

538 **Supplementary data:**

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540 Supplementary table 1: Target regions of NGS assay

Gene	Exon / Amino Acid (AA) Coverage
ASXL1	Exons 1-12 (AA 4-1542 except 8-13, 75-77, 238-239, 628-634, 639-643, 738-741, 840, 940, 1263-1268)
CBL	Exon 1-16 (AA 1-907 except 55-57, 198-199, 410-413, 476-477)
CEBPA	Exon 1 (AA 37-15, 106-304, 314-376, 380-381, 385-396)
DNMT3A	Exons 2-22 (AA 1- 866 except 12-24, 57-59, 150-164, 286-287, 339, 428-429, 477-492, 581, 618-624) Exon 23 (AA 866-913)
ETV6	Exons 2-8 (AA 12-453 except 338-339, 411-412)
EZH2	Exons 2-20 (AA 1-752 except 74-82, 242, 265-266, 274-276, 386-388, 415, 502-516, 705-707)
FLT3	Exon 20 (AA 807-847), Exons 1-24 (AA1-994 except 8-14 , 31-32, 122, 344-345, 438-440, 534-535, 805-847, 850-853, 886-887)
IDH1	Exon 3-9 (AA 1-381 except 42-138, 154-161, 197-200) Exon 4 (AA 41-138)
IDH2	Exon 1-11 (AA 1-453 except 126-178, 361-363) Exon 4 (AA 125-178)
JAK1	Exons 2-25 (AA 1-1155 except 3-5, 81-86, 329-330, 358-361, 549, 1020-1021)
JAK2	Exon 14 (AA 593-622), Exons 3-25 (AA 1-1133 except 151, 265-266, 349-350, 443, 593-664, 743-747, 858-859)
JAK3	Exons 2-23 (AA 1-1069 except 255, 259-263, 301-303, 419-426, 482-484, 522-523, 601-602, 728-733)
KIT	Exons 1-21 (AA 1-977 except 112, 546-549, 660-663, 767-773, 777-783, 788-828) Exon 17 (AA 788-828)
MPL	Exon 10 (AA 493-522)
NPM1	Exon 11 (AA 283-295)
KRAS	Exons 2-4 (AA 1-150)
NRAS	Exons 2-4 (AA 1-150)
PHF6	Exons 2-10 (AA 1-366 except 47-80, 166-169)
PTEN	Exons 1-9 (AA 1-404 except 108-113, 343-404)
RUNX1	Exons 4-9 (AA 33-481 except 202-204, 210-214, 353-357)
SF3B1	Exons 1-25 (AA 1-1305 except 299-301, 303-307, 311-312, 574-577, 603-607)
SH2B3	Exons 2-8 (AA 1-576 except 92-128, 169-197, 183-186, 193-197, 310-314, 413)
SUZ12	Exons 1-16 (AA 1-740 except 219-224, 303-306, 599-625, 683)
TET1	Exons 2-12 (AA 1-2137 except 324-325, 523-525, 599-601, 637-638, 824-826, 922-923, 988-989, 1160-1161, 1423-1425, 1963, 2096-2097)
TET2	Exons 3-11 (AA 2-2003 except 251-254, 510-514, 686-687, 807-808, 877-881, 1164-1166, 1254, 1263-1264, 1349-1354, 1390-1394, 1570-1572, 1668-1674, 1677-1682, 1844-1845)
TP53	Exons 2-11 (AA 1-394 except 26-32, 45-46, 53, 221-224, 262-265, 301-306, 332-333, 368-369)
TYK2	Exons 3-25 (AA 1-1188 except 402-403, 554-556, 592, 650-653, 871-872, 906-912, 963-969, 1107-1109)
WT1	Exons 1-10 (AA1-518 except 256, 317-334, 335-338, 443-446)

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543 **Supplementary table 2**

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545 **See Excel sheet with all called variants used in analysis.**

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547 Supplementary table 3: 10-color multi-parameter flow panels used to detect MRD

Tube 1	Tube 2	Tube 3
CD15 FITC	CD64 FITC	CD7 BB515
CD33 PE	CD123 PE	CD56 PE
CD117 PC5	CD14 PC5	CD5 PerCP-Cy5.5
CD13 PE-CY7	CD13 PE-CY7	CD33 PC7
CD34 APC	CD34 APC	CD34 APC
CD71 APC ALEXA700	CD16 APC ALEXA700	CD4 APC-ALEXA700
CD38 APC ALEXA 750	CD38 APC ALEXA750	CD38 APC-ALEXA750
HLA-DR PAC BLUE	HLA-DR PAC BLUE	CD2 BV421
CD45 V500C	CD45 V500C	CD45 V500c
CD19 BV605	CD11b BV605	

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549 Supplementary table 4: Induction and consolidation regimens

Induction chemotherapy regimens	N (%)
7+3 Daunorubicin	24 (52.1)
7+3 Idarubicin	17 (36.2)
Hypomethylating agent	2 (4.2)
HIDAC	1 (2.1)
Unknown	1 (2.1)
5+3 Idarubicin	1 (1)
5+3 Daunorubicin	1 (1)
Consolidation chemotherapy regimens	
No Consolidation	26 (55.3)
HIDAC	12 (25.5)
IDAC	6 (12.8)
Hypomethylating agent	2 (4.2)
5+2 Idarubicin	1 (2.1)

550 Table includes only patients (n=47) who had serial NGS performed at diagnosis and

551 immediately before HCT. All 47 patients received induction.

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553 Supplementary table 5: Ten patients with *NPM1* mutated AML who had NGS
 554 performed immediately before HCT showing correlation between *NPM1* VAF,
 555 aberrant blast MRD by MFC and blast quantification by histology.

<i>NPM</i> mutation	<i>NPM1</i> VAF pre-HCT (%)	Flow MRD (%)	Aspirate Blasts pre-HCT(%)	Transplant outcome
p.L287fs	0	NP	<5	Alive
p.L287fs	0	1.5	<5	TRM
p.L287fs	0	0.35	<5	Alive
p.L287fs	0	NP	<5	Alive
p.L287fs	0	NP	<5	Alive
p.L287fs	0	NP	<5	Alive
p.L287fs	0.24	NP	<5	Alive
p.W288fs	6.2	4.3	2	Relapse
p.L287fs	1.78	0.5	6	Relapse
p.L287fs	15.2	NP	9	TRM

556 NP: not performed, TRM: treatment related mortality, Alive: alive and in
 557 remission at last follow-up.
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