

Supplementary Table S1. Clinical characteristics of patients and their responses to BRAF inhibitors.

Patient ID	Study site	Biopsy timing	Sex	Age	Stage	Dose of BRAF inhibitor (mg)	Best overall response	Progression free survival (days)	Biopsy sites
1	VICC	B	M	62	M1a	Vemu160 escalated to 720 bid	-57%	466	SC, thigh
		DP							Large bowel (cecum)
2	UCLA	B	M	52	M1c	Vemu 720 bid	-83%	161	Pelvic bone
		DP							Bowel
3	UCLA	B	M	30	M1b	Vemu 240 bid x 4 mo, 760 bid	-14%	113	SC, shoulder
		DP							Heart
4	UCLA	B	F	65	M1c	Vemu 1100 bid	-37%	270	Lymph node, femoral
		DP1							Lymph node, inguinal
		DP2							Small bowel
		DP3							Lymph node
5	VICC	B	F	45	M1c	Vemu 720 bid	-53%	106	Inguinal node
		DP							Soft tissue, pelvis
6	PM	B	M	44	M1a	Vemu 960 bid	-73%	141	SC
		DP							Small bowel
7	PM	B	M	60	M1c	Vemu 960 bid	-84%	113	Cutaneous
		DP							Cutaneous
8	UCLA	B	M	46	M1c	Vemu 960 bid	-32%	149	Axillary node
		DP							Abdominal
9	UCLA	B	F	66	M1c	Vemu 960 bid	-53%	137	Cutaneous, clavicular
		DP1							Cutaneous, lateral neck
		DP2							Cutaneous, clavicular
		DP3							Cutaneous, shoulder
10	UCLA	DP	M	72	M1c	Vemu 960 bid	-42%	126	Adrenal gland
11	UCLA	B	M	48	M1c	Vemu 960	-24%	126	Lymph node

		DP1				bid			Cutaneous , thigh, superior
		DP2							Cutaneous , thigh, inferior
12	UCLA	DP	M	54	M1c	Vemu 960 bid	-75%	84	Pelvic mass
13	UCLA	DP	M	62	M1c	Vemu 960 bid	-55%	325	Lung mass
14	UCLA	B	F	65	M1c	Vemu 960 bid	-72%	373	SC
		DP1							SC, flank
		DP2							SC, breast
15	UCLA	B	M	51	M1c	Vemu 960 bid	-60%	212	SC
		DP1							SC, flank
		DP2							SC, breast
16	MIA	B	M	59	M1c	Dabra 100 bid to 100 tid	-14%	224	SC, chest
		DP							SC, abdomen
17	MIA	B	M	71	M1c	Vemu 960 bid	-53%	239	SC, chest
		DP							SC, abdomen
18	MIA	B	F	38	M1a	Dabra 35 bid, to 100 tid	-100%	119	Lymph node, inguinal
		DP1							SC, thigh
		DP2							Brain
19	MIA	B	M	39	M1c	Dabra 150 bid	-56%	118	Lymph node, neck
		DP							SC, neck
20	MIA	B	F	58	M1c	Dabra 70 bid, to 100 tid	-63%	209	SC, groin
		DP							SC, flank
21	UCLA	DP	M	29	M1c	Dabra 150 bid	-100%	86	SC
22	UCLA	B	M	74	IIIc	Vemu 960 bid	-32%	258	Cutaneous , thigh
		DP1							Cutaneous , thigh
		DP2							Cutaneous , thigh
		DP3							Cutaneous , thigh
23	UCLA	B	F	47	M1b	Vemu 960 bid	-72%	97	SC, abdomen
		DP1							SC, chest

		DP2							Cutaneous, shoulder
24	UCLA	B	F	47	IIIc	Vemu 960 bid	-31%	238	Cutaneous, leg
		DP1							Cutaneous, foot
		DP2							Cutaneous, leg
		DP3							Cutaneous, leg
25	UCLA	B	M	52	M1c	Vemu 960 bid	-70%	104	SC, axillary
		DP1							SC, back
		DP2							SC, flank
26	UCLA	B	M	65	M1c	Vemu 960 bid	-22%	161	SC, abdomen
		DP1							SC, flank
		DP2							SC
27	UCLA	B	F	60	M1a	Vemu 960 bid	-42%	133	Soft tissue, pelvis
		DP							Soft tissue, pelvis
28	VICC	B	F	70	M1a	Vemu 960 bid	-70%	183	SC, neck
		DP							SC, leg
29	VICC	DP	M	64	M1c	Vemu 960 bid	-24%	291	Lymph node, axillary
30	VICC	DP	M	45	M1c	Vemu 960 bid	-100%	489	Mediastinum
31	VICC	DP	M	78	M1c	Vemu 960 bid	-18%	100	SC, back
32	VICC	DP	M	63	M1c	Vemu 720 bid, to 960 bid	-47%	144	Lung
33	VICC	DP	M	68	M1a	Vemu 906 bid to 720 bid	-43%	346	Lymph node, inguinal
34	UCLA	DP	F	46	M1b	Vemu 960 bid	-31%	159	SC, breast
35	UCLA	B	M	61	M1c	Vemu 960 bid	-57%	196	SC, scalp
		DP							SC
36	UCLA	B	F	53	M1a	Vemu 960 bid	-100%	342	SC, leg
		DP							SC, leg
37	UCLA	B1	M	65	M1a	Dabra 150	-8% by	383	Cutaneous

		B2				bid	RECIST and > - 80% by histology		Cutaneous
		DP1							Cutaneous
		DP2							Cutaneous
		DP3							Cutaneous
		DP4							Cutaneous
		DP5							Cutaneous
		DP6							Cutaneous
		DP7							Cutaneous
		DP8							SC, chest
		DP9							SC, chest
38	UCLA	B	M	51	M1c	Vemu 960 bid	-21%	108	SC, scalp
		DP							SC, scalp
39	UCLA	B	M	59	M1a	Vemu 960 bid	-64%	153	SC, abdomen
		DP							SC, abdomen
40	UCLA	B	M	47	M1c	Vemu 960 bid	-50%	90	Cutaneous
		DP1							Cutaneous
		DP2							Cutaneous
41		B	M	39	M1a	Vemu 960 bid	-35%	120	SC
		DP							SC
42	UCLA	DP1a	M	84	M1c	Dabra 150 bid	-42%	240	SC, shoulder
		DP1b							SC, shoulder
43	LICR	B	F	41	M1c	Vemu 960 bid	-91%	327	Breast
		DP1							Lymph node, axillary
		DP2							Intramuscular, shoulder
44	UCLA	B	M	83	M1c	Vemu 960 bid	5%	132	Cutaneous, leg
		DP1							Cutaneous, leg
		DP2							Cutaneous, flank