

Supplemental Table 1 Primers and probe sequences used in the SNP assays

| SNP name | Primers and probes | Sequence (5'-3') |
|------------------|--------------------|-------------------------|
| AKT1:rs2494738 | Forward | GTGCCAGGACAGATGTGC |
| | Reverse | TCTGCCTTCCCGTTGAC |
| | Probe1 | AGGCGCGGTACGGGAGC |
| | Probe2 | AGGCGCGGTACAGGAGC |
| AKT1:rs1130214 | Forward | AATGAACCAGATTCAGACCG |
| | Reverse | AGGAAGACAGGACCAGGATG |
| | Probe1 | TCCAGCGCAAGCCCAAA |
| | Probe2 | TCCAGCGCAAGCACAAA |
| AKT2:rs8100018 | Forward | GCCTAATTCCCAAACCCTAC |
| | Reverse | GGCAGCAAAGCGAGACTC |
| | Probe1 | CCTGTCCCCGCCCCCT |
| | Probe2 | CCTGTCCCCGGCCCCCT |
| FRAP1:rs11121704 | Forward | GGGCGAGCTATTTTATGCTAC |
| | Reverse | TGCTGTCCTTACAAGAGGTAAGA |
| | Probe1 | AGGCACATCATCACAGA |
| | Probe2 | AGGCACATCATCGCAGA |
| FRAP1:rs2295080 | Forward | TCCCCGCTGTCTCTAAG |
| | Reverse | CGTGGTTTGTCTATTTGAACAG |
| | Probe1 | AGGAGGGTTCCCAGCCC |
| | Probe2 | AGGAGGGTTCCCATCCC |
| PIK3CA:rs7651265 | Forward | CGTGGCATCTTGAAGAGAGA |
| | Reverse | AGAGCAATATCTGGGTAAAAATG |
| | Probe1 | TGTGTTATTCTACTCCT |
| | Probe2 | TGTGTTATTCTGCTCCT |
| PIK3CA:rs7640662 | Forward | CTTACCAGCAGGCTGTTTTTC |
| | Reverse | CTGTGATCGTGGTGGTGATT |
| | Probe1 | CACCTTCTCCTTAGCCT |

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|------------------|---------|------------------------|
| | Probe2 | CACCTTCTCGTTAGCCT |
| PIK3CA:rs6443624 | Forward | TCTGGAATTATCAGCCAAGTT |
| | Reverse | GCCTTTGTAAATATGCTCCAT |
| | Probe1 | TTCAGCCCAAGTATCTT |
| | Probe2 | TTCAGCCCAAGTAGCTT |
| PIK3CA:rs7621329 | Forward | ATATCATCAAATTCAAAGCAGC |
| | Reverse | CCTTTCCCTGCTGTCATGTA |
| | Probe1 | CAGATTGGAGTTTATAA |
| | Probe2 | CAGATTGGAGTTTGTAA |
| PIK3CA:rs2699887 | Forward | GAGTCTCCGGCACCCAC |
| | Reverse | CCCGATGCGGTTAGAGC |
| | Probe1 | ACCGGCCAGTCCGCGC |
| | Probe2 | ACCGGCCAATCCGCGC |
| PTEN:rs2299939 | Forward | GCCTGGCTAAATTGATCAGTA |
| | Reverse | CAATCGTAGGCGGTAACCT |
| | Probe1 | TTGTTATGGAATGAGAA |
| | Probe2 | TTGTTATGGAATGCGAA |
| PTEN:rs1256998 | Forward | CCCTGGGCATGTGTAGTGA |
| | Reverse | TCCAGAGCTATTTACCCCCT |
| | Probe1 | CCTTAAATGTTTGGCTC |
| | Probe2 | CCTTAAATGTTGGGCTC |
| PTEN:rs12357281 | Forward | TATTTTCAAACAGGCTCTCACA |
| | Reverse | CCCTACAAATTTTGGCTCAAAT |
| | Probe1 | AGGAACTATATgTTGCC |
| | Probe2 | AGGAACTATATcTTGCC |

Abbreviations: SNP: single-nucleotide polymorphism