

**Supplemental Tables/Figures (for publication)**

**Supplemental Table S1: Demographics for the AAML1031 clinical trial (n-501)**

<b>Variable</b>	<b>Number (%)</b>
Male	252 (50%)
Female	249 (50%)
Median Age (y)	11
Race	
Caucasian	396 (79%)
African American	61 (12%)
Asian	23 (5%)
Native American	5 (1%)
Mixed	4 (1%)
Unknown	12 (2%)
Ethnicity	
Hispanic	100 (20%)
Non-Hispanic	401 (80%)

**\*Percentages may not add to 100% due to rounding.**

**Supplemental Table S2: Sample treatment conditions for each RPPA array**

**A. RPPA1**

<b>Condition</b>	<b>Immediate/ held/shipped</b>	<b>Collection tube</b>	<b>Transit temp</b>	<b>Pre/post chemotherapy</b>
1*	immediate	heparin	N/A	pre
2	HELD	heparin	4°C	pre
3	HELD	heparin	ambient	pre
4	shipped	heparin	4°C	pre
5	shipped	heparin	ambient	pre
6	immediate	Cell Save	N/A	pre
7	HELD	Cell Save	ambient	pre
8	immediate	heparin	N/A	Post
9	immediate	Cell Save	N/A	Post
10	HELD	heparin	ambient	Post

\*Conditions 1-5 were run in RPPA1. Conditions 6-10 were run in RPPA2.

**B. RPPA2**

<b>Condition</b>	<b>Immediate/ held/shipped</b>	<b>Collection tube</b>	<b>Transit temp</b>	<b>Pre/post chemotherapy</b>
1	immediate	Cell Save	N/A	pre
2	HELD	Cell Save	4 <sup>0</sup> C	pre
3	shipped	Cell Save	4 <sup>0</sup> C	pre
4	immediate	heparin	N/A	pre
5	immediate	Cell Save	N/A	6h post
6	HELD	Cell Save	4 <sup>0</sup> C	6h post
7	shipped	Cell Save	4 <sup>0</sup> C	6h post
8	immediate	heparin	N/A	6h post
9	immediate	Cell Save	N/A	24h post
10	HELD	Cell Save	4 <sup>0</sup> C	24h post
11	Shipped	Cell Save	4 <sup>0</sup> C	24h post
12	Immediate	Heparin	N/A	24h post

**B. RPPA3-AAML1031 clinical trial feasibility set**

	<b>Condition</b>	<b>Tube type</b>	<b>Pre/post chemotherapy</b>
1	Shipped	Cell Save	pre
2	Shipped	Cell Save	10h post
3	shipped	Cell Save	24h post

**Supplemental Table S3: Transit times and shipping conditions for samples in experiment 1**

<b>Condition</b> <b>Sample</b>	<u>Cond 1:</u> immediate	<u>Cond 2:</u> Held 4°C	<u>Cond 3:</u> Held RT	<u>Cond 4:</u> Shipped 4°C	<u>Cond 5:</u> Shipped RT
Patient 1-PB <sup>1</sup>	<6h	ND	24h	ND	24h
Patient 2-PB	<6h	24h	24h	24h	24h
Patient 3-BM <sup>2</sup>	30h	72h	72h	72h	72h
Patient 4-PB	16h	72h	72h	72h	72h
Patient 5a-BM	<6h	24h	24h	24h	24h
Patient 5b-PB	36h	48h	48h	48h	48h
Patient 6-BM	<6h	24h	24h	24h	24h
Patient 7-PB	<6h	24h	24h	24h	24h

<sup>1</sup>PB = peripheral blood, BM = bone marrow aspirate

**Table S4: Diagnosis, transit times and shipping conditions for samples in experiment 2:**

sample name	Dg.	Pre-treatment			Post-treatment 6h			Post-treatment 24h		
		immediate	hold	ship	immediate	hold	ship	immediate	hold	ship
RPA33	B-ALL	1	25	25	14	38	38	5	29	29
RPA29	B-ALL	1	73	73	1	25	25	17	41	41
RPA34	B-ALL	1	73	73	3	27	27	14	38	38
RPA22	AML	2	18	18	2	26	26	11	35	35
RPA30	CML	2	26	26	1	25	25	6	30	30
RPA11	B-ALL	2	26	26	2	26	26	6	30	30
RPA16	AML	2	26	26	2	32	32	12	36	36
RPA17	B-ALL	2	26	26	2	16	--	--	--	--
RPA18	B-ALL	2	26	26	3	32	32	4	28	28
RPA23	B-ALL	2	26	26	6	30	30	6	30	30
RPA35	T-ALL	2	26	--	2	24	--	2	26	--
RPA20	T-ALL	2	27	27	9	71	71	1	49	49
RPA31	T-ALL	2	74	74	12	60	60	16	40	40
RPA12	AML	3	27	27	10	34	32	10	34	34
RPA27	T-ALL	4	28	--	2	26	--	6	30	--
RPA13	B-ALL	6	30	30	6	27	27	6	30	30
RPA24	B-ALL	6	30	--	6	30	--	2	25	--
RPA14	B-ALL	9	33	33	--	9	57	3	27	51
RPA28	AML	11	35	35	2	26	26	12	36	36
RPA32	B-ALL	16	64	66	6	36	36	3	24	24
RPA25	AML	30	54	54	2	26	50	12	84	84
RPA15	B-ALL	2	21	21	6	36	36	2	23	23

- sample not collected

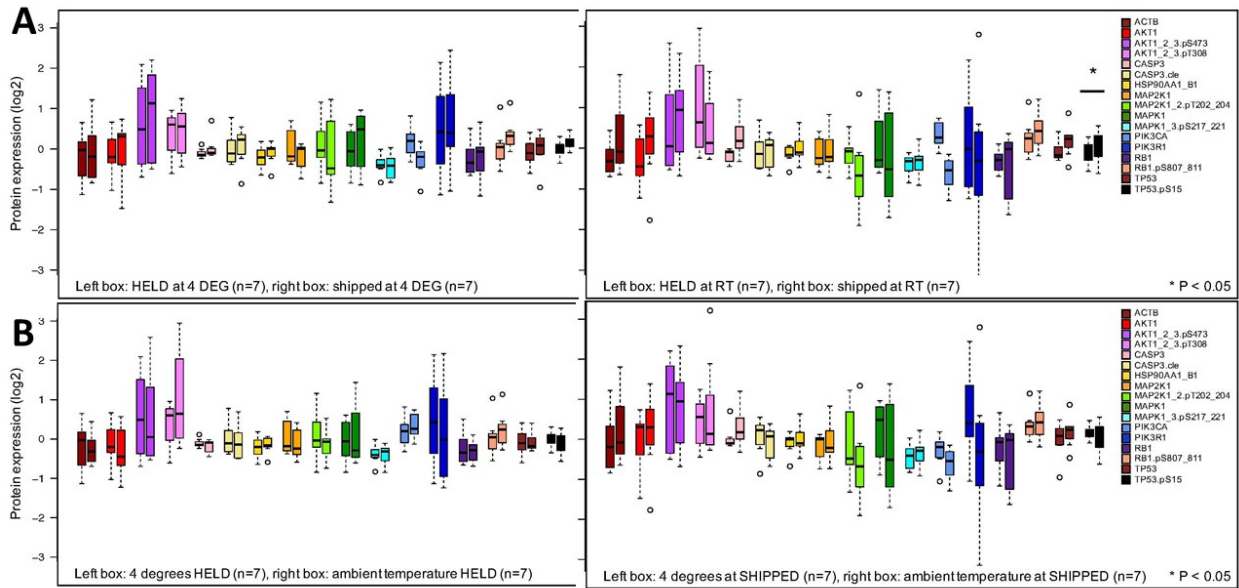
**Table S5: Transit times for the feasibility set (clinical trial samples) in experiment group 3**

<b>Table S5: Transit times for test set of clinical trial samples (RPPA3)</b>			
<b>Sample</b>	<b>0h</b>	<b>10h</b>	<b>24h</b>
1	24	36	24
2	42	32	18
3	32	22	32
4	24	104	90
5	86	76	62
6	40	30	20
7	96	86	72
8	24	84	60
9	48	38	24
10	36	27	96
11	48	38	36
12	24	96	72
13	28	40	20
14	24	24	18
15	24	38	48
16	48	38	24
17	1	1	10

**Supplemental Table S6: Antibodies used for each array:**

<b>RPPA1</b>	<b>RPPA2</b>	<b>RPPA3-feasibility set</b>	<b>RPPA3-full set</b>
Actin	Actin	Actin	Cyclin D1
AKT	AKT	AKT	eIF2S1
AKT-p308	AKT-p308	AKT-p308	eIF2S1-p51
AKT-p473	AKT-p473	AKT-p473	FOXO3
Caspase 3	Caspase 3	Caspase 3	FOXO3-p318
Cleaved caspase3	Caspase 3-Cleaved	Cleaved caspase 3	MAP2K1
ERK2	ERK2	CDK4	MAP2K1-p217
Erk2-p	ERK2-p	Grp78	MAPK1
HSP90	HSP90		MAPK1-p202
MEK	MEK		Mcl1
MEK-p	MEK-p		MTOR
	NF-κB		MTOR-p2448
P53	P53	P53	NR4A1
P53-p15	P53-p15	P53-p15	Parp1
PI3K-p85	PI3K-p85		Parp1-cleaved
PI3K-p110	PI3K-p110		PTEN
Rb	Rb	Rb	STAT3
Rb-p807	Rb-p807	Rb-p807	STAT3-p705
			STAT3-p727
			TCF4

**Figure S1:**

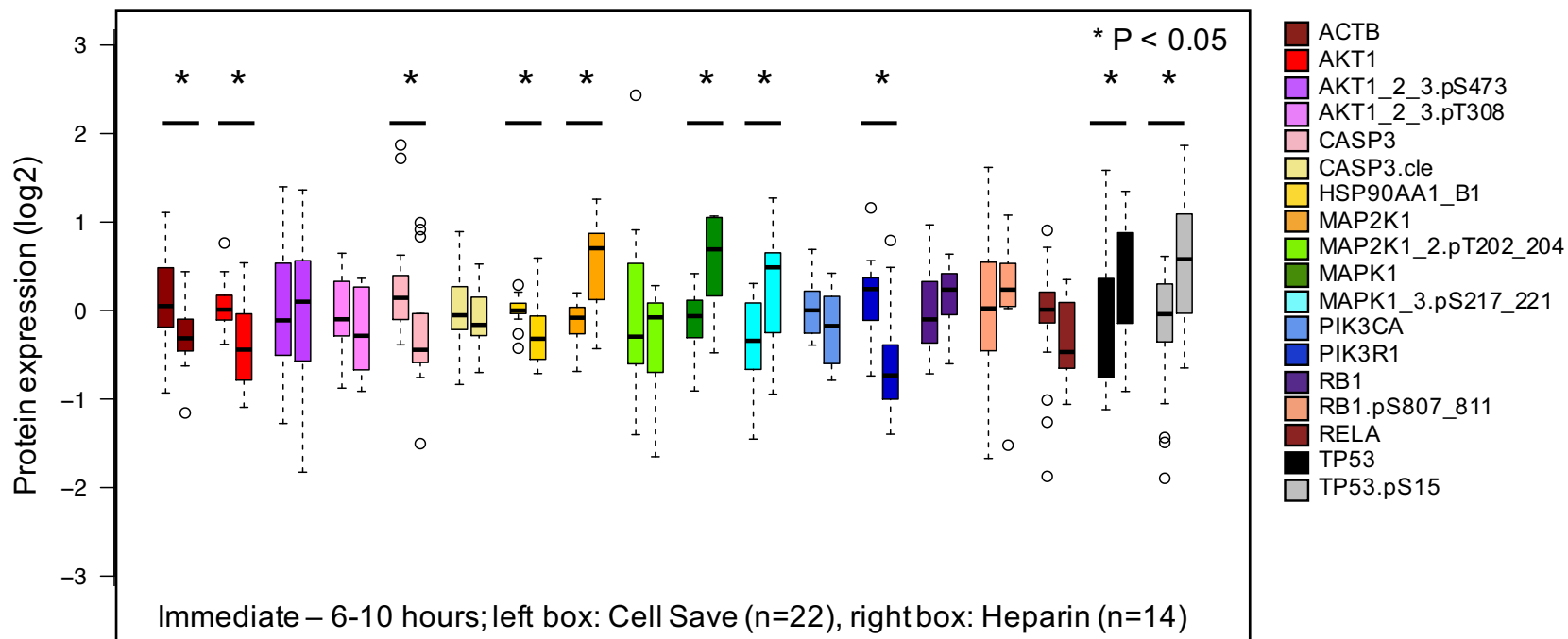


**Figure S1 legend:** Median protein concentrations with range (25-75%) and outliers (open circles) for 17 antibodies across 7 patients (RPPA1) **A.** Comparison of held samples (right box of each pair) to shipped samples (left box of each pair) at 4°C (left panel) or ambient temperature (RT) (right panel). **B.** Comparison of samples held at either 4°C or RT (left panel) and a comparison of shipped samples at either 4°C or RT



Figure S2

A



B

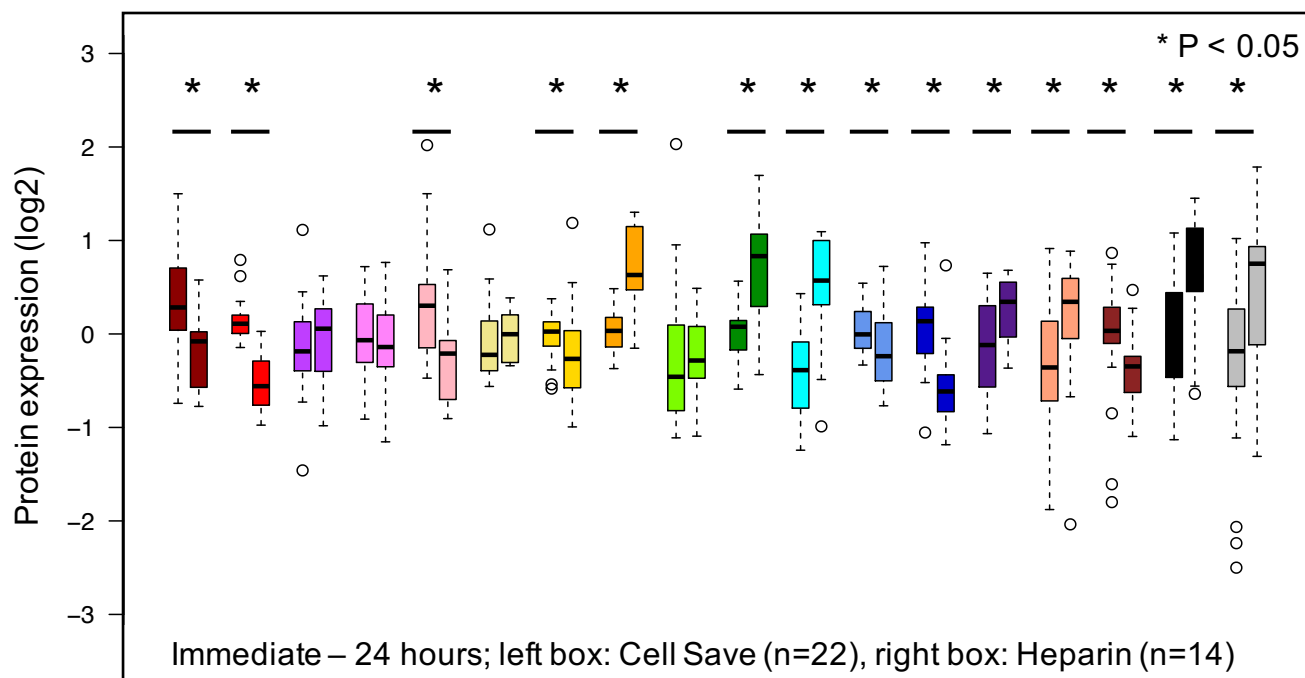
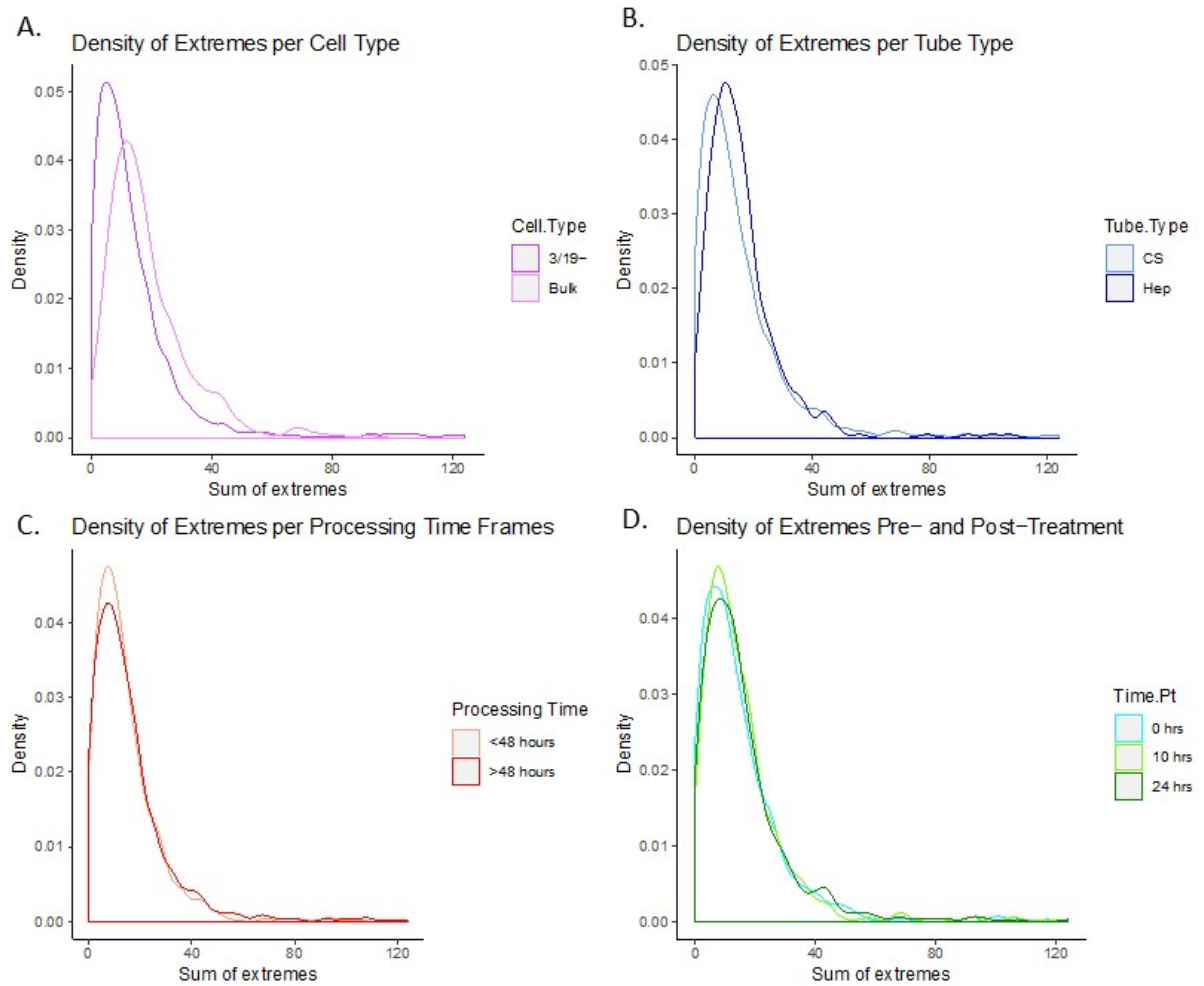


Figure S3



**Figure S3 legend:** Density plots showing the sum of extremes between (A) bulk AML cells after sucrose centrifugation vs. magnetic depletion with CD3/19, (B) Cell Save (CS) preservation tubes vs. heparin, (C) transit time between collection from patient and processing, (D) sample collection time: pre-chemotherapy (0h), 10h and 24h after the start of systemic chemotherapy. There were no significant differences between all comparisons.