

## Supplementary Figure 1

\* Genes with selected exonic coverage

 SNVs + Indels
  CNVs
  Fusions
  Fusions + CNVs

 Without SNVs + Indels

|          |                          |         |                           |                          |                         |          |         |          |                             |
|----------|--------------------------|---------|---------------------------|--------------------------|-------------------------|----------|---------|----------|-----------------------------|
| ABRAXAS1 | AKT1                     | AKT2    | AKT3                      | ALK*                     | APC                     | AR       | ARAF    | ARID1A   | ATM                         |
| ATR      | BAP1                     | BARD1   | BCL2                      | BRAF                     | BRCA1                   | BRCA2    | BRIP1   | BTK*     | CCND1                       |
| CCND2*   | CCND3                    | CCNE1*  | CCNE2                     | CD274 <sub>(PD-L1)</sub> | CD74                    | CDH1     | CDK12   | CDK2     | CDK4                        |
| CDK6     | CDKN2A                   | CHEK1   | CHEK2                     | CTNNB1*                  | CXCR4                   | CYP2C19* | CYP2D6* | CYP3A4*  | DAXX                        |
| DDR2*    | DPYD*                    | E2F1    | EGFR                      | EPCAM*                   | ERBB2 <sub>(HER2)</sub> | ERBB3*   | ERCC1   | ESR1     | EZH2                        |
| FANCA    | FANCC                    | FANCF   | FANCG                     | FANCL                    | FAT1*                   | FBXW7*   | FEN1    | FGFR1    | FGFR2                       |
| FGFR3    | FGFR4                    | FLT3*   | FOXA1                     | FOXL2                    | FZR1                    | GEN1     | GNA11   | GNAQ     | GNAS*                       |
| GSTP1*   | HNF1A*                   | HOXB13  | HRAS                      | IDH1*                    | IDH2*                   | JAK2*    | JAK3*   | KDM6A*   | KIT                         |
| KMT2C*   | KMT2D* <sub>(MLL2)</sub> | KRAS    | MAP2K1 <sub>(MEK1)</sub>  | MAP2K2 <sub>(MEK2)</sub> | MAPK1                   | MAPK3    | MDM2    | MET      | MLH1                        |
| MPL*     | MRE11                    | MSH2    | MSH6                      | MTHFR*                   | MTOR*                   | MYC      | MYCN    | MYD88    | NBN                         |
| NF1*     | NFE2L2*                  | NOTCH1* | NPM1*                     | NRAS                     | NTRK1                   | NTRK2    | NTRK3   | PALB2    | PDCD1LG2 <sub>(PD-L2)</sub> |
| PDGFRA*  | PIK3CA                   | PIK3CB  | PIK3R1                    | PLCG2*                   | PMS2                    | POLD1    | POLE    | PPP2R1A* | PRKACA*                     |
| PRKD1*   | PTEN                     | PTPN11  | RAD50                     | RAD51                    | RAD51B                  | RAD51C   | RAD51D  | RAD52    | RAF1                        |
| RB1      | RET*                     | RHEB*   | RHOA*                     | RIT1*                    | RNF43*                  | ROS1*    | SDHB    | SMAD4    | SMO                         |
| SPOP     | STAG2                    | STK11   | TERT* <sub>promoter</sub> | TMPRSS2                  | TP53                    | TSC1*    | TSC2*   | UGT1A1*  | VHL                         |
| XPC*     | XRCC1*                   |         |                           |                          |                         |          |         |          |                             |

Supplementary Figure 1. Detected Gene list and mutational type of 152-gene PredicineCARE microarray