**Table S2: Mutations assessed at MSKCC1**

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|  |  |  |
|  | **Gene** | **Amino acid substitution** | **Nucleotide** **substitution** |  | **Gene** | **Amino acid substitution** | **Nucleotide** **substitution** |  |
|  | **BRAF** | V600E | c.1799T>A |  | **KRAS** | G12S  | c.34G>A  |  |
|  |  | V600M | c.1798G>A |  |  | G12R  | c.34G>C  |  |
|  |  | V600A | c. 1799\_T>C |  |  | G12C  | c.34G>T  |  |
|  |  | V600G | c.1799T>G |  |  | G12D  | c.35G>A  |  |
|  |  | G469A | c.1406G>C |  |  | G12A  | c.35G>C  |  |
|  |  | G469E | c.1406G>A |  |  | G12V  | c.35G>T  |  |
|  |  | G469V | c.1406G>T |  |  | G13S  | c.37G>A  |  |
|  |  | D594G | c.1781A>G |  |  | G13R  | c.37G>C  |  |
|  |  | D594V | c.1781A>T |  |  | G13C  | c.37G>T  |  |
|  | **NRAS** | G12S | c.34G>A |  |  | G13D  | c.38G>A  |  |
|  |  | G12C | c.34G>T |  |  | G13A  | c.38G>C  |  |
|  |  | G12R | c.34G>C |  |  | G13V | c.38G>T |  |
|  |  | G12V | c.35G>A |  |  | Q61K | c.180-181TC>CA |  |
|  |  | G12A | c.35G>C |  |  | Q61E | c.181C>G |  |
|  |  | G12D | c.35G>A |  |  | Q61K | c.181C>A |  |
|  |  | G13A | c.38G>C |  |  | Q61R | c.182A>G |  |
|  |  | G13V | c.38G>T |  |  | Q61L | c.182A>T |  |
|  |  | G13R | c.37G>C |  |  | Q61P | c.182A>C |  |
|  |  | G13C | c.37G>T |  |  | Q61H | c.183A>C |  |
|  |  | G13S | c.37G>A |  |  | Q61H | c.183A>T |  |
|  |  | G13D | c.38G>A |  |  | K117N | c351A>C |  |
|  |  | Q61E | c.181C>G |  |  | K117N | c351A>T |  |
|  |  | Q61H | c.183A>T |  |  | A146P | c.436G>C |  |
|  |  | Q61H | c.183A>C |  |  | A146T | c.436G>A |  |
|  |  | Q61L | c.182A>T |  | **ERBB2** | L755S | c.2264T>C |  |
|  |  | Q61K | c.181C>A |  |  | D769H | c.2305G>C |  |
|  |  | Q61P | c.182A>C |  |  | V777L  |  c.2329G>T |  |
|  |  | Q61R | c.182A>G |  |  | V777M | c.2329G>A |  |
|  |  | Q61Q | c.183A>G |  | **EGFR** | E709K | c.2125G>A |  |
|  | **PIK3CA** | R88Q | c.263G>A |  |  | E709H | c.2125\_2127GAA>CAT |  |
|  |  | N345K | c.1035T>G |  |  | E709A | c.2126A>C |  |
|  |  | N345K | c.1035T>A |  |  | E709G | c.2126A>G |  |
|  |  | C420R | c.1258T>C |  |  | E709V | c.2126A>T |  |
|  |  | E542K | c.1624G>A |  |  | G719C | c.2155G>T |  |
|  |  | E542Q | c.1624G>C |  |  | G719S | c.2155G>A |  |
|  |  | E545K | c.1633G>A |  |  | G719A | c.2156G>C |  |
|  |  | E545Q | c.1633G>C |  |  | G719D | c.2156G>A |  |
|  |  | E545A | c.1634A>C |  |  | D761Y | c.2281G>T |  |
|  |  | E545G | c.1634A>G |  |  | D761N | c.2281G>A |  |
|  |  | E545D | c.1635G>T |  |  | S768I  | c.2303G>T |  |
|  |  | M1043I | c.3129G>T  |  |  | R776C | c.2326C>T |  |
|  |  | H1047Y | c.3139C>T |  |  | R776H | c.2327G>A |  |
|  |  | H1047L | c.3140A>T |  |  | T790M | c.2369C>T |  |
|  |  | H1047R | c.3140A>G |  |  | T854A | c.2560A>G |  |
|  | **MEK1** | p.Q56P | c.167A>C |  |  | L858M | c.2572C>A |  |
|  |  | p.K57N  | c.171G>T |  |  | L858R | c.2573T>G |  |
|  |  | p.D67N  | c.199G>A |  |  | L861Q | c.2582T>A |  |
|  | **AKT** | p.E17K | c.49G>A |  |  | L861R | c.2582T>G |  |
|  | 1Mutations assessed by Sequenome, cancer-specific panel |  |