**Supplemental Table S1: AML Patient Sample Characteristics**

| Unique ID | Sample source | Genetic mutations | Karyotype |
|---|---|---|---|
| AML-1 | Blood | ASXL / DNMT3A | 47,XX,+6,dmin[cp20].nuc ish(amp MYC+) |
| AML-2 | | IDH2 R140Q | 46,XY[20] |
| AML-3 | Apheresis | Philadelphia + / BCR-ABL | 48,XX,+8,t(9;22)(q34;q11.2),+der(22)t(9;22)(q34;q11.2)[20] |
| AML-4 | Apheresis | None Detected | 46,XY,inv(16)(p13.1q22)[14]/46,XY[5]/nonclonal with clonal abnormalities[1] |
| AML-5 | Blood | TP53 / DNMT3A | 45,XX,add(3)(p21),add(4)(q21),del(5)(q15q35),-9,der(11)(pter->q23::q21->q23::q13->qter),del(12)(p11.2),-13,-13,-15,-19,+mar1,+mar2,+mar3,+mar4[13,two w/nonclonal abnormalities]/ |
| AML-6 | Apheresis | TET2 T229fs / NPM1 W288fs / FLT3-ITD E596 | 46,XX[20] |
| AML-7 | Bone marrow | CDKN2A/B loss of p16INK4a and p14ARF exon 1 / loss of CDKN2B | complex karyotype |
| AML-8 | Bone marrow | UNK | UNK |
| AML-9 | Bone marrow | None Detected | 46,XX[20] |
| AML-10 | Bone marrow | None Detected | 47,XY,t(1;11)(p32;q23),+19[20] |
| AML-11 | Bone marrow | None Detected | 46,XY,t(5;20)(q15;q13.1),add(19)(p13.3),add(19)(p13.3)(cp9)/46,idem,del(9)( |
| AML-12 | Apheresis | KMT2A (MLL) rearrangement / FLT3-JMD | 46,XY,t(6;11)(q27;q23)[19]/nonclonal[1] |
| AML-13 | Bone marrow | None Detected | 46,XY,t(12;22)(p13;q11.2)[6]/46,sl,t(X;13)(q13;q12)[4]/47,sdl1,+8[10].ish t(12;22)(3' ETV6+;5' ETV6+) |
| AML-14 | Apheresis | NPM1 / BCR-ABL | 46,XY,t(9;22)(q34;q11.2)[18]/nonclonal w/clonal[2] |
| AML-15 | Bone marrow | FLT3-ITD | 46,XX[20] |
| AML-16 | Blood | IDH1 / JAK2 | 46,XY[20] |
| AML-17 | Apheresis | | 46,XY,inv(16)(p13q22)[14]/46,XY[4]/nonclonal w/clonal abnormality[2] |
| AML-18 | Apheresis | FLT3-ITD F605 / NPM1 W288fs / NRAS G12D/ RAD21 G547 / WT1 A382 / PTPN11 | 46,XY[20] |
| AML-19 | Apheresis | NPM1 | Insufficient Metaphases (46,XX[1]) |
| AML-20 | Bone marrow | NPM1 | 46,XY,del(7)(p15)[20] |
| AML-21 | Apheresis | FLT3-ITD | 46,XY[20] |
| AML-22 | Apheresis | GATA2 / NPM1 / FLT3-ITD | 46,XX[19]/nonclonal[1] |
| AML-23 | Blood | IDH1 R132H / NPM1 W288 / PTPN11 N58Y / DNMT3A R882 / PTPN11 S502L | 46,XY[19]/nonclonal[1] |
| AML-24 | Apheresis | FLT3-ITD / IDH2 R140Q / DNMT3A R882H | 46,XX[19]/nonclonal[1] |

**Supplemental Table S1: AML Patient Sample Characteristics (Cont'd)**

| Unique ID | Sample source | Genetic mutations | Karyotype |
|---|---|---|---|
| AML-25 | Bone marrow | None Detected | 46,XX,t(1;19)(p36.1;p13.3)?c,t(9;22)(q34;q11.2)[20] |
| AML-26 | Apheresis | NPM1 / DNMT3A / IDH2 / NRAS | 46,XX[20] |
| AML-27 | Blood | | 46,XY,t(15;17)(q24;q21)[10] |
| AML-28 | Blood | CEBPA / JAK2 / WT1 R250P / WT C244 / TET2 | 46,XX[20] |
| AML-29 | Bone marrow | NF1 Q1775* / PTPN11 A461G (subclonal) / CDKN2A/B loss / ETV6 loss / PICALM-MLLT10 fusion / PHF6 R274Q / TP53 K164E (subclonal) and Y126* | complex karyotype |