

## SUPPLEMENTAL MATERIAL

Berres et al., <http://www.jem.org/cgi/content/full/jem.20130977/DC1>**Table S1.** LCH patients: *BRAF-V600E* status and clinical variables

ID	BRAF	Sites	Gender	Age at diagnosis	Risk category	Extent	Episodes of recurrence	CNS risk	DI	Peripheral <i>BRAF-V600E</i> detected	Alive	Follow up
				yr								yr
LCH002	V600E	Single bone	M	12.7	Low	Single	No	No	No	Unknown	Yes	3.6
LCH003	V600E	Skin, bone, liver, BM, pituitary	F	1.4	High	Multifocal	Yes	Yes	Yes	Yes	Yes	6.3
LCH004	V600E	Single bone	M	5.8	Low	Single	Yes	No	No	Unknown	Yes	4.8
LCH005	V600E	Single bone	M	7.5	Low	Single	No	Yes	No	Unknown	Yes	4.6
LCH007	V600E	Single bone	M	2.8	Low	Single	No	No	No	No	Yes	0.6
LCH008	V600E	Skin, bone, rectum	M	2.7	Low	Multifocal	Yes	No	No	Yes	Yes	4.7
LCH009	V600E	Skin, mastoid, lungs, BM	F	0.6	High	Multifocal	Yes	Yes	No	Yes	Yes	5.8
LCH013	V600E	Multifocal bone, skin	M	1.3	Low	Multifocal	Yes	Yes	No	Unknown	Yes	8.7
LCH014	V600E	Scalp, multifocal bone, skin, spleen, LN, liver, BM	M	1.2	High	Multifocal	Yes	Yes	No	Yes	Yes	7.0
LCH015	V600E	Multifocal bone	F	7.2	Low	Multifocal	No	No	No	Unknown	Yes	5.9
LCH017	V600E	Single bone	M	5.9	Low	Single	No	No	No	No	Yes	5.3
LCH018	V600E	Skin, multifocal bone, spleen, liver, BM	M	0.5	High	Multifocal	Yes	Yes	No	Yes	No	2.0
LCH019	V600E	Single bone	F	0.9	Low	Single	Yes	Yes	No	No	Yes	5.4
LCH020	V600E	Skin, BM, liver, spleen	M	1.8	High	Multifocal	Yes	No	No	Yes	No	1.3
LCH021	V600E	Skin, bone	M	0.8	Low	Multifocal	Yes	Yes	No	Yes	Yes	5.5
LCH022	V600E	Single bone	M	14.0	Low	Single	No	No	No	No	Yes	0.3
LCH023	V600E	Multifocal bone, skin, oral mucosa	M	1.8	Low	Multifocal	No	No	No	Yes	Yes	4.1
LCH025	V600E	Multifocal bone	M	0.9	Low	Multifocal	Yes	Yes	No	Unknown	Yes	1.6
LCH026	V600E	Single bone	M	7.7	Low	Single	No	No	No	No	Yes	4.8
LCH029	V600E	Single bone	M	6.0	Low	Single	Unknown	No	No	No	Yes	0.0
LCH030	V600E	Multifocal bone, pituitary	M	2.0	Low	Multifocal	Yes	Yes	Yes	Yes	Yes	5.0
LCH032	V600E	Single bone	M	3.7	Low	Single	No	Yes	No	No	Yes	4.5
LCH034	V600E	Single bone	M	12.6	Low	Single	No	No	No	Unknown	Yes	4.3
LCH035	V600E	Single bone	M	13.3	Low	Single	No	No	No	No	Yes	0.3
LCH036	V600E	Skin, oral mucosa, pituitary	M	0.6	Low	Multifocal	Yes	Yes	Yes	No	Yes	4.7
LCH037	V600E	Multifocal bone	F	7.8	Low	Multifocal	No	No	No	No	Yes	0.3
LCH040	V600E	Skin, LN, BM	F	0.8	High	Multifocal	Yes	No	No	Yes	No	3.1
LCH044	V600E	Multifocal bone, pituitary	M	3.0	Low	Multifocal	No	Yes	Yes	No	Yes	2.3
LCH047	V600E	Single bone	F	5.0	Low	Single	Yes	No	No	No	Yes	1.5
LCH048	V600E	Bone, skin	F	16.0	Low	Multifocal	No	No	No	No	Yes	0.9
LCH049	V600E	Multifocal bone	M	11.9	Low	Multifocal	No	No	No	No	Yes	1.3
LCH050	V600E	Single bone	M	7.9	Low	Single	No	Yes	No	No	Yes	0.8
LCH053	V600E	Single bone	M	7.8	Low	Single	No	No	No	No	Yes	3.9

**Table S1.** LCH patients: *BRAF-V600E* status and clinical variables (*Continued*)

ID	BRAF	Sites	Gender	Age at diagnosis	Risk category	Extent	Episodes of recurrence	CNS risk	DI	Peripheral <i>BRAF-V600E</i> detected	Alive	Follow up
LCH054	V600E	Multifocal bone	M	18.7	Low	Multifocal	Yes	No	No	Unknown	Yes	3.7
LCH055	V600E	Single bone	M	8.7	Low	Single	No	No	No	No	Yes	1.5
LCH058	V600E	Single bone	M	8.9	Low	Single	No	No	No	No	Yes	1.4
LCH059	V600E	Single bone	M	6.0	Low	Single	No	No	No	Unknown	Yes	1.5
LCH060	V600E	Single bone	M	10.4	Low	Single	No	No	No	Unknown	Yes	1.1
LCH061	V600E	Single bone	M	2.9	Low	Single	No	Yes	No	Unknown	Yes	2.8
LCH062	V600E	Multifocal bone	F	0.6	Low	Multifocal	Yes	Yes	No	No	Yes	2.6
LCH063	V600E	Multifocal bone	F	3.0	Low	Multifocal	Yes	No	No	No	Yes	2.6
LCH066	V600E	Skin, multifocal bone, oral mucosa, genital mucosa	F	47.3	Low	Multifocal	Yes	No	No	Unknown	Yes	9.3
LCH067	V600E	Skin, bone, BM, liver, oral mucosa	F	1.9	High	Multifocal	Yes	Yes	No	Yes	Yes	2.5
LCH068	V600E	Skin, bone	M	0.5	Low	Multifocal	Yes	Yes	No	Yes	Yes	2.3
LCH069	V600E	Multifocal bone	M	1.8	Low	Multifocal	Yes	Yes	No	No	Yes	1.8
LCH070	V600E	Skin, multifocal bone, liver, oral mucosa	F	0.3	High	Multifocal	No	Yes	No	Yes	Yes	2.2
LCH072	V600E	Multifocal bone	M	3.1	Low	Multifocal	No	Yes	No	No	Yes	1.6
LCH074	V600E	Multifocal bone	M	2.2	Low	Multifocal	Yes	Yes	No	No	Yes	1.8
LCH075	V600E	Skin, bone, liver, BM, lungs	M	0.7	High	Multifocal	Yes	Yes	No	Yes	Yes	1.7
LCH077	V600E	Skin, liver	F	0.7	High	Multifocal	Yes	No	No	Yes	Yes	1.3
LCH078	V600E	Multifocal bone	M	3.8	Low	Multifocal	Yes	Yes	Yes	Unknown	Yes	9.0
LCH080	V600E	Skin, bone, spleen, liver, oral mucosa, lungs	F	1.1	High	Multifocal	Yes	Yes	No	Yes	Yes	1.5
LCH082	V600E	Single bone	F	3.6	Low	Single	No	No	No	No	Yes	1.0
LCH085	V600E	Single bone	F	9.0	Low	Single	No	No	No	No	Yes	0.7
LCH087	V600E	Multifocal bone	M	7.1	Low	Multifocal	No	No	No	No	Yes	0.9
LCH088	V600E	Single bone	M	5.7	Low	Single	No	No	No	No	Yes	0.8
LCH089	V600E	Single bone	F	7.2	Low	Single	No	Yes	No	No	Yes	0.9
LCH091	V600E	Multifocal bone	F	2.5	Low	Multifocal	Yes	No	No	No	Yes	9.3
LCH092	V600E	Single bone	F	3.1	Low	Single	No	No	No	No	Yes	0.8
LCH093	V600E	Single bone	M	0.9	Low	Single	No	Yes	No	No	Yes	0.7
LCH094	V600E	Single bone	M	11.7	Low	Single	No	No	No	No	Yes	0.4
LCH095	V600E	Skin, bone	F	10.7	Low	Multifocal	Yes	No	No	No	Yes	0.3
LCH-JXG-099	V600E	Skin, LN, lungs, liver, spleen, kidney, BM (JXG/LCH)	F	2.6	High	Multifocal	Yes	No	No	Yes	Yes	0.8
LCH-ECD-100	V600E	Multifocal bone, lungs (ECD/LCH)	F	36.4	Low	Multifocal	Yes	Yes	Yes	No	Yes	7.9
LCH001	WT	Multifocal bone	F	1.7	Low	Multifocal	Yes	No	No	Unknown	Yes	6.3
LCH006	WT	Single bone	F	2.3	Low	Single	No	No	No	Unknown	Yes	2.8
LCH010	WT	Single bone	F	5.4	Low	Single	No	No	No	No	Yes	4.2
LCH011	WT	Single bone	F	6.2	Low	Single	No	No	No	No	Yes	4.9
LCH012	WT	Multifocal bone	M	11.9	Low	Multifocal	No	No	No	No	Yes	4.6
LCH016	WT	Single bone	M	9.0	Low	Single	No	No	No	Unknown	Yes	5.3
LCH024	WT	Skin, bone	F	4.9	Low	Single	No	No	No	Unknown	Yes	4.3
LCH027	WT	Single bone	M	7.5	Low	Single	No	No	No	No	Yes	0.8

**Table S1.** LCH patients: *BRAF-V600E* status and clinical variables (*Continued*)

ID	BRAF	Sites	Gender	Age at diagnosis	Risk category	Extent	Episodes of recurrence	CNS risk	DI	Peripheral <i>BRAF-V600E</i> detected	Alive Follow up	
LCH028	WT	LN, spleen, lungs, intestine	M	11.6	High	Multifocal	Yes	No	No	No	No	2.0
LCH031	WT	Single bone	M	0.9	Low	Single	No	Yes	No	No	Yes	3.6
LCH033	WT	Mastoid, pituitary, lungs	F	2.3	Low	Multifocal	No	Yes	No	Unknown	Yes	4.4
LCH038	WT	Skin, bone, lungs	F	3.5	Low	Multifocal	Yes	No	No	No	Yes	4.1
LCH039	WT	Skin, liver, spleen, LN, BM	M	1.0	High	Multifocal	Yes	No	No	Unknown	No	1.3
LCH041	WT	Skin, liver, BM	F	0.3	High	Multifocal	No	No	No	No	Yes	3.7
LCH042	WT	Single bone	M	6.1	Low	Single	No	No	No	No	Yes	2.9
LCH043	WT	Multifocal bone	F	10.7	Low	Multifocal	No	No	No	No	Yes	4.6
LCH045	WT	Skin, LN, lungs, liver, multifocal bone	F	0.5	High	Multifocal	Yes	Yes	No	No	Yes	2.8
LCH046	WT	Nasal mucosa, pituitary, brain	M	5.8	Low	Multifocal	Yes	Yes	Yes	No	Yes	4.2
LCH051	WT	Multifocal bone	M	1.7	Low	Multifocal	Yes	Yes	No	Unknown	Yes	8.3
LCH052	WT	Multifocal bone	F	2.3	Low	Multifocal	No	No	No	Unknown	Yes	4.4
LCH056	WT	Single bone	M	1.9	Low	Single	No	Yes	No	No	Yes	1.2
LCH057	WT	Multifocal bone	M	1.2	Low	Multifocal	Yes	No	No	No	Yes	3.3
LCH064	WT	Single bone	M	7.9	Low	Single	No	No	No	No	Yes	2.6
LCH065	WT	Single bone	F	7.7	Low	Single	No	Yes	No	No	Yes	2.1
LCH071	WT	Skull,	M	3.0	Low	Single	No	Yes	No	Unknown	Yes	1.8
LCH073	WT	Bone, BM, LN, liver	F	0.7	High	Multifocal	Yes	Yes	No	No	No	0.1
LCH076	WT	Single bone	M	16.1	Low	Single	No	No	No	Unknown	Yes	0.7
LCH079	WT	Multifocal bone	M	7.9	Low	Multifocal	No	No	No	No	Yes	1.3
LCH081	WT	Single bone	F	0.8	Low	Single	No	No	No	No	Yes	1.2
LCH083	WT	Multifocal bone	F	2.9	Low	Multifocal	No	Yes	No	No	Yes	1.1
LCH084	WT	Lungs, pituitary	M	16.4	Low	Multifocal	No	Yes	Yes	No	Yes	1.0
LCH086	WT	Single bone	F	14.9	Low	Single	No	No	No	No	Yes	0.7
LCH090	WT	Single bone	M	5.7	Low	Single	No	No	No	No	Yes	0.3
LCH096	WT	Single bone	F	4.5	Low	Single	No	No	No	No	Yes	0.2
LCH097	WT	Single bone	M	4.6	Low	Single	No	Yes	No	No	Yes	0.2
LCH-JXG-098	WT	Multifocal bone (LCH/JXG)	M	6.7	Low	Multifocal	Yes	No	No	No	Yes	4.7

**Table S2.** LCH lesions: cell-specific *BRAF-V600E* status

Lesion ID	Diagnosis	Location	BRAF genotype	qPCR % <i>V600E</i>	Sanger lesion CD207	Sanger lesion CD3	Days from diagnosis
1A.1	LCH	Pelvis	WT	0			0
2A.1	LCH	Skull (parietal)	V600E	8.6			313
3A.1	LCH	Orbit	V600E	17.5*	V600E		280
4A.1	LCH	Pelvis	V600E	11.9			0
5A.1	LCH	Skull (mastoid)	V600E	8.4			0
6A.1	LCH	Skull (parietal)	WT	0	WT		0
7A.1	LCH	Skull (parietal)	V600E	9.3	V600E		0
8A.1	LCH	Skin	V600E	0.3			0
9A.1	LCH	Mastoid	V600E	36.6	V600E		0
9A.2	LCH	Mastoid	V600E	15.0*	V600E		96
9A.3	LCH	Gingiva	V600E	0.7			127
9A.4	LCH	BM	V600E	1.0			170
10A.1	LCH	Pelvis	WT	0*	WT		0
11A.1	LCH	Skull (parietal)	WT	0	WT	WT	0
12A.1	LCH	Pelvis	WT	0*	WT		0
13A.1	LCH	Skull (parietal)	V600E	7.5			0
13A.2	LCH	Scalp	V600E	2.8*			345
14A.1	LCH	Liver	V600E	20.3			686
15A.1	LCH	Skull (frontal)	V600E	11.9			0
16A.1	LCH	Skull (parietal)	WT	0			0
17A.1	LCH	Skull (frontal)	V600E	NA	V600E		0
18A.1	LCH	Spleen	V600E	6.9			693
19A.1	LCH	Mastoid	V600E	NA	V600E	WT	0
19A.2	LCH	Mastoid	V600E	2.3			216
20A.1	LCH	Skin	V600E	5.4*	V600E		0
21A.1	LCH	Orbit	V600E	74.5*	WT	WT	0
22A.1	LCH	Skull	V600E	19.4*	V600E	WT	0
23A.1	LCH	Mandible	V600E	NA	V600E	WT	0
24A.1	LCH	Skin	WT	0	WT	WT	0
25A.1	LCH	Mastoid	V600E	23.4	V600E		574
26A.1	LCH	Parietal	V600E	3.6	V600E		0
27A.1	LCH	Skin	WT	0	WT	WT	0
28A.1	LCH	LN	WT	0			536
28A.2	LCH	LN	WT	0			610
29A.1	LCH	Skull (frontal)	V600E	11.8	V600E		0
30A.1	LCH	Occipital skull	V600E	11.4	V600E		0
30A.2	LCH	Femur	V600E	19.2	V600E		109
31A.1	LCH	Orbit	WT	0	WT		0
32A.1	LCH	Orbit	V600E	1.8			0
33A.1	LCH	Skull (mastoid)	WT	0			0
34A.1	LCH	Vertebra	V600E	7.2			0
35A.1	LCH	Rib	V600E	2.8			0
36A.1	LCH	Skin	V600E	8.5			0
37A.1	LCH	Skull (frontal)	V600E	20	V600E		0
38A.1	LCH	Skin	WT	0	WT		366
38A.2	LCH	Lung	WT	0			1,500
39A.1	LCH	Spleen	WT	0			324
40A.1	LCH	BM	V600E	0.1			959
40A.2	LCH	Ilium	V600E	31.1			1,081
40B.2	LCH	Femur (right)	V600E	26.4			1,081

**Table S2.** LCH lesions: cell-specific *BRAF-V600E* status (Continued)

Lesion ID	Diagnosis	Location	BRAF genotype	qPCR	Sanger lesion CD207	Sanger lesion CD3	Days from diagnosis
40C.2	LCH	Femur (left)	V600E	61.1			1,081
41A.1	LCH	BM	WT	0			0
42A.1	LCH	Skull (occipital)	WT	0	WT		0
43A.1	LCH	Rib	WT	0	WT		0
44A.1	LCH	Skull (temporal)	V600E	15.4	V600E		0
45A.1	LCH	BM	WT	0			1
45A.2	LCH	LN	WT	0	WT		15
46A.1	LCH	Nasal mucosa	WT	0	WT		0
47A.1	LCH	Femur	V600E	NA	V600E		0
48A.1	LCH	Skull (parietal)	V600E	31.2	V600E		0
49A.1	LCH	Skull (frontal)	V600E	5.7	V600E		82
50A.1	LCH	Radius	V600E	16.9	V600E		0
51A.1	LCH	Skull (frontal)	WT	0			0
52A.1	LCH	Femur	WT	0			0
53A.1	LCH	Femur	V600E	19.4	V600E		0
54A.1	LCH	Clavicle	V600E	19.9	V600E		0
55A.1	LCH	Femur	V600E	2.6	V600E		0
56A.1	LCH	Orbit	WT	0	WT		0
57A.1	LCH	Skull (frontal)	WT	0	WT		0
57A.2	LCH	Rib	WT	0	WT		887
58A.1	LCH	Skull (parietal)	V600E	1	V600E		0
59A.1	LCH	Skull (frontal)	V600E	4	V600E		0
60A.1	LCH	Skull (frontal)	V600E	2.5	V600E		0
61A.1	LCH	Orbit	V600E	38	V600E		0
62A.1	LCH	Skull (parietal)	V600E	22.7	V600E		0
62A.2	LCH	Mastoid	V600E	29.1			466
63A.1	LCH	Ilium	V600E	6.2	V600E		0
64A.1	LCH	Vertebra	WT	0*	WT		0
65A.1	LCH	Orbit	WT	0	WT		0
66A.1	LCH	Clavicle	V600E	NA	V600E		3,370
67A.1	LCH	BM	V600E	2.1			0
67A.2	LCH	BM	V600E	0.15			65
67A.3	LCH	BM	V600E	0.02			121
68A.1	LCH	BM	V600E	2.2			14
68A.2	LCH	BM	V600E	1.1			61
68A.3	LCH	Orbit	V600E	18.4			404
69A.1	LCH	Skull (occipital)	V600E	10.4	V600E		0
70A.1	LCH	BM	V600E	0.1			31
71A.1	LCH	Skull (orbit)	WT	0			0
72A.1	LCH	Skull (right-parietal)	V600E	1.1	V600E		0
72B.1	LCH	Skull (midline-parietal)	V600E	1.7	V600E		0
72C.1	LCH	Skull (left-parietal)	V600E	1.3	V600E		0
73A.1	LCH	LN	WT	0			0
74A.1	LCH	Skull (mastoid)	V600E	9.0			558
75A.1	LCH	Skin	V600E	NA	V600E		0
75A.2	LCH	Liver	V600E	9.1	V600E		8
75A.3	LCH	BM	V600E	0.18			8
75B.1	LCH	Liver	V600E	0.76			43
75C.1	LCH	BM	V600E	0.07			116
75D.1	LCH	Liver	V600E	0.04			193

**Table S2.** LCH lesions: cell-specific *BRAF-V600E* status (Continued)

Lesion ID	Diagnosis	Location	BRAF genotype	qPCR	Sanger lesion CD207	Sanger lesion CD3	Days from diagnosis
75E.1	LCH	Liver (no residual LCH by histology)	WT	0			253
76A.1	LCH	Skull (frontal)	WT	0			0
77A.1	LCH	Skin	V600E	2.2			0
78A.1	LCH	Skull (temporal)	V600E	20			0
79A.1	LCH	Femur	WT	0			489
80A.1	LCH	LN	V600E	8.7			195
81A.1	LCH	Femur	WT	0			0
82A.1	LCH	Skull (parietal)	V600E	2.6			0
83A.1	LCH	Skull (parietal)	WT	0			0
84A.1	LCH	Lung	WT	0			0
84A.2	LCH	Lung	WT	0			0
85A.1	LCH	Skull (parietal)	V600E	0.2			0
86A.1	LCH	Skull (parietal)	WT	0			0
87A.1	LCH	Skull (frontal)	V600E	6.3			0
88A.1	LCH	Skull (parietal)	V600E	30.8			0
89A.1	LCH	Orbit	V600E	16.2			0
90A.1	LCH	Femur	WT	0			0
91A.1	LCH	Skull (frontal)	V600E	32.4			0
92A.1	LCH	Scapula	V600E	26.7			0
93A.1	LCH	Mastoid	V600E	24.8			0
94A.1	LCH	Scapula	V600E	21.7			0
95A.1	LCH	Skull (parietal)	V600E	4.7			0
96A.1	LCH	Ischium	WT	0			0
97A.1	LCH	Orbit	WT	0			0
98A.1	JXG/LCH (mixed)	Skull (parietal)	WT	0			1,291
99A.1	JXG/LCH (mixed)	Skin	V600E	0.4			0
99A.2	JXG/LCH (mixed)	LN	V600E	6.7			0
99A.3	JXG	BM	V600E	0.4			7
99A.4	JXG	BM	V600E	0.03			53
100A.1	ECD/LCH (serial)	Skull (LCH)	V600E	15.8			2932

\*, gDNA isolated from FFPE biopsy. Sample nomenclature: numbers 1–100 refer to patient ID, letters A–E refer to samples taken at a single time point, and numbers 0.1–0.3 refer to serial samples from different time points.

**Table S3.** Non-LCH lesions: *BRAF*-V600E status

Lesion ID	Diagnosis	Location	BRAF	qPCR
				% V600E
101A.1	ECD	BM	WT	0
102A.1	ECD	Pituitary	WT	0
103A.1	JXG (multisystem)	Skin	WT	0
103B.1	JXG (multisystem)	Skin	WT	0
103C.1	JXG (multisystem)	Skin	WT	0
104A.1	JXG (skin limited)	Skin	WT	0
105A.1	JXG (multisystem)	Skin	WT	0
105B.1	JXG (multisystem)	LN	WT	0
106A.1	JXG (multisystem)	Skin	WT	0
107A.1	RDD	LN	WT	0
108A.1	RDD	LN	WT	0
109A.1	RDD	LN	WT	0
110A.1	RDD	LN	WT	0
111A.1	RDD	LN	WT	0
112A.1	Nasal polyp	Sinus	WT	0
113A.1	Lymphoma/HLH	Liver	WT	0
114A.1	Granuloma	Ear	WT	0
115A.1	Lymphadenopathy	LN	WT	0
116A.1	Lymphadenopathy	LN	WT	0
117A.1	Osteomyelitis ( <i>Bartonella</i> )	Vertebra	WT	0
117B.1	Lymphadenopathy ( <i>Bartonella</i> )	LN	WT	0
118A.1	Dermoid cyst	Skull	WT	0
119A.1	Chronic inflammation	Skull	WT	0
120A.1	Fibrous dysplasia	Skull	WT	0
121A.1	Chondrosarcoma	Rib	WT	0
122A.1	Vascular malformation	Skull	WT	0
123A.1	Vascular malformation	Skull	WT	0
124A.1	Vascular malformation	Skull	WT	0

**Table S4.** LCH peripheral blood analysis: detectable *BRAF-V600E* in circulating cells and disease activity

Sample ID	Days from diagnosis	Sample type	<i>BRAF</i> status	Extent	Risk category	Clinically detectable active disease	qPCR
							% <i>V600E</i>
LCH3.1	280	pWBC	V600E	Multifocal	High	Yes	0.27
LCH3.2	850	pWBC	V600E	Multifocal	High	No	0.00
LCH3.3	1,113	pWBC	V600E	Multifocal	High	No	0.00
LCH8.1	16	pWBC	V600E	Multifocal	Low	Yes	0.09
LCH8.2	560	pWBC	V600E	Multifocal	Low	No	0.00
LCH8.3	914	pWBC	V600E	Multifocal	Low	No	0.00
LCH9.1	16	pWBC	V600E	Multifocal	High	Yes	0.23
LCH9.2	97	pWBC	V600E	Multifocal	High	Yes	0.23
LCH9.3	607	pWBC	V600E	Multifocal	High	No	0.00
LCH14.1	612	pWBC	V600E	Multifocal	High	Yes	0.75
LCH18.1	686	pWBC	V600E	Multifocal	High	Yes	2.17
LCH20.1	1	pWBC	V600E	Multifocal	High	Yes	0.88
LCH21.1	2	pWBC	V600E	Multifocal	Low	Yes	0.11
LCH23.1	0	pWBC	V600E	Multifocal	Low	Yes	0.07
LCH30.1	30	pWBC	V600E	Multifocal	High	Yes	0.02
LCH30.2	114	pWBC	V600E	Multifocal	High	Yes	0.07
LCH30.3	903	pWBC	V600E	Multifocal	High	Yes	0.00
LCH30.4	966	pWBC	V600E	Multifocal	High	No	0.00
LCH30.5	1,638	pWBC	V600E	Multifocal	High	No	0.00
LCH40.1	261	pWBC	V600E	Multifocal	High	Yes	0.10
LCH40.2	678	pWBC	V600E	Multifocal	High	Yes	0.30
LCH67.1	25	pWBC	V600E	Multifocal	High	Yes	1.11
LCH67.2	65	pWBC	V600E	Multifocal	High	Yes	0.15
LCH67.3	128	pWBC	V600E	Multifocal	High	Yes	0.18
LCH67.4	352	pWBC	V600E	Multifocal	High	Yes	0.06
LCH67.5	716	pWBC	V600E	Multifocal	High	No	0.00
LCH68.1	14	pWBC	V600E	Multifocal	Low	Yes	1.15
LCH68.2	208	pWBC	V600E	Multifocal	Low	Yes	0.71
LCH68.3	401	pWBC	V600E	Multifocal	Low	Yes	0.10
LCH68.4	687	pWBC	V600E	Multifocal	Low	No	0.00
LCH70.1	27	pWBC	V600E	Multifocal	High	Yes	0.04
LCH70.2	216	pWBC	V600E	Multifocal	High	No	0.00
LCH70.3	300	pWBC	V600E	Multifocal	High	No	0.00
LCH70.4	566	pWBC	V600E	Multifocal	High	No	0.00
LCH75.1	4	pWBC	V600E	Multifocal	High	Yes	0.16
LCH75.2	116	pWBC	V600E	Multifocal	High	Yes	0.13
LCH75.3	500	pWBC	V600E	Multifocal	High	No	0.00
LCH77.1	– 18	pWBC	V600E	Multifocal	High	Yes	0.09
LCH77.2	38	pWBC	V600E	Multifocal	High	Yes	0.08
LCH77.3	349	pWBC	V600E	Multifocal	High	No	0.00
LCH80.1	127	pWBC	V600E	Multifocal	High	Yes	0.02
LCH80.2	354	pWBC	V600E	Multifocal	High	Yes	0.03
LCH99.1	9	pWBC	V600E	Multifocal	High	Yes	0.02
LCH99.2	179	pWBC	V600E	Multifocal	High	Yes	0.11



**Table S5.** LCH BM aspirate analysis: detectable *BRAF-V600E* and disease activity

Sample ID	Days from diagnosis	Sample type	BRAF	Disease status	BRAFV600E	Pathology report
					%	
LCH009	170	BM	V600E	Refractory	1.0	No LCH
LCH040	959	BM	V600E	Refractory	0.10	LCH
LCH067	0	BM	V600E	Diagnosis	2.12	LCH
LCH067	96	BM	V600E	Mixed response	0.15	LCH
LCH067	127	BM	V600E	Mixed response	0.02	LCH
LCH068	14	BM	V600E	Diagnosis	2.17	No LCH
LCH068	61	BM	V600E	Mixed response	1.08	No LCH
LCH070	31	BM	V600E	Diagnosis	0.11	No LCH
LCH075	-275	Cord blood	V600E	Cord blood – no known LCH at birth	0.00	N/A
LCH075	8	BM	V600E	Diagnosis	0.15	No LCH
LCH075	116	BM	V600E	Refractory	0.08	No LCH
LCH-JXG-099	7	BM	V600E	Diagnosis	0.40	JXG
LCH-JXG-099	53	BM	V600E	Mixed response	0.03	JXG
LCH-JXG-099	87	BM	V600E	No evidence of disease	0.00	No LCH or JXG