ARID1A-Y1377\*EPHA3-G766ERAD50-Q689\*MCL1-amp |
| 204 | Melanoma | FGFR1-amp |  |  |  | APC-Y986\* |  | MYC-amp |  | BRAF-V600E | TET2-R1404\*IDH1-R132C |
| 205 | Mesothelioma | FGFR3-amp | TP53-R248Q |  |  | CDKN2A/B-loss |  |  |  |  | SUFU-T13fs\*83 |
| 206 | Neuroblastoma | FGFR1-N546K |  |  |  | CDK4-amp |  |  |  |  | ARID1A-R1950Q |
| 207 | Neuro-endocrine carcinoma | FGFR1-amp | TP53-R280S |  |  | CCNE1-amp |  | SMARCA4-SMARCA4 rearrange, likely inactivating |  |  | ARID1A-ARID1A truncation, low levelSTK11-STK11 truncation, codon S419 |
| 208 | Neuro-endocrine carcinoma | FGFR1-amp | TP53-Q331\* |  |  | CCND1-amp | BRCA2-K3326\* |  |  |  | EMSY-amp |
| 209 | Neuro-endocrine carcinoma | FGFR1-amp |  |  |  | CCND1-amp |  |  |  |  |  |
| 210 | Neuro-endocrine carcinoma | FGFR1-amp | TP53-splice site 920-2A>T |  |  |  |  | MYC-amp |  | BRAF-amp | MDM2-ampMCL1-ampTOP1-ampSTK11-P319fs\*17 |
| 211 | Nonsmall cell lung carcinoma | FGFR3-TACC3 fusion |  |  |  | CDKN2A-loss |  |  |  |  | MDM2-amp |
| 212 | Nonsmall cell lung carcinoma | FGFR1-amp |  |  |  |  |  |  |  |  |  |
| 213 | Nonsmall cell lung carcinoma | FGFR1-T141R | TP53-E286K |  |  | CDKN2A/B-loss |  |  |  | KRAS-G12C |  |
| 214 | Nonsmall cell lung carcinoma | FGFR2-P253R |  |  |  |  | BRCA2-S1982fs\*22 |  | PDGFRA-E887D |  | STK11-S240\* |
| 215 | Nonsmall cell lung carcinoma | FGFR1-amp |  | PIK3CA-H1047R |  |  |  | MYCL1-amp |  |  | MDM2-amp |
| 216 | Nonsmall cell lung carcinoma | FGFR4-amp |  |  |  | APC-APC-CBX3 rearrange |  | MYC-amp |  |  | MDM2-amp |
| 217 | Nonsmall cell lung carcinoma | FGFR3-S249C | TP53-Y103fs\*20 | PIK3CA-E542K |  | CDKN2A/B-loss |  | DNMT3A-R729WKDM6A-E315fs\*9 |  |  | SMAD4-Loss |
| 218 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-L130V |  |  |  |  |  |  |  | MITF-ampFLT1-T335N |
| 219 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-G245D | PIK3CA-amp | PTEN-Loss | CDKN2A-N42Y |  | SOX2-amp |  |  |  |
| 220 | Nonsmall cell lung carcinoma | FGFR4-amp |  |  |  |  |  |  |  |  | ALK-CLTC-ALK fusion |
| 221 | Nonsmall cell lung carcinoma | FGFR4-amp |  | PIK3CA-E542K |  |  |  | DNMT3A-E30\* |  | KRAS-G12C | EPHA3-amp |
| 222 | Nonsmall cell lung carcinoma | FGFR2-A315TFGFR3-S249C |  |  |  | CCND1-ampCDKN2A/B-loss |  |  |  |  |  |
| 223 | Nonsmall cell lung carcinoma | FGFR4-R183S | TP53-G154V |  |  |  |  | SMARCA4-T910M |  |  |  |
| 224 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-splice site 994-1C>G |  | PTEN-Y16\* |  |  |  |  |  | NOTCH1-P1731fs\*41 |
| 225 | Nonsmall cell lung carcinoma | FGFR1-amp |  |  |  |  |  |  |  |  | CTNNB1-S45PSMAD4-Y260\* |
| 226 | Nonsmall cell lung carcinoma | FGFR3-K650E | TP53-C135Y |  | AKT2-amp | CDK6-amp |  |  | KDR-R961W, ampKIT-amp |  | BAP1-I679fs\*34MCL1-amp |
| 227 | Nonsmall cell lung carcinoma | FGFR1-ampFGFR3-R248C | TP53-V272M |  |  | CCND1-ampCDKN2A/B-loss |  | RUNX1-H404fs\*78+ |  |  | FBXW7-S582L |
| 228 | Nonsmall cell lung carcinoma | FGFR3-amp |  | PIK3R1-W583\_Q586del | AKT3-amp |  |  |  | EGFR-L833V, L858R |  | MCL1-ampPTPRD-S1845fs\*2SMAD4-L121\*CTNNB1-S37C |
| 229 | Nonsmall cell lung carcinoma | FGFR1-amp |  |  |  | APC-E1306\*, W423\* | ATM-splice site 497-2A>T |  |  | KRAS-G12V |  |
| 230 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-F134C |  |  | CDKN2A/B-loss |  | KDM6A-splice site 655-2A>G |  |  |  |
| 231 | Nonsmall cell lung carcinoma | FGFR4-amp | TP53-E285K |  |  | RB1-loss | BRCA1-E1536K |  | EGFR-E746\_A750del, T790MFLT4-amp |  |  |
| 232 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-A159P |  |  |  |  | SMARCA4-splice site 2505+1delG |  |  | SMAD2-G301VEMSY-amp |
| 233 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-G154fs\*16 |  |  | CDKN2A-A85P |  |  | MET-H1094L |  | FBXW7-R505L |
| 234 | Nonsmall cell lung carcinoma | FGFR3-S249C |  |  |  | CDKN2A/B-loss |  | KDM6A-I1292fs\*5SMARCA4-loss |  |  |  |
| 235 | Nonsmall cell lung carcinoma | FGFR1-amp |  |  |  |  |  | DNMT3A-A741VSOX2-amp |  |  | MITF-amp |
| 236 | Nonsmall cell lung carcinoma | FGFR4-amp |  |  |  |  |  |  | FLT4-ampPDGFRB-ampRET-partial amp, likely fusion |  |  |
| 237 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-G105R | PIK3CA-amp |  |  |  | SOX2-amp |  |  | PAX5-loss |
| 238 | Nonsmall cell lung carcinoma | FGFR1-amp |  | PIK3CA-amp |  | CDKN2A/B-loss |  |  | RET-KIF5B-RET fusion |  | MDM2-amp |
| 239 | Nonsmall cell lung carcinoma | FGFR4-amp |  |  | AKT1-Amp | APC-truncation exon 16CDK4-amp |  |  | EGFR-E746\_A750delFLT4-amp |  | MDM2-amp |
| 240 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-V157F |  |  | CDKN2A/B-loss |  | SOX2-amp |  |  | MCL1-ampTET2-V1864fs\*23 |
| 241 | Nonsmall cell lung carcinoma | FGFR3-S249C | TP53-V143A | PIK3CA-E545K |  | CDKN2A-W15\* |  |  |  |  | ARID1A-N218fs\*182SMO-R199W |
| 242 | Nonsmall cell lung carcinoma | FGFR3-G370C |  | PIK3CA-amp |  | CDKN2A/B-loss |  | SOX2-amp |  |  | IKZF1-splice site 422-1G>TNF1-Q2589\* |
| 243 | Nonsmall cell lung carcinoma | FGFR1-amp |  |  |  |  | ATM-G2897fs\*41 | NKX2-1-amp |  | KRAS-G12D | STK11-D194YMCL1-ampNFKBIA-amp |
| 244 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-R306\* |  |  | CDK4-amp | BRCA2-Q2354\* | KMT2D-truncation, exon 31MYC-amp | EGFR-amp | KRAS-amp | CTNNB1-S45P |
| 245 | Nonsmall cell lung carcinoma | FGFR3-amp | TP53-P190H, Q192fs\*10 | PIK3CA-amp |  | CCNE1-amp | MSH6-K1358fs\*2 | SOX2-amp | EGFR-L62R, L858R, amp |  | NFKBIA-amp |
| 246 | Osteosarcoma | FGFR1-amp | TP53-R273C |  |  | CDKN2A-A100S |  |  |  |  | FBXW7-loss |
| 247 | Ovarian/Fallopian tube carcinoma | FGFR1-amp | TP53-V274D |  |  |  |  |  |  |  | AURKA-ampNOTCH1-Q513\* |
| 248 | Ovarian/Fallopian tube carcinoma | FGFR1-amp | TP53-G266fs\*7 | PIK3CA-amp |  |  |  | MYCL1-amp |  |  | JAK2-K607N |
| 249 | Ovarian/Fallopian tube carcinoma | FGFR1-amp | TP53-H193R |  |  |  |  |  |  |  |  |
| 250 | Ovarian/Fallopian tube carcinoma | FGFR3-amp | TP53-S94\* |  |  |  |  |  | RET-amp |  | ESR1-amp |
| 251 | Ovarian/Fallopian tube carcinoma | FGFR2-amp |  |  |  |  |  |  | RET-amp |  | CRKL-amp |
| 252 | Ovarian/Fallopian tube carcinoma | FGFR3-amp | TP53-Q100\* |  |  |  |  |  |  | BRAF-amp |  |
| 253 | Ovarian/Fallopian tube carcinoma | FGFR3-amp | TP53-R175H |  |  |  | BRCA1-S1253fs\*10 |  | ERBB4-amp |  |  |
| 254 | Ovarian/Fallopian tube carcinoma | FGFR1-amp |  |  |  | CCND1-amp |  |  |  |  | ARID1A-E2250fs\*27 |
| 255 | Ovarian/Fallopian tube carcinoma | FGFR2-S252W | TP53-L93fs\*31 |  |  |  |  | MYC-amp |  |  |  |
| 256 | Ovarian/Fallopian tube carcinoma | FGFR1-amp | TP53-C124fs\*25 |  |  |  |  | MYC-amp |  |  |  |
| 257 | Ovarian/Fallopian tube carcinoma | FGFR2-amp | TP53-D281fs\*64 |  | AKT2-amp | CCNE1-amp |  |  |  |  |  |
| 258 | Ovarian/Fallopian tube carcinoma | FGFR1-amp | TP53-V272L |  |  | CCNE1-amp |  |  |  | KRAS-G12V |  |
| 259 | Ovarian/Fallopian tube carcinoma | FGFR4-amp | TP53-V157D |  |  | CCND2-amp |  |  | FLT4-amp | KRAS-amp | MDM2-amp |
| 260 | Ovarian/Fallopian tube carcinoma | FGFR1-amp | TP53-K164E |  | AKT2-amp | CCNE1-amp |  |  |  | KRAS-amp |  |
| 261 | Ovarian/Fallopian tube carcinoma | FGFR1-amp | TP53-R248W | PIK3CA-amp |  |  |  |  |  |  | MCL1-ampEPHA3-amp |
| 262 | Ovarian/Fallopian tube carcinoma | FGFR3-amp | TP53-P250L |  |  | CCND2-amp |  | MYCN-amp | ERBB2-amp |  |  |
| 263 | Ovarian/Fallopian tube carcinoma | FGFR1-amp | TP53-R248W |  |  | CCNE1-amp |  |  |  |  | NF1-rearrange, intron 35, ampMDM2-amp |
| 264 | Ovarian/Fallopian tube carcinoma | FGFR2-amp | TP53-S127F | PIK3CA-amp | PTEN-Loss |  |  | SOX2-amp |  | ARAF-amp |  |
| 265 | Ovarian/Fallopian tube carcinoma | FGFR1-amp | TP53-R175H | PIK3CA-amp | AKT3-ampMTOR-amp | CCNE1-amp |  | MYCL1-amp |  | BRAF-amp | JAK2-amp |
| 266 | Ovarian/Fallopian tube carcinoma | FGFR1-amp | TP53-M340fs\*5 | PIK3CG-D238N | AKT2-ampPTEN-deletion, exons 2-5 | CCND2-ampCCNE1-amp |  |  |  | KRAS-amp |  |
| 267 | Panreatic exocrine carcinoma | FGFR3-gain | TP53-F134L |  |  |  |  |  |  | KRAS-G12V |  |
| 268 | Panreatic exocrine carcinoma | FGFR1-amp | TP53-splice site 97-1G>T |  | AKT2-amp |  |  | NKX2-1-amp | EGFR-amp | KRAS-G12D | SMAD4-Loss |
| 269 | Panreatic exocrine carcinoma | FGFR3-S249C | TP53-R110P |  |  | CDKN2A/B-loss |  |  |  | KRAS-G12V | SMAD4-Loss |
| 270 | Panreatic exocrine carcinoma | FGFR2-Y375C |  | PIK3CA-N515S |  | CDKN2A/B-loss |  |  |  |  | IDH1-R132C |
| 271 | Panreatic exocrine carcinoma | FGFR1-amp | TP53-R248Q |  |  | CDKN2A/B-loss |  |  |  | KRAS-G12D | SMAD2-lossSMAD4-Loss |
| 272 | Panreatic exocrine carcinoma | FGFR3-TACC3 fusion (exon 18-intron 10), amp | TP53-I195F |  |  |  | ATM-R805\* | MYC-amp |  |  | SMAD4-loss |
| 273 | Panreatic exocrine carcinoma | FGFR3-amp |  |  |  | CDKN2A/B-loss |  |  | KDR-amp |  | NF1-T467fs\*3 |
| 274 | Panreatic exocrine carcinoma | FGFR2-amp |  | PIK3CA-Q75E | AKT3-amp | CDKN2B-splice site 156+2T>C |  |  |  |  | IKBKE-ampMCL1-ampMDM4-amp |
| 275 | Paraganglioma | FGFR1-N546K |  |  |  |  |  |  |  |  |  |
| 276 | Peritoneal carcinoma | FGFR4-amp | TP53-G266R |  |  |  |  | MYC-amp | FLT4-amp |  |  |
| 277 | Pineal tumor | FGFR1-N546K |  |  |  | CDKN2A/B-loss |  | SMARCB1-truncation, intron 1 |  |  |  |
| 278 | Prostate carcinoma | FGFR2-PPAPDC1A fusion |  | PIK3R1-G678fs\*9 | PTEN-Loss |  |  |  |  |  | MCL1-ampTMPRSS2-TMPRSS2-ERG fusion |
| 279 | Prostate carcinoma | FGFR4-R610H | TP53-L289fs\*16 | PIK3CA-E545K |  |  |  | MYC-amp |  |  |  |
| 280 | Prostate carcinoma | FGFR1-amp | TP53-R273C, splice site 375+1G>T |  |  |  |  | MYC-amp |  |  |  |
| 281 | Prostate carcinoma | FGFR4-amp | TP53-P75fs\*48 | PIK3CA-E545K, amp |  | CDKN2A/B-loss | BRCA1-R691fs\*10 | SOX2-amp | FLT4-amp |  | NF2-R198\* |
| 282 | Renal cell carcinoma | FGFR3-S249C |  |  |  |  | BRCA2-K3326\* | KDM6A-N638fs\*18 |  |  | MDM2-amp |
| 283 | Renal cell carcinoma | FGFR3-TACC3 fusion, amp | TP53-R196\* |  |  | CDKN2A/B-loss |  | MYC-amp |  |  | TOP1-ampSRC-ampAURKA-ampVHL-P25L |
| 284 | Renal cell carcinoma | FGFR4-amp |  |  |  |  |  |  | ERBB4-amp |  |  |
| 285 | Renal cell carcinoma | FGFR1-amp | TP53-loss |  |  |  |  |  |  |  | NF2-loss |
| 286 | Salivary gland carcinoma | FGFR2-K659E | TP53-P152L, R248W |  |  | CDKN2A-Q50\*, R58\*RB1-Q383\* |  |  |  |  | MCL1-amp |
| 287 | Salivary gland carcinoma | FGFR2-V395D |  |  |  |  |  |  |  |  |  |
| 288 | Sarcoma | FGFR1-N546K | TP53-V225fs\*22 | PIK3CA-E542K |  |  |  | KDM6A-loss |  |  |  |
| 289 | Sarcoma | FGFR1-amp |  |  |  |  |  | MYC-amp |  |  | EWSR1-EWSR1-ATF1 complex fusion |
| 290 | Sarcoma | FGFR3-R248C |  | PIK3CA-E542K |  |  |  | MYC-amp |  | BRAF-N581S |  |
| 291 | Sarcoma | FGFR3-E627K |  |  |  |  |  | SMARCB1-loss |  |  |  |
| 292 | Sarcoma | FGFR1-amp |  |  |  |  |  |  |  |  | NF2-lossIRS2-amp |
| 293 | Sarcoma | FGFR1-N546K |  | PIK3R1-K459del | PTEN-Loss |  |  |  |  |  | FLT3-Q115fs\*17 |
| 294 | Sarcoma | FGFR2-amp | TP53-splice site 559+1G>T |  |  | CCND3-ampCDKN2A/B-loss |  |  |  |  | GATA1-lossPTCH1-splice site 2887+1G>A |
| 295 | Small cell lung carcinoma | FGFR1-amp | TP53-A161S, M160I |  |  | RB1-E204\* |  |  |  |  |  |
| 296 | Small cell lung carcinoma | FGFR3-amp | TP53-G266\* |  |  | RB1-loss | MSH6-V509A |  |  |  |  |
| 297 | Squamous cell carcinoma | FGFR2-amp | TP53-R175H |  |  | CCND1-amp |  |  |  |  | ARID1A-R811fs\*22, L1676fs\*12 |
| 298 | Squamous cell carcinoma | FGFR1-amp | TP53-splice site 673-1G>T |  |  | CCND1-amp |  | SOX2-amp |  |  | EMSY-ampIRS2-amp |
| 299 | Thymic carcinoma | FGFR3-Y373C |  |  |  | CDKN2A/B-loss |  |  |  |  |  |
| 300 | Urothelial carcinoma | FGFR1-amp | TP53-splice site 560-1C>G |  |  | CCND1-amp |  |  |  |  |  |
| 301 | Urothelial carcinoma | FGFR3-S249C |  |  |  |  |  |  |  |  |  |
| 302 | Urothelial carcinoma | FGFR1-amp | TP53-Y220N |  |  |  |  | KDM6A-L41fs\*17 |  |  |  |
| 303 | Urothelial carcinoma | FGFR1-T141R | TP53-splice site 559+1C>A |  |  | CCND1-ampCDKN2A/B-loss |  |  | ERBB2-amp | RAF1-amp |  |
| 304 | Urothelial carcinoma | FGFR3-TACC3 fusion | TP53-R280T | PIK3CA-H1047R |  | CCND1-amp |  |  |  |  |  |
| 305 | Urothelial carcinoma | FGFR3-ADD1 fusion | TP53-Q165\* |  |  |  |  |  |  |  |  |
| 306 | Urothelial carcinoma | FGFR3-JAKMIP1 fusion |  |  |  |  |  |  |  |  |  |
| 307 | Urothelial carcinoma | FGFR3-TNIP2 fusion |  |  |  | CDKN2A/B-loss |  |  |  |  |  |
| 308 | Urothelial carcinoma | FGFR1-amp | TP53-D281H |  | AKT2-amp | RB1-S215\* | MSH6-S602\* |  |  |  |  |
| 309 | Urothelial carcinoma | FGFR3-TACC3 fusion | TP53-K132N |  |  |  |  |  |  |  | JUN-ampIRS2-ampMCL1-amp |
| 310 | Urothelial carcinoma | FGFR3-R248C |  |  |  |  | FANCA-C218fs\*1MSH2-G68fs\*6, loss | DNMT3A-D194fs\*22SMARCA4-T910M, R885C |  | KRAS-G12D | ARID1A-Q1650\*, Q766fs\*67, D1850fs\*33 |
| 311 | Urothelial carcinoma | FGFR3-R248C, amp |  |  |  |  |  | KDM6A-Q555\* | KDR-ampKIT-ampPDGFRA-amp |  |  |
| 312 | Urothelial carcinoma | FGFR1-ampFGFR3-S249C | TP53-R175H |  |  | CDKN2A-loss |  |  |  |  |  |
| 313 | Urothelial carcinoma | FGFR3-R248C |  | PIK3CA-amp |  | CDKN2A/B-loss |  | KDM6A-S1284\* |  |  | MDM2-amp |
| 314 | Urothelial carcinoma | FGFR1-amp |  |  |  | CCND1-amp |  |  |  |  | MDM2-amp |
| 315 | Urothelial carcinoma | FGFR3-S249C |  |  |  | CDKN2A/B-loss | ATM-Q268\* | KDM6A-splice site 4176+1 G>T |  |  |  |
| 316 | Urothelial carcinoma | FGFR1-amp |  |  |  |  |  |  |  |  | MCL1-amp |
| 317 | Urothelial carcinoma | FGFR3-S249C |  | PIK3CA-E542K |  | CDKN2A/B-loss |  |  |  |  | ARID1A-S1316\* |
| 318 | Urothelial carcinoma | FGFR3-S249C |  |  |  |  |  |  |  |  | EPHB1-V322IBCL2-Q52R |
| 319 | Urothelial carcinoma | FGFR3-Y373C | TP53-R273H |  |  | CCND2-ampCDKN2A/B-loss |  | KDM6A-L401fs\*3 |  |  |  |
| 320 | Urothelial carcinoma | FGFR1-amp | TP53-E287D, E286K | PIK3CA-M1004I |  | CCND3-ampCDKN2A/B-loss |  |  |  | NRAS-ampRAF1-amp | MDM4-ampMCL1-amp |
| 321 | Urothelial carcinoma | FGFR3-Y373C | TP53-S215I | PIK3CA-H1047R |  |  |  | KDM6A-Q1212fs\*9 |  |  |  |
| 322 | Urothelial carcinoma | FGFR3-S131L |  | PIK3CA-H1047R |  |  | MLH1-R497fs\*6MSH2-loss | SOX10-A361V | KIT-G601fs\*5 |  | NOTCH1-V1721MTET2-P869fs\*3PTCH1-R1308fs\*64 |
| 323 | Urothelial carcinoma | FGFR3-R248C |  |  | PTEN-Loss | CDKN2A/B-loss |  |  |  |  |  |
| 324 | Urothelial carcinoma | FGFR3-amp | TP53-V173E |  |  | APC-I1307K |  |  |  |  | MDM2-ampSTK11-Q305\* |
| 325 | Urothelial carcinoma | FGFR3-K650M | TP53-R280K |  |  | CDKN2A-D108Y |  |  |  |  | MCL1-amp |
| 326 | Urothelial carcinoma | FGFR3-TACC3 fusion |  | PIK3R2-E543\* |  | CCND1-ampCDKN2A/B-loss |  |  | ERBB2-amp | MAP3K1-truncation, exon 15 | MDM2-ampNF1-I1351M |
| 327 | Urothelial carcinoma | FGFR2-truncation, intron 17 |  |  |  | CDKN2A/B-loss |  |  |  |  | AURKA-ampTOP1-ampSRC-amp |
| 328 | Urothelial carcinoma | FGFR1-amp | TP53-E336\* |  |  | RB1-S758\* |  | MYCN-amp |  |  | ARID1A-Q1363\* |
| 329 | Urothelial carcinoma | FGFR1-FGFR1 fusion |  |  |  | CCND3-ampCDK4-amp |  | MYC-amp |  |  | MDM2-ampMCL1-amp |
| 330 | Urothelial carcinoma | FGFR3-S249C, amp |  |  |  | CDKN2A/B-loss |  |  |  |  | SMAD4-S144\*ARID1A-Q1584\*, E1683Q |
| 331 | Urothelial carcinoma | FGFR3-TACC3 fusion |  |  |  | CDKN2A/B-loss |  |  |  |  | IRS2-ampMDM2-amp |
| 332 | Urothelial carcinoma | FGFR3-S249C |  |  |  | CDKN2A/B-loss |  | RUNX1-Q262\*, Q264\* |  | NRAS-amp | ARID1A-Q464\* |
| 333 | Urothelial carcinoma | FGFR3-G370C |  |  |  | CDKN2A-loss | ATM-S334\*BRCA2-K3326\* | KDM6A-L122fs\*55 |  |  |  |
| 334 | Urothelial carcinoma | FGFR3-S249C |  |  |  |  |  | KDM6A-splice site 4176+1 G>T |  |  | PTPRD-S1845fs\*2NOTCH1-G1215fs\*228CDH1-N240fs\*10 |
| 335 | Urothelial carcinoma | FGFR1-amp | TP53-R280T, M246I |  |  | CCND2-G268RCDKN2A/B-loss |  | MYC-amp | RET-R525Q |  | MDM2-ampBCL2L2-amp |
| 336 | Urothelial carcinoma | FGFR3-G370C | TP53-Y236S | PIK3CA-G1049R |  |  |  | KDM6A-R1213\* | EGFR-G724S |  |  |
| 337 | Urothelial carcinoma | FGFR1-G818R | TP53-E286Q | PIK3CA-H1047R |  | CDKN2A/B-loss |  | KDM6A-Q555\* | ERBB2-S310F |  |  |
| 338 | Urothelial carcinoma | FGFR3-R248C |  |  |  | CDK4-amp |  |  |  | MAP2K2-amp | NFKBIA-ampAURKB-ampFBXW7-E113DMCL1-amp |
| 339 | Urothelial carcinoma | FGFR3-R248C, R399C | TP53-R273C |  | AKT1-R465C |  | ATR-R2407HBRCA1-R1443\* | DNMT3A-R676W |  |  | PRKDC-R1136HLRP1B-Q4425\*PAX5-A322fs\*11NOTCH1-A2463fs\*14, V1575fs\*?ARID1A-Q802fs\*15 |
| 340 | Uterine carcino-sarcoma | FGFR1-amp | TP53-K132E |  |  | CCND3-ampCCNE1-amp |  |  |  | ARAF-amp | FBXW7-R505L |
| 341 | Uterine carcino-sarcoma | FGFR2-N549K |  |  | PTEN-R14fs\*10, I28fs\*12 |  |  |  |  | KRAS-G13D |  |
| 342 | Uterine carcino-sarcoma | FGFR1-amp | TP53-D259Y |  |  |  |  |  | ERBB2-amp |  |  |
| 343 | Uterine carcino-sarcoma | FGFR2-N549K, amp | TP53-C141Y |  |  |  |  |  | RET-amp | NRAS-amp |  |

**Supplementary Figure S1. *FGFR1* aberrations. (A)** *Types of FGFR1 aberrations.* Among all 169 aberrations in *FGFR1*, the overwhelming majority were amplifications. Mutations were relatively uncommon and were comprised of only 3 mutations. N546K and K656E are both activating mutations. Frequencies are expressed as percentage of all 169 aberrations. **(B)** *Cancer types with FGFR1 amplification.* Among all 151 cases with *FGFR1* amplification, the majority were breast cancers, but other cancers were also represented with frequencies as shown. Frequencies are expressed as percentages of all 151 cases with *FGFR1* amplification.

**Supplementary Figure S2. *FGFR2* aberrations. (A)** *Types of FGFR2 aberrations.*Among all 68 cases with aberrations in *FGFR2*, about half were amplifications. Fusions were more common in *FGFR2* than in any of the other FGFRs. There were only three specific mutations. Frequencies are expressed as percentages of all 68 cases with *FGFR2* aberration. **(B)** *Cancers with FGFR2 amplification.*Among all 36 cases with *FGFR2* amplification, only breast, gastric/GE junction, and carcinoma of unknown primary had more than 1-2 cases. Frequencies are expressed as percentages of all 36 cases with *FGFR2* amplification.

**Supplementary Figure S3. *FGFR3* aberrations. (A)** *Types of FGFR3 aberrations.*Among all 90 cases with any *FGFR3* aberration, the majority were amplifications and mutations. Percentages are expressed as fraction of all cases with *FGFR3* aberration. **(B)** *Cancers with FGFR3 amplification.*Among all 31 cases with *FGFR3* amplifications, the cancers specified were most frequently represented (7-24%). Percentages are expressed as fraction of all 31 cases.

**Supplementary Figure S4. *FGFR4* aberrations.** Among all 23 aberrations, most were amplifications. Percentages are expressed as frequency among all 23 aberrations.

**SUPPLEMENTARY FIGURES**

**SUPPLEMENTARY FIGURE S1**

**SUPPLEMENTARY FIGURE S2**

**SUPPLEMENTARY FIGURE S3**

**SUPPLMENTAL FIGURE S4**

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