## *Supplementary*

**SUPPLEMENTARY TABLE 1.** Clinical Information of AML Patients.

| Sample ID | Gender | Age | WBC ($10^9$/L) | FAB | CR/CS | Gene mutation |
|---|---|---|---|---|---|---|
| AML-1 | Female | 44 | 108.5 | M5 | CS | No fusion gene was detected |
| AML-2 | Male | 24 | 6.27 | M5 | CR | *NRAS* gene mutation; Overexpression of WT1 |
| AML-3 | Female | 24 | 58.04 | M5[b] | CS | No fusion gene was detected |
| AML-4 | Male | 48 | 20.74 | M5 | CR | *IDH1, PTPN11* gene mutation positive, *TPM4, P2PY8, LATS2* fusion gene positive |
| AML-5 | Male | 40 | 221.28 | M5[b] | CS | Whole exon: DNMT3A, NPM1, FLT3 positive mutation; Fusion gene: not detected |
| AML-6 | Male | 36 | 114.66 | M5 | CR | *KIT, SRP72, PMS2, USB1* gene mutation positive, *CEFB-MYH11, TPM4-KLF3, P2RY8-CD99* fusion gene positive |
| AML-7 | Female | 28 | 1.93 | M5[b] | CS | *RUNX1* and *TPM4* fusion genes were positive, and *KRAS* and *WT1* genes were mutated |
| AML-8 | Female | 40 | 188.27 | M2 | CS | *DEK/CAN* fusion gene positive, FLT3-ITD mutation |
| AML-9 | Male | 48 | 1.89 | M2[a] | CS | DNMT3A, IDH2 mutation |
| AML-10 | Female | 35 | 3.35 | M5[b] | CR | HOX11 gene positive; With *IDH2, NPM1, ETV6* gene mutations |
| AML-11 | Male | 29 | 81 | M1 | CR | With CEBPA, NRAS, IDH1 mutations |
| AML-12 | Male | 35 | 6.05 | M5[b] | CR | With CEBPA, NF1 mutation |
| AML-13 | Male | 51 | 21.44 | M5 | CS | DNMT3A, CEBPA, NRAS, NPM1 mutations |
| AML-14 | Male | 39 | 2.8 | M5 | CS | With PTPN11 mutation |
| AML-15 | Male | 34 | 79.5 | M1 | CS | FLT3 and IDH1 mutations were positive |
| AML-16 | Female | 50 | 2.82 | M5 | CS | With PTPN11 mutation, *KMT2A-MLLT10* fusion gene was positive |
| AML-17 | Female | 44 | 2.93 | M0 | CR | WT1 fusion gene was positive. PTPN11, RUNX1, SF3B1 mutations were positive |
| AML-18 | Female | 47 | 6.59 | M5[b] | CR | With CEBPA double mutation |
| AML-19 | Female | 39 | 4.39 | M5 | CR | With *CEBPA, SRSF2* gene mutation |
| AML-20 | Male | 32 | 5.67 | M5 | CR | No fusion gene was detected |

FAB, French-American-British classification; WBC, white blood cell count; CR, Chemotherapy-resistant AML; CS, Chemotherapy-sensitive AML.

**SUPPLEMENTARY TABLE 2.** qPCR Primers Sequence.

| Name of primers | Sequence (5'→3') |
|---|---|
| PPARγ-F | CCTCCCTGAATAAAGATGG |
| PPARγ-R | CACAGCAAACTCAAACTTAGGC |
| METTL3-F | CAGGGCTGGGAGACTAGGAT |
| METTL3-R | CTGGGCTGTCACTACGGAAG |
| METTL14-F | AGGGGTTGGACCTTGGAAGA |
| METTL14-R | GAAGTCCCCGTCTGTGCTAC |
| WTAP-F | TCCCTCCCTTCACCTTTCCT |
| WTAP-R | TGGGAAGAGGTTCTTCGTTGG |
| FTO-F | GCTCCCTTATCTGACCCCCA |
| FTO-R | CCCGAAATAAGCAGCCATGC |
| ALKBH5-F | TCAAGCCTATTCGGGTGTCG |
| ALKBH5-R | CCAACCGGGGTGCATCTAAT |
| β-Actin -F | CATCCGCAAAGACCTGTACGC |
| β-Actin -R | AGTACTTGCGCTCAGGAGGAG |