PAN-HEME NGS Panel Target Genes

Fusion targets (n=72)			
Gene	#	Accession	Exons
ABL1	1	NM_005157	1, 2, 3, 4, 5
ABL2	2	NM_005158	2, 3, 4, 5, 6, 7, 8
ALK	3	NM_004304	2, 4, 6, 10, 16, 17, 18, 19, 20, 21, 22, 23
BCL11B	4	NM_138576	2, 3, 4
BCL2	5	NM_000633	2, 3
BCL6	6	NM_001706	2, 3
BCR	7	NM_004327	1, 2, 3, 8, 12, 13, 14, 15, 16
BIRC3	8	NM_001165	4, 5, 6, 7
CBFB	9	NM_022845	4, 5
CCND1	10	NM_053056	5
CCND3	11	NM_001760	2
CDK6	12	NM_001259	1, 2, 3, 4
CHD1	13	NM_001270	1, 2
CHIC2	14	NM_012110	1, 2, 3
CIITA	15	NM_000246	1, 2
CREBBP	16	NM_004380	2, 3, 4, 5, 6
CRLF2	17	NM_022148	1
CSF1R	18	NM_005211	9, 10, 11, 12, 13, 14
DEK	19	NM_003472	2, 3
DUSP22	20	NM_020185	1, 2
EBF1	21	NM_024007	10, 11, 12, 13, 14, 15
EIF4A1	22	NM_001416	2, 3
EPOR	23	NM_000121	7, 8
ERG	24	NM_004449	7, 8, 9, 10, 11
ETV6	25	NM_001987	1, 2, 3, 4, 5, 6
FGFR1	26	NM_023110	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 17
GLIS2	27	NM_032575	2, 3
IKZF2	28	NM_016260	3, 4
IKZF3	29	NM_012481	2, 3, 4, 5, 6, 7
JAK2	30	NM_004972	6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20
KAT6A	31	NM_006766	13, 14, 15, 16
KLF2	32	NM_016270	2, 3
KMT2A	33	NM_005933	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
MALT1	34	NM_006785	9

MECOM	35	NM_004991	1, 2, 3, 4
MKL1	36	NM_020831	4, 5, 6
MLF1	37	NM_022443	2, 3, 4
MLLT10	38	NM_004641	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
MLLT4	39	NM_001040000	2
MYC	40	NM_002467	1, 2
MYH11	41	NM_002474	7, 8, 9, 10, 11, 14, 15, 16
NF1	42	NM_000267	14, 36
NFKB2	43	NM_002502	14, 15, 16, 17, 18, 19, 20, 21
NOTCH1	44	NM_017617	24, 25, 26, 27, 28, 29
NTRK3	45	NM_002530	13, 14, 15
NUP214	46	NM_005085	17, 18, 19
NUP98	47	NM_016320	8, 9, 10, 11, 12, 13, 14, 15, 16, 17
P2RY8	48	NM_178129	1
PAG1	49	NM_018440	2
PAX5	50	NM_016734	1, 4, 5, 6, 7, 8
PBX1	51	NM_002585	1, 2, 3, 4, 5, 6, 7, 8, 9
PDCD1LG2	52	NM_025239	1, 2, 3, 5, 6
PDGFRA	53	NM_006206	9, 10, 11, 12, 13, 14
PDGFRB	54	NM_002609	8, 9, 10, 11, 12, 13, 14
PICALM	55	NM_007166	16, 17, 18, 19
PML	56	NM_002675	2, 3, 4, 5, 6,7
PRDM16	57	NM_022114	1, 2, 3, 4
PTK2B	58	NM_173176	2, 3, 4, 5, 6, 7, 8
RARA	59	NM_000964	2, 3, 4, 5
RBM15	60	NM_022768	1
ROS1	61	NM_002944	31, 32, 33, 34, 35, 36
RUNX1	62	NM_001754	1,2,4, 5, 6, 7, 8, 9
RUNX1T1	63	NM_001198679	2, 3
SEMA6A	64	NM_020796	1, 2
SETD2	65	NM_014159	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
STIL	66	NM_003035	1, 2
TAL1	67	NM_003189	2, 4
TCF3	68	NM_003200	11, 12, 13, 14, 15, 16, 17, 18
TFG	69	NM_006070	2, 3, 4
TP63	70	NM_003722	3, 4, 5
TYK2	71	NM_003331	16, 18
ZCCHC7	72	NM_032226	1, 2, 3, 4

SNV targets (n=100)			
Gene	**#**	**Accession**	**Exons**
ABL1	1	NM_005157	4,5,6,7,8,9,10
AKT3	2	NM_005465	N/A (K172)
ALK	3	NM_004304	2, 4, 6, 10, 16, 17, 18, 19, 20, 21, 22, 23
ANKRD26	4	NM_014915	1 (c.-113-c.-134)
ASXL1	5	NM_015338.5	1,2,3,4,5,6,7,8,9,10,11,12,13
		NM_001164603.1	5
ATRX	6	NM_000489	8,9,10,11,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32
BAX	7	NM_138761	N/A (G179)
BCL2	8	NM_000633	N/A (F104)
BCOR	9	NM_017745	2,3,4,5,6,7,9,10,11,12,13,14,15
BCORL1	10	NM_021946	1,2,3,4,5,6,7,8,9,10,11,12
BIRC3	11	NM_001165	N/A (Q547)
BRAF	12	NM_004333	3,10,11,12,13,15
BTK	13	NM_000061	15
CALR	14	NM_004343	8,9
CARD11	15	NM_032415	N/A (Q547)
CBL	16	NM_005188	2,3,4,5,7,8,9,16
CBLB	17	NM_170662	3,9,10
CBLC	18	NM_012116	9,10
CCND1	19	NM_053056	N/A (E36, V42-C47)
CCND2	20	NM_001759	5
CD79B	21	NM_000626	N/A (Y196)
CDKN2A	22	NM_058197	1
		NM_058195	1
		NM_000077	2,3
		NM_001195132	3
CEBPA	23	NM_004364	1 (P23-H24, Q83, K304-L317)
CREBBP	24	NM_004380	N/A (P1053, C1240, R1446, S1680-L1681)
CRLF2	25	NM_022148	N/A (F232)
CSF3R	26	NM_156039	17
		NM_172313	10,18
		NM_000760	14,15,16

CUX1	27	NM_001202543	15,16,17,18,19,20,21,22,23,24
		NM_001913	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
		NM_181552	1
CXCR4	28	NM_003467	1,2
DCK	29	NM_000788	2,3
DDX41	30	NM_016222	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17
DHX15	31	NM_001358	3
DNM2	32	NM_004945	N/A (V649, L789)
DNMT3A	33	NM_022552	2,3,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
		NM_153759	1,2
		NM_175630	4
ETNK1	34	NM_018638	3
ETV6	35	NM_001987	1,2,3,4,5,6,7,8
EZH2	36	NM_004456	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20
FBXW7	37	NM_018315	1,2,3,4,5,6,7,8,9,10,11
FGFR2	38	NM_000141	N/A (R6)
FGFR3	39	NM_000142	N/A (Y373, K650)
FLT3	40	NM_004119	8,9,10,11,12,13,14,15,16,17,19,20,21
GATA1	41	NM_002049	2
GATA2	42	NM_032638	2,3,4,5,6
GNAS	43	NM_000516	8,9,10,11
HRAS	44	NM_005343	2,3,4
IDH1	45	NM_005896	3,4
IDH2	46	NM_002168	4,6
IKZF1	47	NM_001220769	5
		NM_001220767	2,3,4,5,7
		NM_001220771	4
		NM_001291845	4
		NM_001291847	5
IKZF3	48	NM_012481	N/A (L162)
IL7R	49	NM_002185	N/A (S185, P240-S246)
JAK1	50	NM_002227	N/A (V658, S703, R724)
JAK2	51	NM_004972	12,13,14,15,16,19,20,21,22,23,24,25
JAK3	52	NM_000215	3,11,13,15,18,19

KDM6A	53	NM_021140	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29
		NM_001291415	14
KIT	54	NM_000222	1,2,5,8,9,10,11,12,13,14,15,17,18
KMT2A	55	NM_005933	1,2,3,4,5,6,7,8,9,10,11,12,13,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36
		NM_001197104	14
KRAS	56	NM_004985	2,3,4
LUC7L2	57	NM_016019	1,2,3,4,5,6,7,8,9,10
		NM_001244585	2
MAP2K1	58	NM_002755	2,3
MPL	59	NM_005373	10,12
MYC	60	NM_002467	1,2,3
MYD88	61	NM_002468	4,5
		NM_001172567	3
NF1	62	NM_000267	1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57
		NM_001128147	15
		NM_001042492	31
NOTCH1	63	NM_017617	26,27,28,34,c.*370 to c.*380
NOTCH2	64	NM_024408	N/A (R2400)
NPM1	65	NM_002520	11
NRAS	66	NM_002524	2,3,4,5
NT5C2	67	NM_012229	N/A(R238, R367)
PAX5	68	NM_016734	N/A(P80)
PDGFRA	69	NM_006206	12,14,15,18
PHF6	70	NM_032335	2,3,4,5,6,7,8
		NM_001015877	10
		NM_032458	9
PLCG1	71	NM_002660	N/A(S345)
PLCG2	72	NM_002661	N/A(R665, L845)
PML	73	NM_002675	N/A(C212-S220)
PPM1D	74	NM_003620	6
PTEN	75	NM_000314	1,2,3,4,5,6,7,8,9
PTPN11	76	NM_002834	3,4,7,8,12,13
		NM_080601	11
RAD21	77	NM_006265	2,3,4,5,6,7,8,9,10,11,12,13,14

RARA	78	NM_000964	N/A(E197, R272, T283-M284, L290-M297, R394, Q411)
RBBP6	79	NM_006910	p.1444,p.1451,p.1569,p.1654,p.1673
RHOA	80	NM_001664	N/A(G17)
RUNX1	81	NM_001754	2,3,5,6,7,8,9
		NM_001122607	1,5
SETBP1	82	NM_015559	4 (p.799-p.950)
SF3B1	83	NM_012433	13,14,15,16,17,18,19,20,21
SH2B3	84	NM_005475	2,3,4,5,6,7,8
SLC29A1	85	NM_001078175	4,13
SMC1A	86	NM_006306	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
		NM_001281463	2
SMC3	87	NM_005445	10,13,19,23,25,28
SRSF2	88	NM_003016	1,2
STAG2	89	NM_006603	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33
		NM_001042749	32
STAT3	90	NM_003150	20
		NM_139276	21
STAT5B	91	NM_012448	N/A(N642)
STAT6	92	NM_003153	N/A(ND419)
TET2	93	NM_001127208	4,5,6,7,8,9,10,11
		NM_017628	3
TP53	94	NM_000546	1,2,3,4,5,6,7,8,9,10,11
		NM_001276696	10
		NM_001276695	10
TYK2	95	NM_003331	N/A(W327)
U2AF1	96	NM_006758	2,6,7
		NM_001025204	6
U2AF2	97	NM_007279	1,2,3,4,5,6,7,8,9,10,11,12
WT1	98	NM_000378	1,2,3,4,5,6,7,9
		NM_001198552	8
XPO1	99	NM_003400	15,16,18
ZRSR2	100	NM_005089	1,2,3,4,5,6,7,8,9,10,11

CNV targets (n=23)			
Gene	#	Accession	Exons
ASXL1	1	NM_015338	N/A
BCOR	2	NM_017745	N/A
CBL	3	NM_005188	N/A
CDC25C	4	NM_001287582.2	N/A
CDKN2A	5	NM_000077	N/A
CUX1	6	NM_001913	N/A
ETV6	7	NM_001987	N/A
EZH2	8	NM_004456	N/A
FLT3	9	NM_004119	N/A
IKZF1	10	NM_001220769	N/A
KDM6A	11	NM_021140	N/A
LUC7L2	12	NM_016019	N/A
MYC	13	NM_002467	N/A
NF1	14	NM_000267	N/A
PTEN	15	NM_000314	N/A
RAD21	16	NM_006265	N/A
RPS14	17	NM_001025070.2	N/A
RUNX1	18	NM_001754	N/A
TET2	19	NM_001127208	N/A
TP53	20	NM_000546	N/A
U2AF1	21	NM_006758	N/A
WT1	22	NM_000378	N/A
ZRSR2	23	NM_005089	N/A