**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-R417Q  FBXW7-R505C |
| 5 | Anal squamous cell carcinoma | FGFR1-amp | TP53-H179Y, R175H |  |  | CCND3-amp  CDKN2A/B-loss |  |  |  |  | FBXW7-R505G  NOTCH1-G481S |
| 6 | Anal squamous cell carcinoma | FGFR3-G380R |  | PIK3CA-E365K, amp |  | CCND1-amp |  | SOX2-amp |  |  | CEBPA-A199fs\*119  IKZF1-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-D538G  MEN1-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-amp  CDK4-amp |  |  | PDGFRB-amp |  | MDM2-amp  SMAD4-splice site 787+1del, deletion (exon 8) |
| 30 | Breast carcinoma | FGFR1-amp | TP53-R273C |  |  | CCND1-amp |  | MYC-amp |  |  | AURKA-amp  SRC-amp  TOP1-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-amp  MDM4-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-amp  MCL1-amp |
| 43 | Breast carcinoma | FGFR1-amp | TP53-Y220C |  | AKT2-amp | CCND3-amp  CCNE1-amp |  |  |  |  |  |
| 44 | Breast carcinoma | FGFR2-amp |  |  | AKT1-E17K |  |  |  |  |  |  |
| 45 | Breast carcinoma | FGFR1-amp |  |  |  | APC-I1307K  CCND1-amp  CDKN2A-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-amp  MDM2-amp  MDM4-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-amp  FGFR2-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\*29  VHL-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-amp  ZNF703-amp |
| 66 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-amp |  |  | IGF1R-amp |  | MDM2-amp  NOTCH1-loss  TOP1-amp  AURKA-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-amp  CDK4-amp |  |  |  |  | AURKA-amp  MCL1-amp  TET2-A277T |
| 70 | Breast carcinoma | FGFR1-amp | TP53-R248Q |  |  | CCND2-amp | MSH6-truncation, intron 4 | MYC-amp  SMARCA4-D716fs\*58 |  |  | MCL1-amp |
| 71 | Breast carcinoma | FGFR1-amp |  | PIK3CA-E545K |  |  |  |  |  |  | SRC-amp  MDM2-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\*19  NOTCH1-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-amp  IKBKE-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-amp  TOP1-amp  SRC-amp |
| 82 | Breast carcinoma | FGFR1-amp | TP53-splice site 993+2T>G |  |  |  |  |  | ERBB2-amp |  | LRP1B-Q824\* |
| 83 | Breast carcinoma | FGFR1-amp |  |  |  | CCND1-amp  CDKN2A-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-amp  CDKN2A/B-loss |  |  | ERBB2-amp  KDR-amp  KIT-amp  PDGFRA-amp |  | NF1-S340fs\*12  CRKL-amp  BTK-RPL36A-HNRNPH2-BTK fusion  MCL1-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-amp  NKX2-1-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-loss  ARID1A-E1766\* |
| 91 | Breast carcinoma | FGFR1-amp | TP53-E286\* | PIK3CA-amp |  |  |  | SOX2-amp |  |  |  |
| 92 | Breast carcinoma | FGFR1-amp | TP53-P151A |  |  | CCND1-amp  CDKN2A/B-loss |  | MYC-amp | EGFR-amp |  |  |
| 93 | Breast carcinoma | FGFR2-S252W |  | PIK3CA-C420R | PTEN-Loss |  | BRCA2-loss |  | EGFR-A750T |  | TET2-L1120fs\*4  NF1-Loss  CDH1-Q351\*  ARID1A-P977fs\*30 |
| 94 | Breast carcinoma | FGFR1-amp |  | PIK3CA-E542K | AKT3-amp |  |  |  | EGFR-E282K |  | MCL1-amp  ESR1-D538G  MDM4-amp  IKBKE-amp  TET2-H1380Y |
| 95 | Breast carcinoma | FGFR4-amp | TP53-E286K |  |  | CCNE1-amp  CDK12-truncation, exon 14 |  |  | ERBB2-amp |  | PRKDC-R2729H  MCL1-amp |
| 96 | Breast carcinoma | FGFR1-amp |  | PIK3CA-H1047R |  |  |  | MYC-amp |  | MAP2K4-loss  RAF1-amp | MDM2-amp  TET2-S792\*  NF1-S1954\*, Q2582\* |
| 97 | Breast carcinoma | FGFR1-amp |  | PIK3CA-H1047R |  | APC-I1307K |  | MYC-amp  NKX2-1-amp |  |  | MDM2-amp  NFKBIA-amp |
| 98 | Breast carcinoma | FGFR1-amp | TP53-Y234\* |  | PTEN-Loss | CCNE1-amp |  | MYC-amp |  |  | MCL1-amp  BCL2L2-amp  NPM1-truncation, 5' UTR |
| 99 | Breast carcinoma | FGFR1-amp |  |  |  | CCND3-amp |  | MYC-amp | ERBB2-amp  KIT-amp  MET-amp  PDGFRA-amp |  | EPHA3-amp |
| 100 | Breast carcinoma | FGFR1-amp | TP53-P219\_E221del |  | AKT2-amp | CCND3-amp  CCNE1-amp |  | MYC-amp | IGF1R-amp  KDR-amp  KIT-amp  PDGFRA-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-amp  CDKN2A/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-S1400L  CDKN2A-R58\*  RB1-R451C |  | MYC-amp | FLT3-E964K |  | IKZF1-Q149\*  MDM4-S367L  NF1-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-amp  CDKN2A/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-amp  ARID1A-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-duplication  MYC-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 fusion  FBXW7-splice 726+1 G>A  ARID1A-Y1211fs\*5  ETV1-rearrange |
| 123 | Carcinoma of unknown primary | FGFR2-amp | TP53-loss |  | AKT3-amp |  |  |  |  |  | TMPRSS2-TMPRSS2-ETV4 fusion  EPHA3-amp |
| 124 | Carcinoma of unknown primary | FGFR3-TACC3 fusion |  |  |  | CDK4-amp |  |  |  |  | MDM2-amp  ARID1A-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\*21  BAP1-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\*16  CCND2-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-R214H  CTNNB1-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\*39  STK11-P281fs\*6  TET2-K1005fs\*2  TGFBR2-R537C  KMT2A-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-amp  AURKA-amp  BCL2L1-amp |
| 149 | Colorectal adeno-carcinoma | FGFR1-amp | TP53-R175H |  |  | CCND3-amp  CDK6-amp | ATM-splice site 3993+2T>A | MYC-amp | EGFR-amp  MET-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>A  SMARCA4-S767F |  |  | ALK-E898K  NTRK1-R692C  NOTCH1-R365C, Q2546\*, splice site 62-1G>A |
| 153 | Ductal carcinoma in situ (breast) | FGFR1-amp |  | PIK3CA-N345K |  | CCND2-amp |  | MYC-amp |  |  | MDM2-amp  MCL1-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\*1  PTCH1-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-T141R  FGFR2-S252W, amp |  | PIK3R1-splice site 1746-12\_1761del28 | PTEN-Y346\*, splice site 165-2\_168delAGGTTT |  |  |  |  |  | ARID1A-S664fs\*1  MCL1-amp |
| 161 | Endometrial adeno-carcinoma | FGFR2-P253R | TP53-R248Q, R196\*, S90fs\*33 | PIK3CA-Q546R | PTEN-R130Q, D268fs\*30 | CDKN2A-P48L | ATM-S2812fs\*3  ATR-R1647H  MSH6-R248\*, F1088fs\*5 | SMARCB1-T72fs\*4 |  |  | NOTCH1-S2486fs\*71+  CTNNB1-L31M  ARID1A-T294fs\*69 |
| 162 | Endometrial adeno-carcinoma | FGFR3-V677I | TP53-V216M, R196\*, R175C, V157I | PIK3CA-H1047R | MTOR-A469T  PTEN-R130Q, R142W | CDKN2A-R128W  RB1-E137\*, R552\* | ATM-A1945T, R2832C, R1618\* |  | EGFR-G863D  PDGFRA-V499M | MAP2K4-R304\*  RAF1-S257L | FBXW7-R393\*, R13\*, Y86fs\*12  ARID1A-R1989\*, Q780\*  EMSY-R18I  EPHA5-R417Q  SMAD4-R361H, splice site 904+2T>C  VHL-W117\*  CTNNB1-G34E  BCL6-R594Q  BAP1-R512C |
| 163 | Esophageal adeno-carcinoma | FGFR2-amp | TP53-R196\* |  |  | CCND1-amp  CCNE1-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-amp  RB1-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-amp  NOTCH1-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-amp  FGFR3-amp | TP53-F134C | PIK3CA-H1047R |  |  |  |  |  |  | MDM2-amp  FBXW7-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-I1307K  CDKN2A-loss |  | MYC-amp |  |  | ARID1A-P2139fs\*62 |
| 177 | Gastric/GE Junction adeno-carcinoma | FGFR2-amp |  |  |  | APC-I2541V  CDK6-amp |  | DNMT3A-V636M  MYC-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-amp  RUNX1-R204\* | EGFR-R831H | KRAS-amp |  |
| 183 | Glioma | FGFR1-N546K |  |  |  |  |  |  |  |  |  |
| 184 | Glioma | FGFR3-TACC3 fusion | TP53-E258K |  |  |  |  |  |  |  | NF1 Y2285fs\*5, Q270\*  MCL1-amp  NFKBIA-amp  PTPN11-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-Q546K  PIK3R1-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-I1307K  CDKN2A-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-amp  CDKN2A/B-loss |  | SOX2-amp | ERBB4-R711C |  |  |
| 196 | Head and neck carcinoma | FGFR4-amp | TP53-R158fs\*19 | PIK3CA-amp | PTEN-Loss | CDK4-amp  CCNE1-amp  RB1-L389fs\*4 |  | MYC-amp  SOX2-amp | FLT4-amp |  | LRP1B-deletion, exons 9-35 |
| 197 | Hemangio-endothelioma | FGFR1-amp |  |  |  |  |  |  |  |  |  |
| 198 | Hepatocellular carcinoma | FGFR4-amp |  |  |  |  |  | MYC-amp |  |  | MCL1-amp  NFKBIA-amp  CDH1-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-truncation  NF1-I679fs\*21  NF1-R1968\* |
| 203 | Melanoma | FGFR2-W156\* | TP53-S241F |  |  | CDKN2A-R80\* |  | DNMT3A-P718L | KDR-R1032Q  PDGFRA-E459K | NRAS-Q61H | ARID1A-Y1377\*  EPHA3-G766E  RAD50-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 level  STK11-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-amp  MCL1-amp  TOP1-amp  STK11-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-R729W  KDM6A-E315fs\*9 |  |  | SMAD4-Loss |
| 218 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-L130V |  |  |  |  |  |  |  | MITF-amp  FLT1-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-A315T  FGFR3-S249C |  |  |  | CCND1-amp  CDKN2A/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-S45P  SMAD4-Y260\* |
| 226 | Nonsmall cell lung carcinoma | FGFR3-K650E | TP53-C135Y |  | AKT2-amp | CDK6-amp |  |  | KDR-R961W, amp  KIT-amp |  | BAP1-I679fs\*34  MCL1-amp |
| 227 | Nonsmall cell lung carcinoma | FGFR1-amp  FGFR3-R248C | TP53-V272M |  |  | CCND1-amp  CDKN2A/B-loss |  | RUNX1-H404fs\*78+ |  |  | FBXW7-S582L |
| 228 | Nonsmall cell lung carcinoma | FGFR3-amp |  | PIK3R1-W583\_Q586del | AKT3-amp |  |  |  | EGFR-L833V, L858R |  | MCL1-amp  PTPRD-S1845fs\*2  SMAD4-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, T790M  FLT4-amp |  |  |
| 232 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-A159P |  |  |  |  | SMARCA4-splice site 2505+1delG |  |  | SMAD2-G301V  EMSY-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\*5  SMARCA4-loss |  |  |  |
| 235 | Nonsmall cell lung carcinoma | FGFR1-amp |  |  |  |  |  | DNMT3A-A741V  SOX2-amp |  |  | MITF-amp |
| 236 | Nonsmall cell lung carcinoma | FGFR4-amp |  |  |  |  |  |  | FLT4-amp  PDGFRB-amp  RET-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 16  CDK4-amp |  |  | EGFR-E746\_A750del  FLT4-amp |  | MDM2-amp |
| 240 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-V157F |  |  | CDKN2A/B-loss |  | SOX2-amp |  |  | MCL1-amp  TET2-V1864fs\*23 |
| 241 | Nonsmall cell lung carcinoma | FGFR3-S249C | TP53-V143A | PIK3CA-E545K |  | CDKN2A-W15\* |  |  |  |  | ARID1A-N218fs\*182  SMO-R199W |
| 242 | Nonsmall cell lung carcinoma | FGFR3-G370C |  | PIK3CA-amp |  | CDKN2A/B-loss |  | SOX2-amp |  |  | IKZF1-splice site 422-1G>T  NF1-Q2589\* |
| 243 | Nonsmall cell lung carcinoma | FGFR1-amp |  |  |  |  | ATM-G2897fs\*41 | NKX2-1-amp |  | KRAS-G12D | STK11-D194Y  MCL1-amp  NFKBIA-amp |
| 244 | Nonsmall cell lung carcinoma | FGFR1-amp | TP53-R306\* |  |  | CDK4-amp | BRCA2-Q2354\* | KMT2D-truncation, exon 31  MYC-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-amp  NOTCH1-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-amp  EPHA3-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, amp  MDM2-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-amp  MTOR-amp | CCNE1-amp |  | MYCL1-amp |  | BRAF-amp | JAK2-amp |
| 266 | Ovarian/  Fallopian tube carcinoma | FGFR1-amp | TP53-M340fs\*5 | PIK3CG-D238N | AKT2-amp  PTEN-deletion, exons 2-5 | CCND2-amp  CCNE1-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-loss  SMAD4-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-amp  MCL1-amp  MDM4-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-amp  TMPRSS2-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-amp  SRC-amp  AURKA-amp  VHL-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-loss  IRS2-amp |
| 293 | Sarcoma | FGFR1-N546K |  | PIK3R1-K459del | PTEN-Loss |  |  |  |  |  | FLT3-Q115fs\*17 |
| 294 | Sarcoma | FGFR2-amp | TP53-splice site 559+1G>T |  |  | CCND3-amp  CDKN2A/B-loss |  |  |  |  | GATA1-loss  PTCH1-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-amp  IRS2-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-amp  CDKN2A/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-amp  IRS2-amp  MCL1-amp |
| 310 | Urothelial carcinoma | FGFR3-R248C |  |  |  |  | FANCA-C218fs\*1  MSH2-G68fs\*6, loss | DNMT3A-D194fs\*22  SMARCA4-T910M, R885C |  | KRAS-G12D | ARID1A-Q1650\*, Q766fs\*67, D1850fs\*33 |
| 311 | Urothelial carcinoma | FGFR3-R248C, amp |  |  |  |  |  | KDM6A-Q555\* | KDR-amp  KIT-amp  PDGFRA-amp |  |  |
| 312 | Urothelial carcinoma | FGFR1-amp  FGFR3-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-V322I  BCL2-Q52R |
| 319 | Urothelial carcinoma | FGFR3-Y373C | TP53-R273H |  |  | CCND2-amp  CDKN2A/B-loss |  | KDM6A-L401fs\*3 |  |  |  |
| 320 | Urothelial carcinoma | FGFR1-amp | TP53-E287D, E286K | PIK3CA-M1004I |  | CCND3-amp  CDKN2A/B-loss |  |  |  | NRAS-amp  RAF1-amp | MDM4-amp  MCL1-amp |
| 321 | Urothelial carcinoma | FGFR3-Y373C | TP53-S215I | PIK3CA-H1047R |  |  |  | KDM6A-Q1212fs\*9 |  |  |  |
| 322 | Urothelial carcinoma | FGFR3-S131L |  | PIK3CA-H1047R |  |  | MLH1-R497fs\*6  MSH2-loss | SOX10-A361V | KIT-G601fs\*5 |  | NOTCH1-V1721M  TET2-P869fs\*3  PTCH1-R1308fs\*64 |
| 323 | Urothelial carcinoma | FGFR3-R248C |  |  | PTEN-Loss | CDKN2A/B-loss |  |  |  |  |  |
| 324 | Urothelial carcinoma | FGFR3-amp | TP53-V173E |  |  | APC-I1307K |  |  |  |  | MDM2-amp  STK11-Q305\* |
| 325 | Urothelial carcinoma | FGFR3-K650M | TP53-R280K |  |  | CDKN2A-D108Y |  |  |  |  | MCL1-amp |
| 326 | Urothelial carcinoma | FGFR3-TACC3 fusion |  | PIK3R2-E543\* |  | CCND1-amp  CDKN2A/B-loss |  |  | ERBB2-amp | MAP3K1-truncation, exon 15 | MDM2-amp  NF1-I1351M |
| 327 | Urothelial carcinoma | FGFR2-truncation, intron 17 |  |  |  | CDKN2A/B-loss |  |  |  |  | AURKA-amp  TOP1-amp  SRC-amp |
| 328 | Urothelial carcinoma | FGFR1-amp | TP53-E336\* |  |  | RB1-S758\* |  | MYCN-amp |  |  | ARID1A-Q1363\* |
| 329 | Urothelial carcinoma | FGFR1-FGFR1 fusion |  |  |  | CCND3-amp  CDK4-amp |  | MYC-amp |  |  | MDM2-amp  MCL1-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-amp  MDM2-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\*2  NOTCH1-G1215fs\*228  CDH1-N240fs\*10 |
| 335 | Urothelial carcinoma | FGFR1-amp | TP53-R280T, M246I |  |  | CCND2-G268R  CDKN2A/B-loss |  | MYC-amp | RET-R525Q |  | MDM2-amp  BCL2L2-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-amp  AURKB-amp  FBXW7-E113D  MCL1-amp |
| 339 | Urothelial carcinoma | FGFR3-R248C, R399C | TP53-R273C |  | AKT1-R465C |  | ATR-R2407H  BRCA1-R1443\* | DNMT3A-R676W |  |  | PRKDC-R1136H  LRP1B-Q4425\*  PAX5-A322fs\*11  NOTCH1-A2463fs\*14, V1575fs\*?  ARID1A-Q802fs\*15 |
| 340 | Uterine carcino-sarcoma | FGFR1-amp | TP53-K132E |  |  | CCND3-amp  CCNE1-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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