

# Outcome heterogeneity of *TP53*-mutated myeloid neoplasms and the role of allogeneic hematopoietic cell transplantation

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## **Supplemental Materials**

For Pasca, et al. Outcome Heterogeneity of TP53-Mutated Myeloid Neoplasms  
and the Role of Allogenic Hematopoietic Cell Transplantation.

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### Supplemental Table 1

Targeted NGS gene panel.

<b>NGS panel</b>		
ABL1	GATA2	NUP98
ASXL1	GNAS	PDGFRA
ATM	IDH1	PHF6
ATRX	IDH2	PIGA
BCOR	IKZF1	PTEN
BCORL1	JAK2	PTPN11
BRAF	KDM2B	RAD50
CALR	KDM6A	RECQL4
CBL	KIT	RUNX1
CBLB	KMT2A	SETBP1
CDKN2A	KMT2D	SF3B1
CEBPA	KRAS	SRSF2
CSF3R	MPL	STAG2
DNMT3A	NF1	STAT3
EP300	NLRP1	TET2
ERBB2	NOTCH1	TP53
ETV6	NOTCH2	U2AF1
EZH2	NPM1	WT1
FLT3	NRAS	ZRSR2
GATA1	NSD1	

## Supplemental Table 2

TP53 variants present in the cohort.

Patient	Gene	AA_change	VAF	Varsome	cDNASplice	Del17p13.1	MultiMut	CN-LOH	Cytogenetics
1	TP53	p.R267_F270delinsL	51.88	Pathogenic	NA	TRUE	FALSE	FALSE	CK
2	TP53	p.D184fs	18.67	Pathogenic	NA	FALSE	TRUE	FALSE	CK
2	TP53	p.I255N	15.54	Pathogenic	NA	FALSE	TRUE	FALSE	CK
3	TP53	p.C275F	38.53	Pathogenic	NA	FALSE	TRUE	FALSE	CK
3	TP53	p.I254T	36.67	Pathogenic	NA	FALSE	TRUE	FALSE	CK
4	TP53	p.D281V	19.16	Pathogenic	NA	TRUE	FALSE	FALSE	CK
5	TP53	p.P190A	34.29	Pathogenic	NA	NA	FALSE	FALSE	NA
6	TP53	p.Q165*	27.96	Pathogenic	NA	FALSE	FALSE	FALSE	CK
7	TP53	p.L344P	3.1	Pathogenic	NA	TRUE	FALSE	FALSE	CK
8	TP53	p.Y220C	77.4	Pathogenic	NA	TRUE	FALSE	FALSE	CK
9	TP53	p.C242Y	54.43	Pathogenic	NA	FALSE	FALSE	FALSE	CK
10	TP53	p.R248P	78.16	Pathogenic	NA	NA	FALSE	FALSE	NA
11	TP53	p.Y163N	14.02	Pathogenic	NA	FALSE	FALSE	FALSE	CK
12	TP53	p.R273H	35.76	Pathogenic	NA	TRUE	FALSE	FALSE	CK
13	TP53	p.D281N	97.54	Pathogenic	NA	TRUE	FALSE	FALSE	Non-CK
14	TP53	p.P152fs	56.43	Pathogenic	NA	FALSE	FALSE	FALSE	CK
15	TP53	p.C135Y	63.76	Pathogenic	NA	FALSE	FALSE	TRUE	CK
16	TP53	p.N210fs	44.5	Likely pathogenic	NA	FALSE	FALSE	FALSE	Non-CK
17	TP53	p.R175H	68.01	Pathogenic	NA	FALSE	FALSE	TRUE	CK
18	TP53	p.V225fs	6.02	Pathogenic	NA	FALSE	TRUE	FALSE	Non-CK
18	TP53	p.R273C	6.16	Pathogenic	NA	FALSE	TRUE	FALSE	Non-CK
19	TP53	p.R213*	7.86	Pathogenic	NA	FALSE	TRUE	FALSE	CK
19	TP53	p.V218G	9.48	Pathogenic	NA	FALSE	TRUE	FALSE	CK
20	TP53	p.P151A	32.72	Pathogenic	NA	TRUE	FALSE	FALSE	CK
21	TP53	p.R248Q	19.33	Pathogenic	NA	FALSE	FALSE	FALSE	Non-CK
22	TP53	p.R273L	4.2	Pathogenic	NA	FALSE	FALSE	FALSE	Non-CK
23	TP53	p.R175H	14.59	Pathogenic	NA	TRUE	FALSE	FALSE	Non-CK
24	TP53	p.R273H	71.88	Pathogenic	NA	FALSE	FALSE	FALSE	Non-CK
25	TP53	X_splice	None	NA	NA	FALSE	FALSE	NA	Non-CK
26	TP53	p.R248Q	11.21	Pathogenic	NA	FALSE	FALSE	FALSE	Non-CK
27	TP53	p.C238F	20.78	Pathogenic	NA	FALSE	TRUE	FALSE	Non-CK
27	TP53	p.R175H	30.84	Pathogenic	NA	FALSE	TRUE	FALSE	Non-CK
28	TP53	p.H179R	9.01	Pathogenic	NA	FALSE	FALSE	FALSE	Non-CK
29	TP53	p.I195F	9	Pathogenic	NA	FALSE	FALSE	FALSE	CK
30	TP53	p.V143M	40.43	Likely pathogenic	NA	FALSE	FALSE	FALSE	CK
31	TP53	X331_splice	75.04	Pathogenic	c.993+1G>A	FALSE	FALSE	FALSE	CK

32	TP53	p.A161T	62.92	Pathogenic	NA	TRUE	FALSE	FALSE	CK
33	TP53	p.H178_E180delinsQ	16.42	Pathogenic	NA	TRUE	FALSE	FALSE	CK
34	TP53	p.S106R	82.9	VUS	NA	TRUE	FALSE	FALSE	CK
35	TP53	p.Y220C	19.13	Pathogenic	NA	FALSE	FALSE	FALSE	CK
36	TP53	p.C176Y	94.72	Pathogenic	NA	FALSE	FALSE	TRUE	CK
37	TP53	p.C242S	42.36	Pathogenic	NA	FALSE	FALSE	FALSE	CK
38	TP53	p.Q38*	31.16	Likely pathogenic	NA	FALSE	TRUE	FALSE	CK
38	TP53	p.R248W	29.36	Pathogenic	NA	FALSE	TRUE	FALSE	CK
39	TP53	p.A161T	40.23	Pathogenic	NA	FALSE	TRUE	FALSE	CK
39	TP53	p.P151R	42.69	Pathogenic	NA	FALSE	TRUE	FALSE	CK
40	TP53	p.K132R	35.55	Pathogenic	NA	NA	FALSE	FALSE	NA
41	TP53	p.P191del	27.24	Pathogenic	NA	FALSE	FALSE	FALSE	Non-CK
42	TP53	p.R248Q	23.48	Pathogenic	NA	FALSE	FALSE	FALSE	Non-CK
43	TP53	X307_splice	85.44	Pathogenic	c.920-2A>G	FALSE	FALSE	TRUE	CK
44	TP53	p.G266E	32.31	Pathogenic	NA	TRUE	FALSE	FALSE	CK
45	TP53	p.R273H	25.26	Pathogenic	NA	FALSE	FALSE	FALSE	CK
46	TP53	p.F270S	91.85	Pathogenic	NA	TRUE	FALSE	FALSE	CK
47	TP53	p.Q167*	43	Pathogenic	NA	FALSE	TRUE	FALSE	CK
47	TP53	p.V272M	3.8	Pathogenic	NA	FALSE	TRUE	FALSE	CK
48	TP53	p.R337C	87.8	Pathogenic	NA	FALSE	FALSE	TRUE	CK
49	TP53	p.C238S	23.41	Pathogenic	NA	FALSE	FALSE	FALSE	CK
50	TP53	p.W91*	40.95	Pathogenic	NA	TRUE	FALSE	FALSE	CK
51	TP53	c.673-681 del	53	Pathogenic	c.673-681 del	TRUE	FALSE	FALSE	CK
52	TP53	p.K132R	79.12	Pathogenic	NA	TRUE	FALSE	FALSE	CK
53	TP53	p.P151fs	28.01	Pathogenic	NA	FALSE	TRUE	FALSE	CK
53	TP53	p.R248G	45	Pathogenic	NA	FALSE	TRUE	FALSE	CK
54	TP53	p.Y236C	71.5	Pathogenic	NA	TRUE	FALSE	FALSE	CK
55	TP53	p.R273C	60.13	Pathogenic	NA	FALSE	FALSE	TRUE	CK
56	TP53	p.C242F	29.5	Pathogenic	NA	TRUE	FALSE	FALSE	CK
57	TP53	p.G245D	6.5	Pathogenic	NA	TRUE	FALSE	FALSE	CK
58	TP53	p.K132fs	67.78	Pathogenic	NA	TRUE	FALSE	FALSE	CK
59	TP53	p.Y220C	14.15	Pathogenic	NA	TRUE	FALSE	FALSE	CK
60	TP53	p.G245S	82.41	Pathogenic	NA	TRUE	FALSE	FALSE	CK
61	TP53	p.Y220C	7.01	Pathogenic	NA	TRUE	FALSE	FALSE	CK
62	TP53	p.R248W	97.56	Pathogenic	NA	FALSE	FALSE	TRUE	CK
63	TP53	p.K132R	86.53	Pathogenic	NA	FALSE	FALSE	TRUE	Non-CK
64	TP53	p.Y163C	75.5	Pathogenic	NA	TRUE	FALSE	FALSE	CK
65	TP53	p.S241F	41.88	Pathogenic	NA	TRUE	FALSE	FALSE	CK
66	TP53	p.W146*	41.99	Pathogenic	NA	FALSE	TRUE	FALSE	CK

66	TP53	X187_splice	44.86	Pathogenic	c.560-2A>C	FALSE	TRUE	FALSE	CK
67	TP53	p.Y234C	90.33	Pathogenic	NA	TRUE	FALSE	FALSE	Non-CK
68	TP53	X332_splice	85.24	Pathogenic	c.994-1G>A	TRUE	FALSE	FALSE	CK
69	TP53	p.R282W	33.26	Pathogenic	NA	TRUE	FALSE	FALSE	CK
70	TP53	p.S303fs	86.5	Likely pathogenic	NA	FALSE	FALSE	TRUE	CK
71	TP53	p.R249W	39.07	Pathogenic	NA	FALSE	TRUE	FALSE	CK
71	TP53	p.Y205C	39.01	Pathogenic	NA	FALSE	TRUE	FALSE	CK
72	TP53	p.V73fs	75.14	Pathogenic	NA	TRUE	FALSE	FALSE	CK
73	TP53	p.R248L	32.74	Pathogenic	NA	FALSE	FALSE	FALSE	Non-CK
74	TP53	p.K382fs	19.03	Pathogenic	NA	FALSE	TRUE	FALSE	CK
74	TP53	p.Y163C	20.45	Pathogenic	NA	FALSE	TRUE	FALSE	CK
75	TP53	X331_splice	63.1	Pathogenic	c.993+1G>A	TRUE	FALSE	FALSE	CK
76	TP53	p.R213L	12.08	Pathogenic	NA	FALSE	FALSE	FALSE	CK
77	TP53	p.H47Y	32.2	Pathogenic	NA	TRUE	FALSE	FALSE	CK
78	TP53	p.R273H	30.54	Pathogenic	NA	TRUE	FALSE	FALSE	CK
79	TP53	p.R273H	84.69	Pathogenic	NA	FALSE	FALSE	TRUE	CK
80	TP53	p.C275Y	39.1	Pathogenic	NA	FALSE	FALSE	FALSE	CK
81	TP53	p.P128fs	46.64	Pathogenic	NA	FALSE	FALSE	FALSE	CK
82	TP53	p.H214R	45.77	Pathogenic	NA	FALSE	TRUE	FALSE	CK
82	TP53	X307_splice	46.38	Pathogenic	c.920-2A>G	FALSE	TRUE	FALSE	CK
83	TP53	p.S261fs	36.49	Likely pathogenic	NA	TRUE	FALSE	FALSE	CK
84	TP53	p.R249W	6.69	Pathogenic	NA	FALSE	FALSE	FALSE	CK
85	TP53	p.V216M	63.25	Pathogenic	NA	FALSE	FALSE	TRUE	CK
86	TP53	p.H179Q	66.29	Pathogenic	NA	FALSE	FALSE	FALSE	CK
87	TP53	X261_splice	5.29	Pathogenic	c.783-1G>A	FALSE	FALSE	FALSE	CK
88	TP53	p.Y220C	54.36	Pathogenic	NA	TRUE	FALSE	FALSE	CK
89	TP53	p.N239D	81.12	Pathogenic	NA	NA	FALSE	FALSE	NA
90	TP53	p.R175H	46.97	Pathogenic	NA	FALSE	TRUE	FALSE	CK
90	TP53	p.S215N	41.44	Pathogenic	NA	FALSE	TRUE	FALSE	CK
91	TP53	X224_splice	51.2	Pathogenic	c.672+1G>T	TRUE	FALSE	FALSE	CK
92	TP53	p.E286K	74.13	Pathogenic	NA	TRUE	FALSE	FALSE	CK
93	TP53	p.W91*	54.75	Pathogenic	NA	TRUE	FALSE	FALSE	CK

AA, amino acid; VAF, variant allele frequency; VUS, variant of unknown significance; CN-LOH, copy-neutral loss of heterozygosity; CK, complex karyotype; NA, not available.

### Supplemental Table 3

Non-TP53 variants present in the cohort.

Patient	Gene	AA_change	VAF	Varsome
1	DNMT3A	p.R771*	68.31	Pathogenic
1	ATM	p.A216S	41.61	VUS
1	PIGA	c.848+1G>A	75.22	Likely pathogenic
2	ATM	p.V410A	47.4	VUS
3	NA	NA	NA	NA
4	DNMT3A	p.R882C	9.63	Pathogenic
4	KMT2D	p.P235T	53.13	VUS
5	TET2	p.Q70*	10.79	Likely pathogenic
6	CALR	p.L367fs	11.36	Pathogenic
7	NA	NA	NA	NA
8	NA	NA	NA	NA
9	RECQL4	p.E742D	57.92	VUS
9	EZH2	p.D124V	5.3	Pathogenic
10	NLRP1	p.T670I	87.84	VUS
10	NLRP1	p.M686V	88.34	VUS
11	ATM	p.Y2969C	49.83	VUS
12	NF1	p.I679fs	6.83	Pathogenic
12	TET2	p.H880R	49.29	VUS
13	KIT	p.D816V	10.66	Pathogenic
14	NA	NA	NA	NA
15	JAK2	p.V617F	41.15	Pathogenic
16	ASXL1	p.G646fs	29.56	Pathogenic
16	PHF6	p.E334fs	86.63	Pathogenic
16	ATM	p.R981C	22.66	VUS
16	ZRSR2	p.E231*	89.61	Pathogenic
16	JAK2	p.V617F	48.61	Pathogenic
17	CEBPA	p.P11L	56.25	VUS
18	CBLB	p.H501Y	47.81	VUS
18	GNAS	p.A38V	5.91	VUS
19	NA	NA	NA	NA
20	NA	NA	NA	NA
21	ASXL1	p.T848fs	19.51	Likely pathogenic
21	CBL	p.R559*	26.05	Likely pathogenic
21	IDH1	p.R132H	33.26	Pathogenic



21	SETBP1	p.R112W	48.9	VUS
21	U2AF1	p.Q157P	25.83	Pathogenic
22	IDH1	p.R132C	17.3	Pathogenic
22	NPM1	p.W288fs	11.1	Pathogenic
23	NA	NA	NA	NA
24	U2AF1	p.Q157P	38.47	Pathogenic
26	TET2	p.Y1294C	47.13	Pathogenic
26	EP300	p.V2273I	47.28	VUS
26	SRSF2	p.P95R	47.27	Pathogenic
26	KIT	p.H185N	18.55	VUS
26	KRAS	p.G60V	22.65	Pathogenic
26	KIT	p.D816V	19.9	Pathogenic
26	EP300	c.3671+1G>A	45.1	Pathogenic
27	ASXL1	p.T848fs	24.35	Likely pathogenic
27	RUNX1	p.R233fs	15.86	Likely pathogenic
27	ASXL1	p.G646fs	10.96	Pathogenic
27	SF3B1	p.E592K	42.37	Likely pathogenic
28	SETBP1	p.S869C	26.92	Pathogenic
28	SRSF2	p.P95H	27.84	Pathogenic
28	ZRSR2	c.827+1G>A	33.95	Pathogenic
29	NA	NA	NA	NA
30	U2AF1	p.Q157P	39.71	Pathogenic
31	ATRX	p.R149*	18.42	Likely pathogenic
32	JAK2	p.V617F	2.34	Pathogenic
32	ASXL1	p.P808fs	3.36	Pathogenic
32	CALR	p.K375fs	56.81	Pathogenic
33	ATM	p.V1645L	46.61	VUS
34	NA	NA	NA	NA
35	PDGFRA	p.Y768C	50.73	VUS
35	RECQL4	p.P103L	45.9	VUS
36	MPL	p.P106L	52.48	Pathogenic
36	GATA2	p.H258Q	48.65	VUS
37	NLRP1	p.S1395L	71.17	VUS
38	NA	NA	NA	NA
39	NLRP1	p.L71H	51.6	VUS
40	U2AF1	p.S34Y	33.22	Pathogenic
40	ASXL1	p.R1224W	48.93	VUS
41	SF3B1	p.N626D	41.63	Pathogenic
41	EZH2	p.N263fs	22.67	Pathogenic

41	KMT2D	p.M1660V	48.71	VUS
41	ASXL1	p.G646fs	25.57	Pathogenic
41	EZH2	c.2110+1G>A	31.86	Pathogenic
42	NRAS	p.T58I	5.68	Pathogenic
42	TET2	p.Q1435*	21.44	Pathogenic
42	ATM	p.K2253E	49.16	VUS
42	DNMT3A	p.R882C	42.92	Pathogenic
43	ERBB2	p.P489L	53.04	VUS
43	NUP98	p.H1653P	51.23	VUS
43	RECQL4	p.E823K	58.97	VUS
44	RUNX1	p.T92A	49.63	Pathogenic
44	ATRX	p.I435T	48.22	VUS
45	NOTCH1	C155S	20.92	VUS
46	CALR	p.Q365Rfs*50	37.59	Pathogenic
47	NA	NA	NA	NA
48	MPL	p.R102P	44.07	Likely pathogenic
49	ATM	p.G2891D	6.41	Pathogenic
50	CSF3R	p.Q776*	23.14	Pathogenic
50	U2AF1	p.Q157R	40.96	Pathogenic
52	EP300	p.N2171H	47.94	VUS
53	RECQL4	p.R1181*	51.09	Likely pathogenic
54	NA	NA	NA	NA
55	DNMT3A	p.R736H	40.84	Pathogenic
55	BCORL1	p.R1266*	15.57	Likely pathogenic
55	PTPN11	p.A72V	6.09	Pathogenic
55	FLT3	ITD 375	11	Pathogenic
56	GATA1	p.P240A	19.11	Pathogenic
56	RECQL4	p.A785V	32.66	VUS
57	IDH1	p.R132H	13.3	Pathogenic
58	ERBB2	p.G1056S	50.54	VUS
59	NA	NA	NA	NA
60	DNMT3A	p.V895L	48.17	Likely pathogenic
60	EZH2	p.R63*	45.5	Likely pathogenic
60	KMT2D	p.R265H	45.67	VUS
60	ASXL1	p.Q748*	45.89	Likely pathogenic
60	CALR	p.L367fs	45.89	Pathogenic
60	TET2	p.H800fs	54.74	Likely pathogenic
61	SF3B1	p.T7I	7.68	VUS
62	NRAS	p.G12C	28.71	Pathogenic

62	PTPN11	p.A72V	10.72	Pathogenic
63	KIT	p.G565V	46.04	VUS
64	NA	NA	NA	NA
65	NA	NA	NA	NA
66	NA	NA	NA	NA
67	U2AF1	p.Q157P	46.77	Pathogenic
67	KRAS	p.G12D	42.81	Pathogenic
68	DNMT3A	p.V657G	44.15	Pathogenic
69	RECQL4	p.M989I	48.97	VUS
70	SETBP1	p.T826I	30.17	VUS
71	RECQL4	p.L566P	46.27	VUS
71	ASXL1	p.I579V	55.02	VUS
72	NA	NA	NA	NA
73	NLRP1	p.R1438Q	47.53	VUS
73	SF3B1	p.G740V	23.11	Likely pathogenic
74	KMT2D	p.P2193L	53.57	VUS
74	NOTCH2	p.L834S	50.38	VUS
74	TET2	p.C1142S	48.12	Likely pathogenic
75	NA	NA	NA	NA
76	NRAS	p.M111V	52.39	Likely pathogenic
76	NF1	p.I271T	43.98	VUS
77	NA	NA	NA	NA
78	NA	NA	NA	NA
79	KIT	p.P627R	10.88	Pathogenic
79	KMT2A	p.K2657N	9.48	VUS
80	NA	NA	NA	NA
81	KMT2D	p.I2878T	52.42	VUS
82	ATM	p.Y2969C	17.18	VUS
83	CDKN2A	p.N42K	50.57	VUS
83	DNMT3A	p.G550R	27.92	Likely pathogenic
84	DNMT3A	p.Y528*	7.43	Likely pathogenic
85	DNMT3A	p.R598*	5.05	VUS
85	SETBP1	p.P1563S	31.24	VUS
85	WT1	p.G191R	48.84	VUS
85	CSF3R	p.A470T	50.55	VUS
86	RECQL4	p.G387R	47.3	VUS
86	NF1	c.2850+1G>A	34.44	Pathogenic
87	KMT2A	p.S843C	49.19	VUS
88	NA	NA	NA	NA

89	TET2	c.3595-1G>C	70	Pathogenic
90	NA	NA	NA	NA
91	NA	NA	NA	NA
92	RUNX1	p.Q272*	37.96	Pathogenic
92	PHF6	p.F260fs	62.24	Pathogenic
92	EZH2	p.D730*	26.19	Pathogenic
93	NOTCH2	p.T2111A	48.14	VUS
93	DNMT3A	p.R742P	32.34	VUS
93	ETV6	p.L117F	27.91	Likely pathogenic

AA, amino acid; VAF, variant allele frequency; VUS, variant of unknown significance; NA, not available;