

Figure S3

| Symbol | Well | Test Samples | | | | | |
|--------|------|--------------|-----------|---------|---------|---------|---------|
| | | nt change | AA change | clone 1 | clone 2 | clone 3 | clone 4 |
| AKT1 | A01 | 49G>A | E17K | 40 | 40 | 40 | 40 |
| BRAF | A02 | c.1391G>T | p.G464V | 35 | 35 | 35 | 35 |
| BRAF | A03 | c.1397G>T | p.G466V | 40 | 40 | 40 | 40 |
| BRAF | A04 | c.1406G>C | p.G469A | 40 | 40 | 40 | 40 |
| BRAF | A05 | c.1789C>G | p.L597V | 40 | 40 | 40 | 40 |
| BRAF | A06 | c.1790T>A | p.L597Q | 40 | 40 | 40 | 40 |
| BRAF | A07 | c.1798G>A | p.V600M | 35 | 40 | 40 | 35 |
| BRAF | A08 | c.1799T>A | p.V600E | 40 | 35 | 40 | 40 |
| BRAF | A09 | c.1799T>C | p.V600A | 35 | 35 | 35 | 35 |
| BRAF | A10 | c.1799T>G | p.V600G | 40 | 40 | 40 | 40 |
| FGFR1 | A11 | c.374C>T | p.S125L | 35 | 35 | 35 | 35 |
| FGFR1 | A12 | c.754C>A | p.P252T | 40 | 35 | 35 | 35 |
| FGFR2 | B01 | c.755C>G | p.S252W | 40 | 40 | 40 | 35 |
| FGFR2 | B02 | c.1647T>G | p.N549K | 40 | 40 | 40 | 40 |
| FGFR3 | B03 | c.742C>T | p.R248C | 40 | 40 | 40 | 35 |
| FGFR3 | B04 | c.1108G>T | p.G370C | 40 | 35 | 40 | 35 |
| FGFR3 | B05 | c.1111A>T | p.S371C | 40 | 40 | 40 | 40 |
| FGFR3 | B06 | c.1118A>G | p.Y373C | 40 | 35 | 35 | 35 |
| FGFR3 | B07 | c.1138G>A | p.G380R | 40 | 40 | 40 | 40 |
| FGFR3 | B08 | c.1921G>A | p.D641N | 40 | 40 | 40 | 40 |
| FGFR3 | B09 | c.1948A>C | p.K650Q | 40 | 40 | 40 | 40 |
| FGFR3 | B10 | c.1948A>G | p.K650E | 40 | 40 | 40 | 40 |
| FGFR3 | B11 | c.1949A>C | p.K650T | 40 | 40 | 40 | 40 |
| FGFR3 | B12 | c.1949A>T | p.K650M | 40 | 40 | 40 | 40 |
| FGFR3 | C01 | c.2089G>T | p.G697C | 40 | 40 | 40 | 40 |
| KRAS | C02 | c.182A>G | p.Q61R | 40 | 40 | 40 | 40 |
| KRAS | C03 | c.182A>T | p.Q61L | 40 | 40 | 40 | 40 |
| KRAS | C04 | c.183A>T | p.Q61H | 40 | 40 | 40 | 40 |
| KRAS | C05 | c.34G>A | p.G12S | 40 | 40 | 40 | 40 |
| KRAS | C06 | c.34G>C | p.G12R | 40 | 40 | 40 | 40 |
| KRAS | C07 | c.34G>T | p.G12C | 40 | 40 | 40 | 40 |
| KRAS | C08 | c.35G>A | p.G12D | 40 | 40 | 40 | 40 |
| KRAS | C09 | c.35G>C | p.G12A | 40 | 40 | 40 | 40 |
| KRAS | C10 | c.35G>T | p.G12V | 40 | 40 | 40 | 40 |
| KRAS | C11 | c.37G>A | p.G13S | 40 | 40 | 40 | 40 |
| KRAS | C12 | c.37G>C | p.G13R | 40 | 40 | 40 | 40 |
| KRAS | D01 | c.37G>T | p.G13C | 40 | 40 | 35 | 40 |
| KRAS | D02 | c.38G>A | p.G13D | 35 | 35 | 35 | 35 |
| KRAS | D03 | c.38G>C | p.G13A | 40 | 40 | 40 | 40 |
| KRAS | D04 | c.38G>T | p.G13V | 40 | 35 | 35 | 35 |
| KRAS | D05 | c.64C>A | p.Q22K | 40 | 40 | 40 | 40 |

| Symbol | Well | Test Samples | | | | | |
|--------|------|--------------|-----------|---------|---------|---------|---------|
| | | nt change | AA change | clone 1 | clone 2 | clone 3 | clone 4 |
| HRAS | D06 | c.181C>A | p.Q61K | 40 | 40 | 40 | 40 |
| HRAS | D07 | c.182A>G | p.Q61R | 40 | 40 | 40 | 35 |
| HRAS | D08 | c.182A>T | p.Q61L | 40 | 40 | 40 | 40 |
| HRAS | D09 | c.183G>C | p.Q61H | 40 | 40 | 40 | 40 |
| HRAS | D10 | c.183G>T | p.Q61H | 40 | 35 | 40 | 40 |
| HRAS | D11 | c.34G>A | p.G12S | 35 | 35 | 35 | 35 |
| HRAS | D12 | c.34G>C | p.G12R | 40 | 40 | 40 | 40 |
| HRAS | E01 | c.34G>T | p.G12C | 40 | 40 | 40 | 40 |
| HRAS | E02 | c.35G>A | p.G12D | 35 | 35 | 35 | 35 |
| HRAS | E03 | c.35G>T | p.G12V | 40 | 40 | 40 | 40 |
| HRAS | E04 | c.37G>A | p.G13S | 40 | 40 | 35 | 35 |
| HRAS | E05 | c.37G>C | p.G13R | 40 | 40 | 40 | 40 |
| HRAS | E06 | c.37G>T | p.G13C | 40 | 40 | 40 | 40 |
| NRAS | E07 | c.181C>A | p.Q61K | 40 | 40 | 40 | 40 |
| NRAS | E08 | c.182A>C | p.Q61P | 35 | 35 | 35 | 35 |
| NRAS | E09 | c.182A>G | p.Q61R | 40 | 40 | 40 | 40 |
| NRAS | E10 | c.182A>T | p.Q61L | 35 | 35 | 35 | 35 |
| NRAS | E11 | c.34G>A | p.G12S | 40 | 40 | 35 | 40 |
| NRAS | E12 | c.35G>A | p.G12D | 40 | 40 | 40 | 40 |
| NRAS | F01 | c.35G>C | p.G12A | 40 | 40 | 40 | 40 |
| NRAS | F02 | c.37G>C | p.G13R | 40 | 40 | 40 | 40 |
| NRAS | F03 | c.38G>A | p.G13D | 35 | 40 | 40 | 35 |
| NRAS | F04 | c.38G>C | p.G13A | 40 | 40 | 40 | 40 |
| NRAS | F05 | c.38G>T | p.G13V | 40 | 40 | 40 | 40 |
| NRAS | F06 | c.52G>A | p.A18T | 35 | 35 | 35 | 35 |
| MEK1 | F07 | 167A>C | Q56P | 40 | 35 | 40 | 40 |
| MEK1 | F08 | 171G>T | K57N | 40 | 40 | 40 | 40 |
| MEK1 | F09 | 199G>A | D67N | 40 | 40 | 35 | 35 |
| MEK1 | F10 | 371C>T | P124L | 40 | 40 | 35 | 40 |
| PIK3CA | F11 | c.1616C>G | p.P539R | 40 | 40 | 40 | 40 |
| PIK3CA | F12 | c.1624G>A | p.E542K | 40 | 40 | 35 | 40 |
| PIK3CA | G01 | c.1633G>A | p.E545K | 40 | 40 | 35 | 40 |
| PIK3CA | G02 | c.1634A>G | p.E545G | 40 | 40 | 40 | 40 |
| PIK3CA | G03 | c.1635G>T | p.E545D | 40 | 40 | 35 | 40 |
| PIK3CA | G04 | c.3140A>G | p.H1047R | 40 | 40 | 40 | 40 |
| PIK3CA | G05 | c.3140A>T | p.H1047L | 40 | 40 | 40 | 40 |
| PTEN | G06 | c.389G>A | p.R130Q | 40 | 40 | 35 | 40 |
| PTEN | G07 | c.388C>G | p.R130G | 40 | 40 | 40 | 40 |
| PTEN | G08 | c.388C>T | p.R130* | 40 | 40 | 40 | 40 |
| PTEN | G09 | c.517C>T | p.R173C | 40 | 40 | 40 | 40 |
| PTEN | G10 | c.518G>A | p.R173H | 40 | 35 | 40 | 35 |
| PTEN | G11 | c.697C>T | p.R233* | 40 | 40 | 40 | 40 |
| AKT1 | G12 | copy number | | 26.62 | 26.09 | 26.07 | 25.75 |
| BRAF | H01 | copy number | | 26.01 | 25.28 | 25.23 | 24.75 |
| FGFR1 | H02 | copy number | | 26.75 | 26.32 | 25.99 | 26.06 |
| FGFR2 | H03 | copy number | | 21.49 | 20.35 | 22.23 | 19.6 |
| FGFR3 | H04 | copy number | | 29.06 | 28.64 | 28.53 | 28.31 |
| KRAS | H05 | copy number | | 27.05 | 26.76 | 26.24 | 26.34 |
| HRAS | H06 | copy number | | 28.51 | 27.65 | 27.6 | 27.47 |
| NRAS | H07 | copy number | | 26.64 | 26.28 | 25.88 | 25.79 |
| MEK1 | H08 | copy number | | 26.06 | 25.58 | 25.25 | 25.16 |
| PIK3CA | H09 | copy number | | 26.66 | 26.3 | 26.1 | 26.09 |
| PTEN | H10 | copy number | | 26.09 | 25.54 | 25.23 | 25.21 |
| PPC | H11 | PCR control | | 23.62 | 23.73 | 23.61 | 23.67 |
| PPC | H12 | PCR control | | 24.05 | 23.76 | 23.25 | 23.68 |

Supplementary figure S3. Screening for point mutations in major oncogenes. qBiomarker™ Somatic Mutation PCR Array was performed according to manufacture's protocol. Ct cutoff was 35 cycles.