

# Selection of dormant cells during treatment of T-lineage lymphoblastic leukemia and CREB as a therapeutic target

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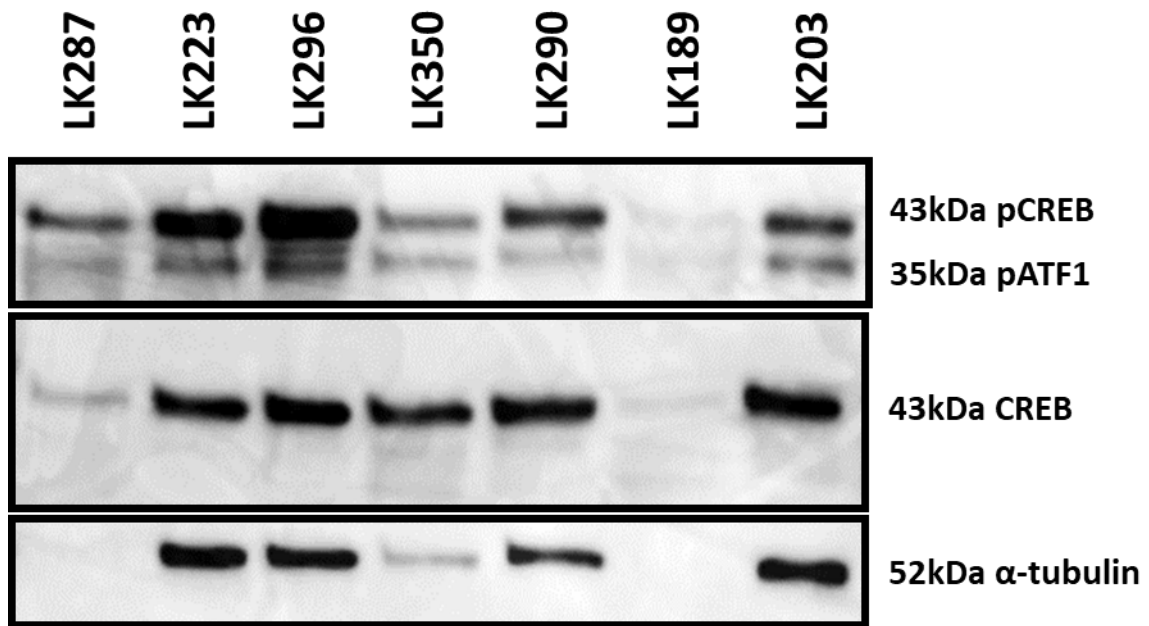
## **Supplementary Material**

### **Selection of dormant cells during treatment of T-lineage lymphoblastic leukemia and CREB as a therapeutic target.**

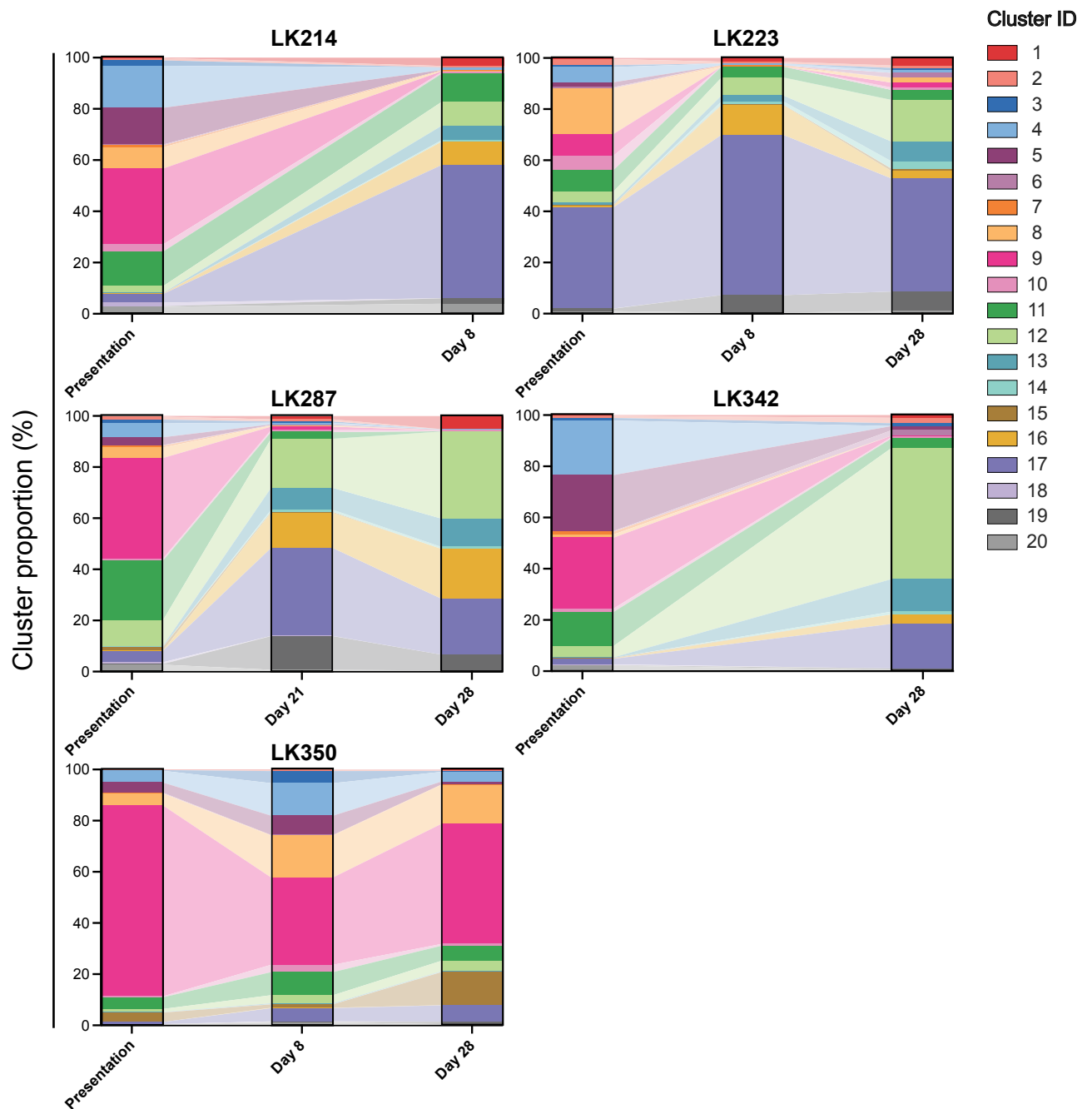
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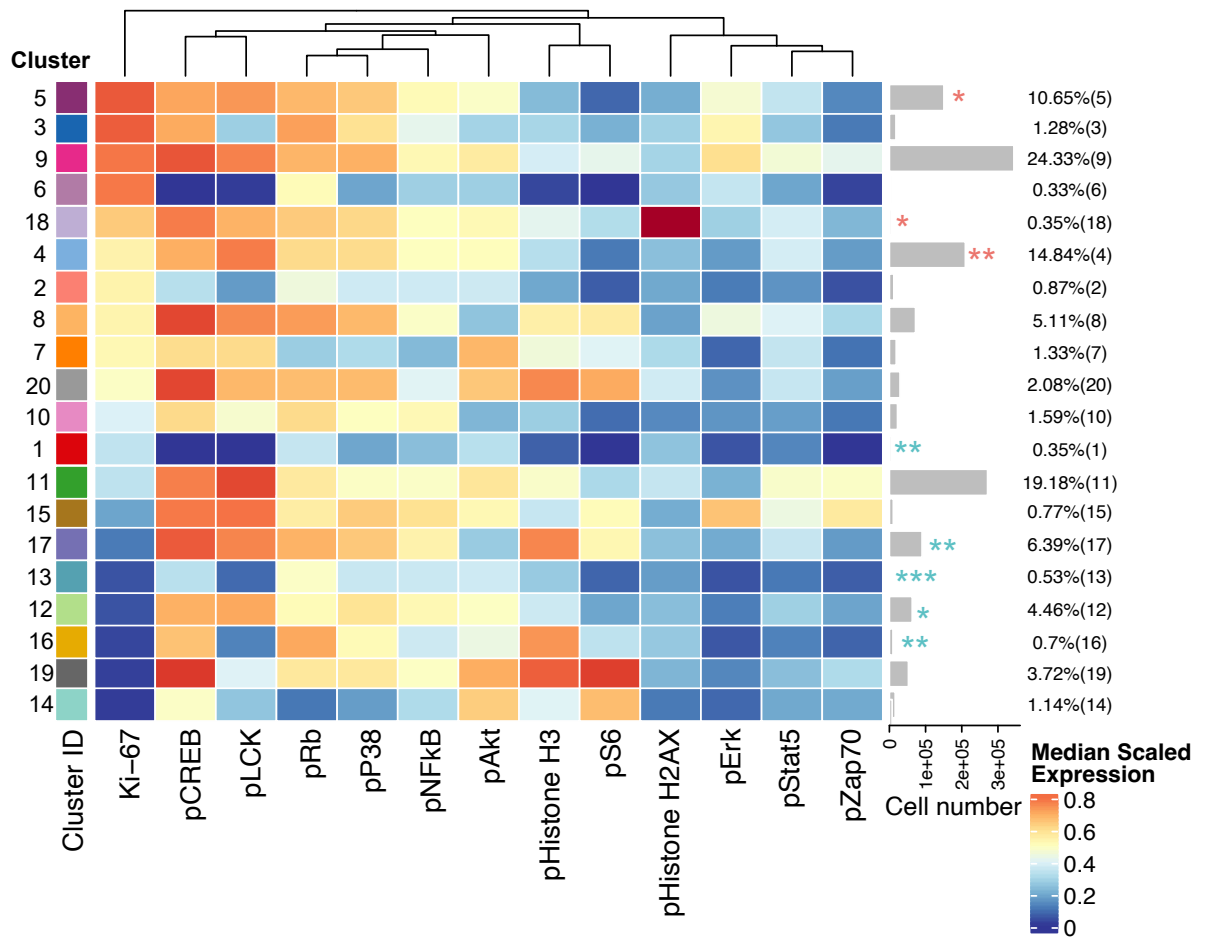
Supplementary Figures



**Figure S1.** Western immunoblot of pCREB/ATF1 S[133] in T ALL cells at presentation showing pCREB protein expression at 43kDa and pATF1 expression at 35kDa with comparisons to CREB (43kDa) and loading control alpha-tubulin (52kDa).



**Figure S2.** Cluster proportions in individual patient ALL cells at presentation and in follow up MRD samples.



**Figure S3.** Clusters arranged in descending order of Ki-67 expression.

## Supplementary Tables

<b>Metal</b>	<b>Target</b>	<b>Ab Clone</b>	<b>Source</b>
89Y	CD45	HI30	Standard BioTools
141Pr	CD3	UCHT1	Standard BioTools
142Nd	Caspase 3 (Cleaved)	D3E9	Standard BioTools
143Nd	PARP (Cleaved)	F21-852	Standard BioTools
144Nd	CD38	HIT2	Standard BioTools
145Nd	CD4	RPA-T4	Standard BioTools
146Nd	CD8a	RPA-T8	Standard BioTools
147Sm	pHistone H2AX [S139]	JBW301	Standard BioTools
150Nd	pSTAT5 [Y694]	47	Standard BioTools
152Sm	pAKT [S473]	D9E	Standard BioTools
153Eu	CD7	CD7-6B7	Standard BioTools
154Sm	CD3	UCHT1	Standard BioTools
155Gd	pNF-kB p65 [S529]	K10-895.12.50	Standard BioTools
156Gd	pP38 [T180/Y182]	D3F9	Standard BioTools
159Tb	CD5	UCHT2	Biolegend - Conjugated
161Dy	pRb [S807/811]	J112-906	Standard BioTools
162Dy	pSrc Family [T416]	NA	Cell Signalling - Conjugated
163Dy	CD34	581	Standard BioTools
165Ho	pCREB/pATF1 [S133]	87G3	Standard BioTools
167Er	pERK 1/2 [T202/Y204]	D13.14.4E	Standard BioTools
168Er	Ki-67	B56	Standard BioTools
169Tm	CD48	BJ40	Biolegend - Conjugated
170Er	CD56 (NCAM)	B159	Biolegend - Conjugated
171Yb	pZAP70 [Y319]/Syk [Y352]	17a	Standard BioTools
172Yb	pS6 [S235/S236]	N7-548	Standard BioTools
175Lu	pHistone H3 [S28]	HTA28	Standard BioTools
191Ir	Iridium	NA	Standard BioTools
195Pt	Cisplatin	NA	Standard BioTools

**Table S1.** Antibody panel used to analyse T-ALL clinical samples. Table shows target antigens, antibody clones and their specific conjugated metal. Three antibodies were conjugated in house (Biolegend/Cell Signalling—conjugated) with the remaining antibodies purchased ready for use from Standard BioTools.

Antigen	Presentation Blasts					MRD Blasts				
	Max	Min	Range	Median	Mean	Max	Min	Range	Median	Mean
Ki-67	582.60	0.67	581.93	138.45	158.97	200.91	0.00	200.91	0.63	34.62
pAKT [S473]	21.50	-10.61	32.11	4.85	5.24	7.59	0.20	7.39	2.12	2.84
pCREB/pATF1 [S133]	466.60	-50.82	517.42	224.73	214.55	672.33	-41.62	713.95	174.24	236.87
pERK 1/2 [T202/Y204]	25.76	-0.05	25.80	2.05	4.04	16.68	-0.08	16.76	0.31	3.98
pHistone H2AX [S139]	4.14	-0.73	4.86	1.19	1.22	3.41	-0.09	3.50	0.73	1.02
pHistone H3 [S28]	114.85	-8.93	123.78	6.92	21.20	6.81	277.01	-270.20	68.01	87.91
pNF-kB p65 [S529]	3.71	-5.14	8.85	-0.39	-0.30	5.97	0.40	5.57	1.40	2.06
pP38 [T180/Y182]	46.92	-8.68	55.60	10.83	12.21	47.26	-9.51	56.77	16.60	15.42
pRb [S807/811]	38.89	1.75	37.14	17.67	17.42	41.15	-12.13	53.28	27.08	24.11
pS6 [S235/S236]	100.09	-2.16	102.25	4.42	13.05	32.82	3.13	29.69	11.31	12.96
pSrc Family [T416]	344.16	-43.90	388.06	70.43	80.44	170.06	-73.98	244.04	-25.82	-6.03
pSTAT5 [Y694]	7.34	0.23	7.11	2.37	2.96	2.73	-0.04	2.77	1.01	1.26
pZAP70 [Y319]/Syk [Y352]	10.12	-2.73	12.85	-0.70	0.56	7.12	0.23	6.89	0.52	1.66
CD16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CD3 Cytoplasmic	1,041.72	-757.87	1,799.59	388.89	340.25	578.19	-159.03	737.21	148.77	148.09
CD3 Surface	-77.31	-404.22	326.92	-201.47	-213.52	-38.06	-240.87	202.81	-111.94	-118.52
CD34	616.63	-0.79	617.42	6.05	70.92	7.34	-1.49	8.82	1.50	2.05
CD38	528.15	37.95	490.20	93.86	159.61	284.55	-7.47	292.02	112.73	106.45
CD4	-70.18	-240.88	170.70	-141.07	-149.30	-68.88	-141.95	73.07	-130.82	-116.34
CD45	-127.56	-679.52	551.96	-181.70	-242.26	15.44	-177.34	192.78	-155.68	-107.77
CD48	38.37	-22.53	60.90	-9.01	-6.89	1.64	-27.57	29.22	-8.67	-11.40
CD5	-96.01	-245.76	149.75	-158.46	-164.11	-101.69	-196.70	95.01	-129.57	-138.71
CD56	1.82	-0.72	2.54	0.87	0.89	1.01	-0.78	1.79	0.52	0.41
CD7	212.14	-79.48	291.62	35.52	59.64	56.97	-47.64	104.61	14.78	13.78
CD8a	232.21	-6.48	238.70	8.58	44.40	16.85	-4.73	21.58	0.94	3.51

**Table S2.** Mass intensity CyTOF signals in ALL samples at presentation (n=14) and MRD (n=8), normalised to internal CD4+ cells. Table shows maximum and minimum signals, range, median and mean.