

Supplementary Table 1 - TruSight Myeloid (Illumina) NGS Gene Panel. (A) Genes in the TruSight Myeloid (Illumina) NGS Gene Panel (B) Exon coverage for hotspot genes

(A)

Complete coding region coverage (15/54)	Hotspot coverage (39/54)
<i>BCOR</i>	<i>ABL1</i>
<i>BCORL1</i>	<i>ASXL1</i>
<i>CDKN2A</i>	<i>ATRX</i>
<i>CEBPA</i>	<i>BRAF</i>
<i>CUX1</i>	<i>CALR</i>
<i>DNMT3A</i>	<i>CBL</i>
<i>ETV6/TEL</i>	<i>CBLB</i>
<i>EZH2</i>	<i>CBLC</i>
<i>IKZF1</i>	<i>CSF3R</i>
<i>KDM6A</i>	<i>FBXW7</i>
<i>PHF6</i>	<i>FLT3</i>
<i>RAD21</i>	<i>GATA1</i>
<i>RUNX1</i>	<i>GATA2</i>
<i>STAG2</i>	<i>GNAS</i>
<i>ZRSR2</i>	<i>HRAS</i>
	<i>IDH1</i>
	<i>IDH2</i>
	<i>JAK2</i>
	<i>JAK3</i>
	<i>KIT</i>
	<i>KMT2A</i>
	<i>KRAS</i>
	<i>MPL</i>
	<i>MYD88</i>
	<i>NOTCH1</i>
	<i>NPM1</i>
	<i>NRAS</i>
	<i>PDGFRA</i>
	<i>PTEN</i>
	<i>PTPN11</i>
	<i>SETBP1</i>
	<i>SF3B1</i>
	<i>SMC1A</i>
	<i>SMC3</i>
	<i>SRSF2</i>
	<i>TET2</i>
	<i>TP53</i>
	<i>U2AF1</i>
	<i>WT1</i>

(B)

Hotspot coverage (39/54)	Exon Coverage
<i>ABL1</i>	4-6
<i>ASXL1</i>	12
<i>ATRX</i>	8-10 and 17-31
<i>BRAF</i>	15
<i>CALR</i>	9
<i>CBL</i>	8, 9
<i>CBLB</i>	9, 10
<i>CBLC</i>	9, 10
<i>CSF3R</i>	14-17
<i>FBXW7</i>	9-11
<i>FLT3</i>	14, 15, 20
<i>GATA1</i>	2
<i>GATA2</i>	2-6
<i>GNAS</i>	8, 9
<i>HRAS</i>	2, 3
<i>IDH1</i>	4
<i>IDH2</i>	4
<i>JAK2</i>	12, 14
<i>JAK3</i>	13
<i>KIT</i>	2, 8-11, 13, 17
<i>KMT2A</i>	2, 3
<i>KRAS</i>	5-8
<i>MPL</i>	10
<i>MYD88</i>	3-5
<i>NOTCH1</i>	26-28, 34
<i>NPM1</i>	12
<i>NRAS</i>	2, 3
<i>PDGFRA</i>	12, 14, 18
<i>PTEN</i>	5, 7
<i>PTPN11</i>	3, 13
<i>SETBP1</i>	4 (partial)
<i>SF3B1</i>	13-16
<i>SMC1A</i>	2, 11, 16, 17
<i>SMC3</i>	10, 13, 19, 23, 25, 28
<i>SRSF2</i>	1
<i>TET2</i>	3-11
<i>TP53</i>	2-11
<i>U2AF1</i>	2, 6
<i>WT1</i>	7, 9

Supplementary Table 2 - Annotation of variants

Gene	UPN	Transcript ID	cDNA	Protein	Change	VAF (%)	Read depth	Class.
ASXL1	Pt-119	NM_015338.5	c.1773C>A	p.Tyr591*	Nonsense	43.2	7365	HMR
ASXL1	Pt-134	NM_015338.5	c.1774C>T	p.Gln592*	Nonsense	12.8	5226	HMR
ASXL1	Pt-105	NM_015338.5	c.1849_1850delAT	p.Ile617*	Nonsense	26.0	1506	HMR
ASXL1	Pt-011	NM_015338.5	c.1900_1922delAGAGAGGCGGCCACCACTGCCAT	p.Glu635Argfs*15	Frameshift	5.3	950	HMR
ASXL1	Pt-028	NM_015338.5	c.1900_1922delAGAGAGGCGGCCACCACTGCCAT	p.Glu635Argfs*15	Frameshift	11.3	1366	HMR
ASXL1	Pt-049	NM_015338.5	c.1900_1922delAGAGAGGCGGCCACCACTGCCAT	p.Glu635Argfs*15	Frameshift	24.3	1013	HMR
ASXL1	Pt-126	NM_015338.5	c.1900_1922delAGAGAGGCGGCCACCACTGCCAT	p.Glu635Argfs*15	Frameshift	40.0	1075	HMR
ASXL1	Pt-063	NM_015338.5	c.1934dupG	p.Gly646Trpfs*12	Frameshift	24.5	3142	HMR
ASXL1	Pt-076	NM_015338.5	c.1934dupG	p.Gly646Trpfs*12	Frameshift	30.3	6424	HMR
ASXL1	Pt-086	NM_015338.5	c.1934dupG	p.Gly646Trpfs*12	Frameshift	16.2	5375	HMR
ASXL1	Pt-095	NM_015338.5	c.1934dupG	p.Gly646Trpfs*12	Frameshift	21.2	6407	HMR
ASXL1	Pt-111	NM_015338.5	c.1934dupG	p.Gly646Trpfs*12	Frameshift	34.9	5112	HMR
ASXL1	Pt-115	NM_015338.5	c.1934dupG	p.Gly646Trpfs*12	Frameshift	32.5	3850	HMR
ASXL1	Pt-122	NM_015338.5	c.1934dupG	p.Gly646Trpfs*12	Frameshift	19.1	5479	HMR
ASXL1	Pt-129	NM_015338.5	c.1934dupG	p.Gly646Trpfs*12	Frameshift	37.8	4861	HMR
ASXL1	Pt-132	NM_015338.5	c.1934dupG	p.Gly646Trpfs*12	Frameshift	19.1	4182	HMR
ASXL1	Pt-073	NM_015338.5	c.1995_1998dupTGGT	p.Asp667Trpfs*2	Frameshift	39.3	3433	HMR
ASXL1	Pt-069	NM_015338.5	c.2074C>T	p.Gln692*	Nonsense	27.0	5980	HMR
ASXL1	Pt-033	NM_015338.5	c.2077C>T	p.Arg693*	Nonsense	5.9	4421	HMR
ASXL1	Pt-060	NM_015338.5	c.2077C>T	p.Arg693*	Nonsense	7.6	4786	HMR
ASXL1	Pt-156	NM_015338.5	c.2077C>T	p.Arg693Ter	Nonsense	34.9	3148	HMR
ASXL1	Pt-092	NM_015338.5	c.2098delT	p.Tyr700Ilefs*3	Nonsense	24.5	2717	HMR
ASXL1	Pt-001	NM_015338.5	c.2176A>T	p.Lys726*	Nonsense	39.5	6226	HMR
ASXL1	Pt-086	NM_015338.5	c.2278_2279dupCA	p.Gln760Hisfs*13	Frameshift	17.3	4963	HMR
ASXL1	Pt-042	NM_015338.5	c.2324T>G	p.Leu775*	Nonsense	17.6	4593	HMR
ASXL1	Pt-150	NM_015338.5	c.2387G>A	p.Trp796*	Frameshift	9.6	4471	HMR
ASXL1	Pt-116	NM_015338.5	c.2422delC	p.Pro808fs	Frameshift	43.3	11357	HMR
ASXL1	Pt-066	NM_015338.5	c.2423C>A	p.Pro808His	Missense	49.2	5809	Unknown
ASXL1	Pt-019	NM_015338.5	c.2423delC	p.Pro808Leufs*10	Frameshift	36.8	8455	HMR
ASXL1	Pt-024	NM_015338.5	c.2468delT	p.Leu823*	Nonsense	33.8	10783	HMR
ASXL1	Pt-159	NM_015338.5	c.2477delG	p.Gly826Glufs*12	Frameshift	40.8	11201	HMR
ASXL1	Pt-057	NM_015338.5	c.2582delC	p.Ala861Aspfs*6	Frameshift	24.8	11910	HMR
ASXL1	Pt-065	NM_015338.5	c.2812_2816delinsTGA	p.Pro938*	Nonsense	21.4	1935	HMR
ASXL1	Pt-055	NM_015338.5	c.2957A>G	p.Asn986Ser	Missense	48.0	4873	Unknown
ASXL1	Pt-096	NM_015338.5	c.2957A>G	p.Asn986Ser	Missense	52.8	5280	Unknown
ASXL1	Pt-108	NM_015338.5	c.3700C>T	p.Gln1234*	Nonsense	22.8	7516	HMR
ASXL1	Pt-072	NM_015338.5	c.4159_4162dupGCTA	p.Thr1388Serfs*5	Frameshift	35.3	4413	HMR
ATRX	Pt-116	NM_000489.3	c.3913A>C	p.Lys1305Gln	Missense	99.4	4178	Unknown
ATRX	Pt-025	NM_000489.4	c.5579A>G	p.Asn1860Ser	Missense	50.3	3646	Unknown
BCOR	Pt-141	NM_001123385.1	c.3748A>T	p.Thr1250Ser	Missense	58.3	1371	Unknown
BCOR	Pt-075	NM_001123385.1	c.4054G>A	p.Asp1352Asn	Missense	42.6	1398	Unknown
BCORL1	Pt-135	NM_021946.4	c.1609A>T	p.Thr537Ser	Missense	15.3	189	Unknown
BCORL1	Pt-126	NM_021946.4	c.3158A>G	p.Lys1053Arg	Missense	99.6	1819	Unknown
BCORL1	Pt-019	NM_021946.4	c.3332C>T	p.Thr1111Met	Missense	46.7	4633	Unknown
BCORL1	Pt-073	NM_021946.4	c.4754A>C	p.Gln1585Pro	Missense	99.6	452	Unknown
BCORL1	Pt-111	NM_021946.4	c.5012G>C	p.Arg1671Thr	Missense	50.2	7709	Unknown
CALR	Pt-011	NM_004343.3	c.1099_1150del	p.Leu367Thrfs*46	Frameshift	57.0	838	Driver
CALR	Pt-019	NM_004343.3	c.1099_1150del	p.Leu367Thrfs*46	Frameshift	56.0	867	Driver
CALR	Pt-028	NM_004343.3	c.1099_1150del	p.Leu367Thrfs*46	Frameshift	53.4	2184	Driver
CALR	Pt-058	NM_004343.3	c.1099_1150del	p.Leu367Thrfs*46	Frameshift	58.0	1842	Driver
CALR	Pt-065	NM_004343.3	c.1099_1150del	p.Leu367Thrfs*46	Frameshift	52.0	1022	Driver
CALR	Pt-086	NM_004343.3	c.1099_1150del	p.Leu367Thrfs*46	Frameshift	56.6	2136	Driver
CALR	Pt-099	NM_004343.3	c.1099_1150del	p.Leu367Thrfs*46	Frameshift	34.4	1738	Driver

CALR	Pt-143	NM_004343.3	c.1099_1150del	p.Leu367Thrfs*46	Frameshift	52.3	1081	Driver
CALR	Pt-148	NM_004343.3	c.1099_1150del	p.Leu367Thrfs*46	Frameshift	15.1	1548	Driver
CALR	Pt-156	NM_004343.3	c.1099_1150del	p.Leu367fs	Frameshift	59.2	776	Driver
CALR	Pt-092	NM_004343.3	c.1142A>C	p.Glu381Ala	Missense	50.1	876	Unknown
CALR	Pt-115	NM_004343.3	c.1154_1155insTTGTC	p.Lys385Asnfs*47	Frameshift	46.3	937	Driver
CALR	Pt-129	NM_004343.3	c.1154_1155insTTGTC	p.Lys385Asnfs*47	Frameshift	52.9	1102	Driver
CALR	Pt-159	NM_004343.3	c.1154_1155insTTGTC	p.Lys385Asnfs*47	Frameshift	60.7	2243	Driver
CALR	Pt-120	NM_004343.3	c.1188_1190delGGA	p.Glu396del	In-Frame Deletion	35.7	1039	Unknown
CALR	Pt-141	NM_004343.3	c.1103_1136del	p.Lys368Argfs*51	Frameshift	54.0	1516	Driver
CBL	Pt-115	NM_005188.3	c.1096-1G>T	p.?	Splice site	58.7	6542	Oncogenic
CBL	Pt-154	NM_005188.3	c.1127C>T	p.Ser376Phe	Missense	9.4	5678	Oncogenic
CBL	Pt-154	NM_005188.3	c.1139T>C	p.Leu380Pro	Missense	24.1	5690	Oncogenic
CBL	Pt-089	NM_005188.3	c.1142G>A	p.Cys381Tyr	Missense	80.0	7337	Oncogenic
CBL	Pt-157	NM_005188.3	c.1228-2A>G	p.?	Splice site	7.8	2794	Oncogenic
CBL	Pt-145	NM_005188.3	c.1259G>A	p.Arg420Gln	Missense	12.0	3851	Oncogenic
CBL	Pt-148	NM_005188.3	c.1380_1382dupTGA	p.Asp460dup	In-Frame Insertion	40.8	4119	Unknown
CEBPA	Pt-093	NM_004364.3	c.555_593del	p.Pro186_Pro198del	In-Frame Deletion	11.9	244	Unknown
CSF3R	Pt-063	NM_156039.3	c.1853C>T	p.Thr618Ile	Missense	23.9	2484	Oncogenic
CSF3R	Pt-119	NM_156039.3	c.2087T>C	p.Met696Thr	Missense	48.8	2146	Unknown
CSF3R	Pt-019	NM_156039.3	c.2503G>A	p.Glu835Lys	Missense	49.0	3195	Unknown
CUX1	Pt-029	NM_181552.3	c.2565_2573dup	p.Ser857_Gly859dup	In-Frame Insertion	40.0	4507	Unknown
CUX1	Pt-063	NM_181552.3	c.2646G>A	p.Trp882*	Nonsense	29.4	2810	Oncogenic
CUX1	Pt-024	NM_181552.3	c.512A>C	p.Asp171Ala	Missense	19.5	118	Unknown
DNMT3A	Pt-113	NM_022552.4	c.1009T>C	p.Ser337Pro	Missense	29.1	2121	Oncogenic
DNMT3A	Pt-121	NM_022552.4	c.1903C>T	p.Arg635Trp	Missense	9.4	3004	Oncogenic
DNMT3A	Pt-116	NM_022552.4	c.2270delA	p.Asn757fs	Frameshift	45.4	5926	Oncogenic
DNMT3A	Pt-121	NM_022552.4	c.2375G>A	p.Arg792His	Missense	28.3	4738	Oncogenic
DNMT3A	Pt-070	NM_022552.4	c.2645G>A	p.Arg882His	Missense	46.3	3440	Oncogenic
DNMT3A	Pt-139	NM_022552.4	c.2645G>A	p.Arg882His	Missense	3.8	2630	Oncogenic
DNMT3A	Pt-121	NM_022552.4	c.2657A>G	p.Gln886Arg	Missense	16.2	3198	Oncogenic
DNMT3A	Pt-114	NM_022552.4	c.852C>G	p.Tyr284*	Nonsense	49.0	9283	Oncogenic
ETV6	Pt-030	NM_001987.4	c.517_518insTTTAT	p.Pro173Leufs*38	Frameshift	34.9	2573	Oncogenic
ETV6	Pt-072	NM_001987.4	c.602T>C	p.Leu201Pro	Missense	42.7	1961	Unknown
EZH2	Pt-070	NM_004456.4	c.1198_1203delAAAGAA	p.Lys400_Glu401del	In-Frame Deletion	42.5	2031	Unknown
EZH2	Pt-121	NM_004456.4	c.1370G>A	p.Cys457Tyr	Missense	15.2	2868	Unknown
EZH2	Pt-121	NM_004456.4	c.1440delC	p.Ser480Argfs*3	Frameshift	14.4	8156	HMR
EZH2	Pt-148	NM_004456.4	c.1655G>A	p.Cys552Tyr	Missense	11.6	8998	HMR
EZH2	Pt-129	NM_004456.4	c.166_167dupTT	p.Leu56Phefs*2	Frameshift	92.7	3736	HMR
EZH2	Pt-116	NM_004456.4	c.2007C>G	p.Ser669Arg	Missense	42.0	3852	HMR
EZH2	Pt-095	NM_004456.4	c.2042_2056delATGCAACCCGCAAGG	p.Asp681_Lys685del	In-Frame Deletion	14.3	5743	Unknown
EZH2	Pt-073	NM_004456.4	c.2050C>T	p.Arg684Cys	Missense	25.0	5109	HMR
EZH2	Pt-089	NM_004456.4	c.2199C>A	p.Tyr733*	Nonsense	82.0	1135	HMR
EZH2	Pt-150	NM_004456.4	c.2233G>A	p.Glu745Lys	Missense	16.0	1055	Unknown
EZH2	Pt-144	NM_004456.4	c.247-1G>A	p.?	Splice site	92.3	1467	HMR
EZH2	Pt-069	NM_004456.4	c.667delA	p.Ile223Phefs*18	Frameshift	54.4	10501	HMR
GATA2	Pt-039	NM_032638.4	c.1108delT	p.Cys370Alafs*17	Frameshift	23.4	222	Oncogenic
GATA2	Pt-072	NM_032638.4	c.121C>G	p.Pro41Ala	Missense	47.2	2693	Unknown
GATA2	Pt-126	NM_032638.4	c.40C>T	p.Pro14Ser	Missense	51.9	2374	Unknown
GATA2	Pt-124	NM_032638.4	c.494A>T	p.His165Leu	Missense	19.8	106	Unknown
GNAS	Pt-022	NM_000516.4	c.602G>A	p.Arg201His	Missense	17.0	4243	Oncogenic
IDH1	Pt-021	NM_005896.3	c.395G>A	p.Arg132His	Missense	4.5	3767	HMR
IDH1	Pt-078	NM_002168.3	c.419G>A	p.Arg140Gln	Missense	2.0	4655	HMR
IDH1	Pt-103	NM_002168.3	c.419G>A	p.Arg140Gln	Missense	43.2	4581	HMR
IDH1	Pt-114	NM_002168.3	c.419G>A	p.Arg140Gln	Missense	4.1	4826	HMR
JAK2	Pt-001	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	39.2	1907	Driver
JAK2	Pt-008	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	87.9	8907	Driver
JAK2	Pt-010	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	43.4	5118	Driver

JAK2	Pt-014	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	30.1	3676	Driver
JAK2	Pt-018	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	53.3	5324	Driver
JAK2	Pt-020	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	59.0	3894	Driver
JAK2	Pt-021	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	56.2	4841	Driver
JAK2	Pt-022	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	32.2	3970	Driver
JAK2	Pt-024	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	34.4	6104	Driver
JAK2	Pt-025	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	56.3	2542	Driver
JAK2	Pt-029	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	45.2	4492	Driver
JAK2	Pt-033	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	26.7	5690	Driver
JAK2	Pt-039	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	26.1	4162	Driver
JAK2	Pt-040	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	43.0	5735	Driver
JAK2	Pt-042	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	25.4	4803	Driver
JAK2	Pt-043	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	83.3	4331	Driver
JAK2	Pt-048	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	43.0	3808	Driver
JAK2	Pt-049	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	44.4	4260	Driver
JAK2	Pt-051	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	49.4	3979	Driver
JAK2	Pt-053	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	62.4	4039	Driver
JAK2	Pt-055	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	85.0	3317	Driver
JAK2	Pt-057	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	51.0	4455	Driver
JAK2	Pt-059	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	35.8	5362	Driver
JAK2	Pt-060	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	16.8	5326	Driver
JAK2	Pt-062	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	54.9	4016	Driver
JAK2	Pt-064	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	9.0	7209	Driver
JAK2	Pt-066	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	35.4	3578	Driver
JAK2	Pt-068	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	86.1	3374	Driver
JAK2	Pt-069	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	63.3	7016	Driver
JAK2	Pt-070	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	69.1	5393	Driver
JAK2	Pt-072	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	61.4	4920	Driver
JAK2	Pt-073	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	87.9	5064	Driver
JAK2	Pt-074	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	55.3	6058	Driver
JAK2	Pt-075	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	53.8	1757	Driver
JAK2	Pt-076	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	80.2	2567	Driver
JAK2	Pt-078	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	61.9	4140	Driver
JAK2	Pt-079	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	8.9	5663	Driver
JAK2	Pt-087	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	71.2	3972	Driver
JAK2	Pt-088	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	27.2	2617	Driver
JAK2	Pt-089	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	9.6	5387	Driver
JAK2	Pt-091	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	93.9	4734	Driver
JAK2	Pt-092	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	72.7	3533	Driver
JAK2	Pt-093	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	43.4	5062	Driver
JAK2	Pt-095	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	45.4	4640	Driver
JAK2	Pt-096	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	90.0	3596	Driver
JAK2	Pt-098	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	25.9	5825	Driver
JAK2	Pt-100	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	46.0	3765	Driver
JAK2	Pt-104	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	29.7	1311	Driver
JAK2	Pt-106	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	19.9	4363	Driver
JAK2	Pt-107	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	2.5	1194	Driver
JAK2	Pt-108	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	47.6	4734	Driver
JAK2	Pt-111	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	72.4	4145	Driver
JAK2	Pt-113	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	62.2	4095	Driver
JAK2	Pt-114	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	74.3	8099	Driver
JAK2	Pt-116	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	91.0	3866	Driver
JAK2	Pt-118	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	50.9	5150	Driver
JAK2	Pt-119	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	62.2	1826	Driver
JAK2	Pt-121	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	1.5	4351	Driver
JAK2	Pt-122	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	24.4	3710	Driver
JAK2	Pt-123	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	61.6	6002	Driver

JAK2	Pt-124	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	24.3	4936	Driver
JAK2	Pt-125	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	18.3	5462	Driver
JAK2	Pt-126	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	43.9	4355	Driver
JAK2	Pt-127	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	22.9	7382	Driver
JAK2	Pt-128	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	29.8	5980	Driver
JAK2	Pt-130	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	36.9	5070	Driver
JAK2	Pt-132	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	41.3	4223	Driver
JAK2	Pt-134	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	4.4	3618	Driver
JAK2	Pt-135	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	84.3	5593	Driver
JAK2	Pt-136	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	83.4	5430	Driver
JAK2	Pt-139	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	77.7	3320	Driver
JAK2	Pt-140	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	35.6	6196	Driver
JAK2	Pt-142	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	58.8	4341	Driver
JAK2	Pt-144	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	48.7	5175	Driver
JAK2	Pt-147	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	3.9	5292	Driver
JAK2	Pt-152	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	7.2	4394	Driver
JAK2	Pt-154	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	20.3	7520	Driver
JAK2	Pt-155	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	92.0	5573	Driver
JAK2	Pt-157	NM_004972.3	c.1849G>T	p.Val617Phe	Missense	86.8	2821	Driver
KDM6A	Pt-086	NM_021140.3	c.2177C>T	p.Thr726Met	Missense	48.3	3359	Unknown
KDM6A	Pt-120	NM_021140.3	c.2423A>G	p.His808Arg	Missense	53.3	14228	Unknown
KIT	Pt-119	NM_000222.2	c.1588G>A	p.Val530Ile	Missense	50.2	3437	Unknown
KIT	Pt-121	NM_000222.2	c.1961T>C	p.Val654Ala	Missense	15.5	4253	Unknown
KMT2A	Pt-154	NM_001197104.1	c.200_202delCGG	p.p.Ala67del	In-frame deletion	78.5	391	Unknown
MPL	Pt-150	NM_005373.2	c.1514G>A	p.Ser505Asn	Missense	39.3	2788	Driver
MPL	Pt-105	NM_005373.2	c.1543_1544delinsAA	p.Trp515Lys	Missense	54.2	3298	Driver
MPL	Pt-030	NM_005373.2	c.1544G>T	p.Trp515Leu	Missense	79.8	3175	Driver
MPL	Pt-058	NM_005373.2	c.1544G>T	p.Trp515Leu	Missense	42.9	2429	Driver
MPL	Pt-063	NM_005373.2	c.1544G>T	p.Trp515Leu	Missense	17.9	2588	Driver
MPL	Pt-103	NM_005373.2	c.1544G>T	p.Trp515Leu	Missense	81.6	2904	Driver
NOTCH1	Pt-065	NM_017617.3	c.6205G>A	p.Ala2069Thr	Missense	48.9	1305	Unknown
NOTCH1	Pt-143	NM_017617.3	c.7289G>C	p.Gly2430Ala	Missense	49.4	1533	Unknown
NOTCH1	Pt-029	NM_017617.3	c.7387G>A	p.Ala2463Thr	Missense	48.0	2220	Unknown
NPM1	Pt-075	NM_002520.6	c.860_863dupTCTG	p.Trp288Cysfs*12	Frameshift	3.2	1300	Oncogenic
NRAS	Pt-145	NM_002524.3	c.182A>C	p.Gln61Pro	Missense	5.6	341	Oncogenic
NRAS	Pt-057	NM_002524.3	c.208C>T	p.Gln70*	Nonsense	33.7	555	Unknown
NRAS	Pt-053	NM_002524.3	c.34G>A	p.Gly12Ser	Missense	1.6	8160	Oncogenic
NRAS	Pt-087	NM_002524.3	c.35G>A	p.Gly12Asp	Missense	17.2	9418	Oncogenic
NRAS	Pt-115	NM_002524.3	c.35G>A	p.Gly12Asp	Missense	11.3	8306	Oncogenic
NRAS	Pt-087	NM_002524.3	c.35G>C	p.Gly12Ala	Missense	6.7	9418	Oncogenic
NRAS	Pt-145	NM_002524.3	c.35G>C	p.Gly12Ala	Missense	4.8	9260	Oncogenic
NRAS	Pt-069	NM_002524.3	c.35G>T	p.Gly12Val	Missense	27.8	9193	Oncogenic
NRAS	Pt-087	NM_002524.3	c.37G>C	p.Gly13Arg	Missense	5.8	9440	Oncogenic
PDGFRA	Pt-069	NM_006206.4	c.1775G>A	p.Gly592Glu	Missense	13.5	1413	Unknown
PDGFRA	Pt-001	NM_006206.4	c.2540C>T	p.Ser847Leu	Missense	51.1	8939	Unknown
PHF6	Pt-049	NM_032458.2	c.751C>A	p.Gln251Lys	Missense	21.2	2934	Oncogenic
PHF6	Pt-057	NM_032458.2	c.821G>A	p.Arg274Gln	Missense	22.0	1948	Oncogenic
PHF6	Pt-069	NM_032458.2	c.839G>A	p.Cys280Tyr	Missense	25.4	857	Oncogenic
PTEN	Pt-075	NM_000314.4	c.734A>G	p.Gln245Arg	Missense	25.0	164	Oncogenic
PTPN11	Pt-156	NM_002834.3	c.1471C>T	p.Pro491Ser	Missense	41.8	6807	Oncogenic
PTPN11	Pt-029	NM_002834.3	c.1504T>G	p.Ser502Ala	Missense	43.7	9549	Oncogenic
RAD21	Pt-143	NM_006265.2	c.1242T>G	p.Asp414Glu	Missense	47.4	1558	Unknown
RAD21	Pt-030	NM_006265.2	c.253A>G	p.Ile85Val	Missense	6.5	4787	Unknown
RUNX1	Pt-060	NM_001754.4	c.1355T>G	p.Val452Gly	Missense	57.3	2234	Unknown
RUNX1	Pt-057	NM_001754.4	c.1426_1436delGTGTGGAGGCC	p.Val476Leufs*120	Frameshift	12.3	2327	Oncogenic
SETBP1	Pt-030	NM_015559.2	c.2602G>A	p.Asp868Asn	Missense	17.1	3662	Oncogenic
SETBP1	Pt-089	NM_015559.2	c.2612T>C	p.Ile871Thr	Missense	39.7	4551	Oncogenic

SF3B1	Pt-106	NM_012433.2	c.1997A>G	p.Lys666Arg	Missense	31.7	3081	Oncogenic
SF3B1	Pt-070	NM_012433.2	c.1997A>T	p.Lys666Met	Missense	43.2	4166	Oncogenic
SF3B1	Pt-068	NM_012433.2	c.1998G>C	p.Lys666Asn	Missense	44.4	2639	Oncogenic
SF3B1	Pt-096	NM_012433.2	c.1998G>C	p.Lys666Asn	Missense	47.1	3135	Oncogenic
SF3B1	Pt-115	NM_012433.2	c.1998G>C	p.Lys666Asn	Missense	14.3	5305	Oncogenic
SF3B1	Pt-123	NM_012433.2	c.1998G>C	p.Lys666Asn	Missense	46.2	5833	Oncogenic
SF3B1	Pt-064	NM_012433.2	c.1998G>T	p.Lys666Asn	Missense	8.0	4590	Oncogenic
SF3B1	Pt-074	NM_012433.2	c.1998G>T	p.Lys666Asn	Missense	40.0	3919	Oncogenic
SF3B1	Pt-091	NM_012433.2	c.1998G>T	p.Lys666Asn	Missense	45.2	3121	Oncogenic
SF3B1	Pt-128	NM_012433.2	c.1998G>T	p.Lys666Asn	Missense	25.1	5261	Oncogenic
SF3B1	Pt-028	NM_012433.2	c.2098A>G	p.Lys700Glu	Missense	2.5	8728	Oncogenic
SF3B1	Pt-062	NM_012433.2	c.2098A>G	p.Lys700Glu	Missense	36.0	9884	Oncogenic
SF3B1	Pt-150	NM_012433.2	c.2098A>G	p.Lys700Glu	Missense	19.4	7137	Oncogenic
SRSF2	Pt-079	NM_001195427.1	c.283C>G	p.Pro95Ala	Missense	10.4	1754	HMR
SRSF2	Pt-157	NM_001195427.1	c.284C>A	p.Pro95His	Missense	9.2	993	HMR
SRSF2	Pt-063	NM_001195427.1	c.284C>G	p.Pro95Arg	Missense	43.8	1015	HMR
SRSF2	Pt-072	NM_001195427.1	c.284C>G	p.Pro95Arg	Missense	30.8	1387	HMR
SRSF2	Pt-057	NM_001195427.1	c.284C>T	p.Pro95Leu	Missense	2.9	1623	HMR
SRSF2	Pt-103	NM_001195427.1	c.284C>T	p.Pro95Leu	Missense	34.5	1006	HMR
SRSF2	Pt-119	NM_001195427.1	c.284C>T	p.Pro95Leu	Missense	42.1	2388	HMR
SRSF2	Pt-058	NM_001195427.1	c.320C>A	p.Pro107His	Missense	5.5	842	Unknown
STAG2	Pt-111	NM_001042749.2	c.1535-3_1535-2insA	p.?	Intronic	23.7	2533	Unknown
STAG2	Pt-030	NM_001042749.2	c.353T>C	p.Ile118Thr	Missense	100.0	607	Unknown
TET2	Pt-116	NM_001127208.2	c.1143delC	p.Phe381fs	Frameshift	42.9	4951	Oncogenic
TET2	Pt-157	NM_001127208.2	c.1292delT	p.Leu431*	Nonsense	47.2	4478	Oncogenic
TET2	Pt-048	NM_001127208.2	c.1318C>T	p.Gln440*	Nonsense	36.5	4993	Oncogenic
TET2	Pt-121	NM_001127208.2	c.1664dupC	p.Thr556Asnfs*11	Frameshift	9.4	2576	Oncogenic
TET2	Pt-043	NM_001127208.2	c.2020C>T	p.Gln674*	Nonsense	37.7	11027	Oncogenic
TET2	Pt-020	NM_001127208.2	c.3065dupA	p.Ser1023Glufs*4	Frameshift	35.5	7474	Oncogenic
TET2	Pt-058	NM_001127208.2	c.3184_3185insCCCAG	p.Val1062Alafs*6	Frameshift	39.6	4561	Oncogenic
TET2	Pt-091	NM_001127208.2	c.3528_3536delGATTGAAAG	p.Ile1177_Arg1179del	In-Frame Deletion	38.8	7308	Oncogenic
TET2	Pt-057	NM_001127208.2	c.3604A>G	p.Arg1202Gly	Missense	43.0	3507	Oncogenic
TET2	Pt-020	NM_001127208.2	c.3661T>C	p.Cys1221Arg	Missense	31.6	2880	Oncogenic
TET2	Pt-152	NM_001127208.2	c.3686T>G	p.Leu1229Arg	Missense	6.8	3659	Oncogenic
TET2	Pt-072	NM_001127208.2	c.3965T>A	p.Leu1322Gln	Missense	36.8	10120	Oncogenic
TET2	Pt-018	NM_001127208.2	c.3982_3983delAA	p.Asn1328Profs*10	Frameshift	29.1	10789	Oncogenic
TET2	Pt-087	NM_001127208.2	c.4035T>G	p.Tyr1345*	Nonsense	47.9	6837	Oncogenic
TET2	Pt-114	NM_001127208.2	c.4039_4041delAAT	p.Asn1347del	In-Frame Deletion	25.6	6895	Oncogenic
TET2	Pt-008	NM_001127208.2	c.4121G>A	p.Cys1374Tyr	Missense	44.2	3026	Oncogenic
TET2	Pt-021	NM_001127208.2	c.4264A>T	p.Lys1422*	Nonsense	12.8	3560	Oncogenic
TET2	Pt-157	NM_001127208.2	c.4317dupA	p.Arg1440Thrfs*38	Frameshift	44.8	3363	Oncogenic
TET2	Pt-142	NM_001127208.2	c.4546C>T	p.Arg1516*	Nonsense	23.2	2034	Oncogenic
TET2	Pt-093	NM_001127208.2	c.4624C>T	p.Gln1542*	Nonsense	14.5	1425	Oncogenic
TET2	Pt-010	NM_001127208.2	c.4894C>T	p.Gln1632*	Nonsense	12.9	12317	Oncogenic
TET2	Pt-150	NM_001127208.2	c.4913C>A	p.Ser1638*	Nonsense	19.4	6203	Oncogenic
TET2	Pt-127	NM_001127208.2	c.4946_4950delATTCT	p.Tyr1649Serfs*10	Frameshift	20.2	7960	Oncogenic
TET2	Pt-115	NM_001127208.2	c.521C>A	p.Pro174His	Missense	50.5	9674	Unknown
TET2	Pt-055	NM_001127208.2	c.5492_5493insTA	p.Leu1832Asnfs*2	Frameshift	45.6	1587	Oncogenic
TET2	Pt-066	NM_001127208.2	c.5507_5508delTG	p.Val1836Glyfs*9	Frameshift	36.7	2065	Oncogenic
TET2	Pt-126	NM_001127208.2	c.5582G>T	p.Gly1861Val	Missense	37.8	1649	Oncogenic
TET2	Pt-144	NM_001127208.2	c.572delA	p.Asn1911Ilefs*16	Frameshift	46.8	10038	Oncogenic
TET2	Pt-124	NM_001127208.2	c.5939C>T	p.Thr1980Ile	Missense	52.6	4211	Oncogenic
TET2	Pt-143	NM_001127208.2	c.685dupA	p.Thr229Asnfs*25	Frameshift	31.1	10110	Oncogenic
TET2	Pt-150	NM_001127208.2	c.838_844delTCTAACT	p.Ser280Leufs*11	Frameshift	21.5	7265	Oncogenic
TET2	Pt-119	NM_001127208.2	c.879_882delTGAG	p.Ser293Argfs*14	Frameshift	43.0	7949	Oncogenic
TP53	Pt-024	NM_000546.5	c.1079G>T	p.Gly360Val	Missense	53.4	2245	Oncogenic
TP53	Pt-127	NM_000546.5	c.437G>A	p.Trp146*	Nonsense	13.4	4802	Oncogenic

TP53	Pt-100	NM_000546.5	c.524G>A	p.Arg175His	Missense	36.4	2415	Oncogenic
TP53	Pt-055	NM_000546.5	c.532C>G	p.His178Asp	Missense	17.9	4538	Oncogenic
TP53	Pt-100	NM_000546.5	c.560G>T	p.Gly187Val	Missense	40.7	1677	Oncogenic
U2AF1	Pt-021	NM_001025203.1	c.101C>A	p.Ser34Tyr	Missense	6.2	8285	Oncogenic
U2AF1	Pt-059	NM_001025203.1	c.101C>A	p.Ser34Tyr	Missense	18.6	10740	Oncogenic
U2AF1	Pt-159	NM_001025203.1	c.101C>A	p.Ser34Tyr	Missense	39.4	7681	Oncogenic
U2AF1	Pt-024	NM_001025203.1	c.101C>T	p.Ser34Phe	Missense	34.2	8479	Oncogenic
U2AF1	Pt-076	NM_001025203.1	c.101C>T	p.Ser34Phe	Missense	38.1	3168	Oncogenic
U2AF1	Pt-001	NM_001025203.1	c.470A>C	p.Gln157Pro	Missense	42.1	934	Oncogenic
U2AF1	Pt-057	NM_001025203.1	c.470A>C	p.Gln157Pro	Missense	31.4	1770	Oncogenic
U2AF1	Pt-060	NM_001025203.1	c.470A>C	p.Gln157Pro	Missense	35.7	2158	Oncogenic
U2AF1	Pt-042	NM_001025203.1	c.470A>G	p.Gln157Arg	Missense	40.8	1677	Oncogenic
U2AF1	Pt-111	NM_001025203.1	c.470A>G	p.Gln157Arg	Missense	46.6	1734	Oncogenic
WT1	Pt-095	NM_024426.3	c.1390G>A	p.Asp464Asn	Missense	13.7	5654	Unknown
ZRSR2	Pt-141	NM_005089.3	c.1354C>T	p.Arg452Cys	Missense	35.7	1139	Unknown
ZRSR2	Pt-039	NM_005089.3	c.284C>T	p.Ala95Val	Missense	56.2	1200	Unknown
ZRSR2	Pt-092	NM_005089.3	c.284C>T	p.Ala95Val	Missense	48.5	1096	Unknown
ZRSR2	Pt-030	NM_005089.3	c.573_574delTA	p.His191Glnfs*12	Frameshift	51.3	3310	Oncogenic
ZRSR2	Pt-134	NM_005089.3	c.706T>A	p.Phe236Ile	Missense	11.8	3386	Unknown
ZRSR2	Pt-126	NM_005089.3	c.945dupT	p.Glu316*	Nonsense	80.6	3099	Oncogenic

Supplementary Table 3 - Univariate analysis of factors associated with Spleen Response

Variable		OR	95% CI	P value
Median Age (years)	>68 vs. ≤68	0.60	0.26-1.37	0.22
Hb (g/L)	≥100 vs. <100	3.41	1.46-7.96	0.005
Median WCC (10 ⁹ /L)	>14.6 vs. ≤14.6	1.99	0.88-4.52	0.10
Median Platelets (10 ⁹ /L)	>199 vs. ≤199	0.78	0.34-1.74	0.54
Median peripheral blood blasts (%)	>1 vs. ≤1	0.45	0.19-1.10	0.08
Transfusion dependence		0.62	0.27-1.44	0.27
Baseline spleen size (cm)	≥10 vs. <10	0.59	0.19-1.81	0.35
JAK Inhibitor	Ruxolitinib vs. Momelotinib	0.84	0.33-2.16	0.72
Diagnosis	(PPV-/PET-MF) vs. PMF	0.84	0.38-1.89	0.68
DIPSS	Low/Int-1 vs. Int-2	0.80	0.29-2.24	0.67
	Low/Int-1vs. High	0.20	0.06-0.66	0.008
JAK2/MPL		2.07	0.74-5.78	0.16
<i>CALR</i>		0.41	0.12-1.45	0.17
<i>ASXL1</i>		0.54	0.22-1.29	0.17
<i>SRSF2</i>		2.19	0.38-12.58	0.38
<i>EZH2</i>		0.32	0.06-1.67	0.17
<i>IDH1 and IDH2</i>		1.04	0.14-7.75	0.97
<i>TET2</i>		0.85	0.33-2.14	0.73
<i>U2AF1</i>		0.27	0.05-1.36	0.11
<i>SF3B1</i>		1.26	0.39-4.07	0.70
<i>DNMT3A</i>		0.19	0.02-1.70	0.14
<i>NRAS</i>		0.68	0.11-4.28	0.68
HMR profile		0.44	0.19-1.03	0.06
Number of mutations (including driver)	1 (reference)			
	2	2.23	0.74-6.73	0.15
	≥3	0.72	0.22-2.31	0.58

Supplementary Table 4 - Univariate analysis of factors associated with anemia response

Variable	OR	95% CI	P value
Median age (years) >68 vs. ≤68	0.89	0.25-3.17	0.86
Hb (g/L) ≥100 vs. <100	2.25	0.13-38.3	0.57
Median WCC (109/L) >14.6 vs. ≤14.6	1.01	0.30-3.35	0.99
Median Platelets (109/L) >199 vs. ≤199	0.92	0.29-2.94	0.87
Median peripheral blood blasts (%) >1 vs. ≤1	0.39	0.11-1.41	0.15
Transfusion dependence	2.24	0.54-9.31	0.27
Baseline spleen size (cm) ≥10 vs. <10	5.77	0.67-49.61	0.11
JAK Inhibitor Ruxolitinib vs. Momelotinib	0.68	0.20-2.33	0.54
Diagnosis (PPV-/PET-MF) vs. PMF	1.40	0.43-4.58	0.58
<i>JAK2/MPL</i>	1.97	0.47-8.27	0.35
<i>CALR</i>	1.11	0.24-5.08	0.90
<i>ASXL1</i>	0.49	0.14-1.67	0.25
<i>SRSF2</i>	2.33	0.30-18.14	0.42
<i>EZH2</i>	0.40	0.04-3.72	0.42
<i>IDH1/IDH2</i>	2.25	0.13-38.26	0.57
<i>TET2</i>	2.54	0.73-8.80	0.14
<i>U2AF1</i>	0.27	0.03-2.37	0.24
<i>SF3B1</i>	0.57	0.11-3.10	0.52
HMR profile	0.68	0.21-2.15	0.51
Number of mutations (including driver)			
1 (reference)			
2	0.31	0.04-2.27	0.25
≥3	0.22	0.03-1.67	0.14

Supplementary Table 5 - Interactivity Analysis

	DIPSS	Pre-treatment Transfusion dependence	<i>ASXL1/EZH2</i>	Number of mutations
Number mutations	Phi = 0.35 <i>P</i> = 0.02	Phi = 0.22 <i>P</i> = 0.09	Phi = 0.53 <i>P</i> < 0.0001	
<i>ASXL1/EZH2</i>	Phi = 0.27 <i>P</i> = 0.027	Phi = 0.28 <i>P</i> = 0.005		
Pre-treatment Transfusion dependence	Phi = 0.62 <i>P</i> < 0.0001			
DIPSS				

NOTE: Phi is a correlation coefficient for categorical data that ranges in value from -1 to +1

Supplementary Figure 1 - Circos plot showing co-occurrence of mutations. Mutations found in $\geq 4\%$ of cohort were included. The width of segment arcs represent the relative number of interactions associated with a given gene. Ribbon thickness represents the number of pairwise interactions between a given pair of genes.

