

Table S2. BreastCurie gene panel for targeted NGS

| Gene name | NM_ | Pathway |
|------------------|------------|--------------------------|
| <i>CDKN1B</i> | 004064.4 | Cell cycle and apoptosis |
| <i>PPP2R1A</i> | 014225.5 | |
| <i>PTPN11</i> | 002834.3 | |
| <i>RB1</i> | 000321.2 | |
| <i>TP53</i> | 000546.4 | |
| <i>STAG2</i> | 006603.4 | |
| <i>TP53BP1</i> | 005657.2 | |
| <i>CDK4</i> | 000075.3 | |
| <i>CDK6</i> | 001259.6 | |
| <i>TP73</i> | 005427.3 | |
| <i>CDKN2A</i> | 000077.4 | |
| <i>APAF1</i> | 181861.1 | |
| <i>CASP8</i> | 001228.4 | |
| <i>FBXW7</i> | 033632.3 | |
| <i>NOTCH1</i> | 017617.3 | |
| <i>NOTCH2</i> | 024408.3 | |
| <i>NOTCH4</i> | 004557.3 | |
| <i>ARID1A</i> | 006015.4 | Epigenome |
| <i>CTCF</i> | 006565.3 | |
| <i>TBL1XR1</i> | 024665.4 | |
| <i>CREBBP</i> | 004380.2 | |
| <i>CHD4</i> | 001273.2 | |
| <i>ESR1</i> | 000125.3 | ER |
| <i>FOXA1</i> | 004496.3 | |
| <i>GATA3</i> | 002051,2 | |
| <i>NCOR1</i> | 006311.3 | |
| <i>PGR</i> | 000926.4 | |
| <i>AR</i> | 000044.3 | |
| <i>BRAF</i> | 004333.4 | |
| <i>EGFR</i> | 005228.3 | |
| <i>FGFR1</i> | 023110.2 | |
| <i>FGFR2</i> | 000141.4 | |
| <i>FGFR3</i> | 000142.4 | |
| <i>FGFR4</i> | 002011.4 | |
| <i>ERBB2</i> | 004448,3 | |
| <i>ERBB3</i> | 001982.3 | |
| <i>ERBB4</i> | 005235.2 | |
| <i>HRAS</i> | 005343.2 | |
| <i>IGF1R</i> | 000875.4 | |
| <i>KRAS</i> | 004985.4 | |
| <i>MAP2K1</i> | 002755.3 | |
| <i>MAP2K4</i> | 003010.3 | |

| Gene name | NM_ | Pathway |
|------------------|------------|----------------------|
| <i>MAP3K1</i> | 005921.1 | RTK/RAS/MAPK |
| <i>MET</i> | 000245.2 | |
| <i>NF1</i> | 000267.3 | |
| <i>NRAS</i> | 002524.4 | |
| <i>PDGFRA</i> | 006206.4 | |
| <i>RAB40A</i> | 080879.2 | |
| <i>RET</i> | 020975.4 | |
| <i>ROS1</i> | 002944.2 | |
| <i>FLT1</i> | 002019.4 | |
| <i>KDR</i> | 002253.2 | |
| <i>ALK</i> | 004304.4 | |
| <i>DDR2</i> | 006182.2 | |
| <i>KIT</i> | 000222.2 | |
| <i>THBS1</i> | 003246.2 | Extracellular matrix |
| <i>CDH1</i> | 004360.3 | |
| <i>LAMA2</i> | 000426.3 | |
| <i>LAMA4</i> | 002290.4 | |
| <i>AKT1</i> | 005163.2 | PIK3CA/AKT/mTOR |
| <i>AKT2</i> | 001626.5 | |
| <i>AKT3</i> | 005465.4 | |
| <i>INPP4B</i> | 003866.2 | |
| <i>MTOR</i> | 004958.3 | |
| <i>PIK3CA</i> | 006218.2 | |
| <i>PIK3R1</i> | 181523.2 | |
| <i>PTEN</i> | 000314.4 | |
| <i>STK11</i> | 000455.4 | |
| <i>TSC1</i> | 000368.4 | |
| <i>TSC2</i> | 000548.3 | |
| <i>BRCA1</i> | 007294.3 | DNA repair |
| <i>BRCA2</i> | 000059.3 | |
| <i>POLE</i> | 006231.2 | |
| <i>RUNX1</i> | 001754.4 | Transcription |
| <i>TBX3</i> | 016569.3 | |
| <i>NFE2L2</i> | 006164.3 | |
| <i>MYB</i> | 005375.2 | |
| <i>HIST1H3B</i> | 003537.3 | |
| <i>SETD2</i> | 014159.6 | |
| <i>MED1</i> | 004774.3 | |
| <i>CBFB</i> | 001755.2 | |
| <i>KEAP1</i> | 012289.3 | Diverse |
| <i>LDLRAP1</i> | 015627.2 | |
| <i>STMN2</i> | 007029.3 | |
| <i>MYO3A</i> | 017433.4 | |

| Gene name | NM_ | Pathway |
|------------------|------------|----------------|
| <i>VHL</i> | 000551.3 | Diverse |
| <i>AGTR2</i> | 000686.4 | |
| <i>CTNNB1</i> | 001904.3 | |
| <i>APC</i> | 000038.5 | |
| <i>SF3B1</i> | 012433.2 | |
| <i>MYH9</i> | 002473.4 | |