Appendix

Selinexor in Advanced, Metastatic Dedifferentiated Liposarcoma: A Multinational, Randomized, Double-Blind, Placebo-Controlled Trial

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1. Supplemental Methods

Procedures

The study was designed to address the medical need for patients who have progressed through standard therapies including anthracyclines and the newer agents trabectedin and/or eribulin. Therefore, in order to avoid toxicities typically associated with cytotoxic agents with no known clinical benefit, placebo was chosen as the control. The randomization of 2:1 reduced the number of patients who received placebo, and those allocated to placebo were permitted to cross over to selinexor following confirmed objective progression. Of course, patients could receive additional agents when their disease progressed.

Outcomes

Although the primary endpoint was PFS, as the study permitted crossover, it was designed with sufficient power to detect a clinically meaningful decrement in OS for patients treated with selinexor, using a non-inferiority analysis. The number of OS events required was a maximum of 195 for the Phase 3 portion of the study to have 80% power with a log-rank test at a 1-sided significance level of 0.1 to rule out a non-inferiority HR of 1.15 (median OS 15 months for placebo and 13 months for selinexor), under the alternative HR of 0.83 (median OS 15 months for placebo and 18 months for selinexor). The OS for non-inferiority was a prespecified key secondary endpoint, defined as the time from randomization until death due to any cause, for all randomized patients.

Exploratory Molecular Correlative Studies

Pre-treatment biopsies from 86 patients were sequenced, including 55 treated with selinexor and 31 who received placebo. Differential expression analysis comparing selinexor-treated patients was performed in two sets: Set 1 (17 patients) compared biopsies of target lesions that clearly decreased (n=8) or increased (n=9) during treatment, and Set 2 (38 patients) compared the remaining samples stratified by short patient PFS (<3 months, n=22) vs. long PFS (>6 months) or PR (n=16), using any available biopsy from each patient (**Appendix Table A2-3**). Placebo treated patients were stratified by short patient PFS (<3 months, n=25) vs. long PFS (>5.5 months, n=6) (**Appendix Table A3**).

In a separate analysis, paired post-treatment selinexor-sensitive and resistant tumors were resected from the same patient, then RNA sequenced (see **Figure 3E**).

The object of the molecular correlative studies was to identify predictive biomarkers of response to selinexor through assessment of RNA-levels of all expressed genes in tumor biopsies from treated patients. Studies were exploratory with no prespecified hypothesis. RNA was extracted from formalin-fixed paraffin-embedded resected tumors or tumor biopsies of patients who were treated on study for at least one complete cycle. FFPE blocks and slides were stored at room temperature. Ribodepleted RNA sequencing was performed by HudsonAlpha Discovery Sequencing and Bioinformatics Division (Huntsville, AL) as follows: RNA was extracted using the HudsonAlpha Discovery proprietary dual DNA/RNA extraction protocol from FFPE. The concentration of extracted RNA was quantified using Ribogreen assays (Invitrogen). 20-500 ng RNA was used as input for library prep with the TruSeq™ Stranded Total RNA With Ribo-Zero™ Plus rRNA Depletion protocol (Illumina). Fragment size estimation was performed using the Caliper DNA-HS chip, and Kapa qPCR quantification was performed to estimate the nanomolar concentration of the final libraries. RNA libraries were pooled and sequenced at 100 base pair read length with a target depth of 100M paired-end reads on NovaSeq 6000 instruments (Illumina). Samples with fewer than 30M pass-filter reads were removed.

Reads were aligned with HiSAT2,[1] then gene-level expressions were determined with featurecounts.[2] Differential expression analysis was performed for 58,395 genes in the human GRCh38.92.gtf reference, using a negative binomial distribution with DeSeq2.[3] P-values were calculated with Wald's method[4] and adjusted with Benjamini and Hochberg method.[5] Visual examination of MA plots validated symmetry and examination of dispersion plots showed values generally scatter around the fitted curve, which decreases with increasing mean expression levels (**Appendix Figure A3**). Analysis of publicly available data from The Cancer Genome Atlas was performed by filtering TCGA-PanCancer study for patients with "Dedifferentiated Liposarcoma" as "Cancer Type Detail", downloading *CALB1* RNA expressions as batch normalized RSEM (RNA-Seq by Expectation Maximization), then comparing progression-free survival of patients with *CALB1*=0 vs. patients with *CALB* > 0 using log-rank tests.

2. Figure A1

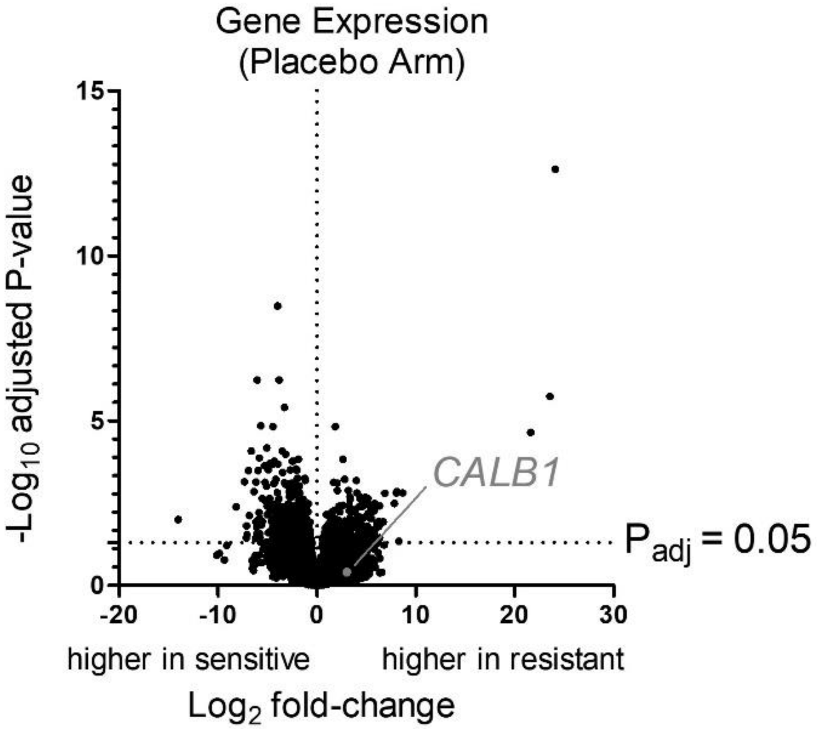
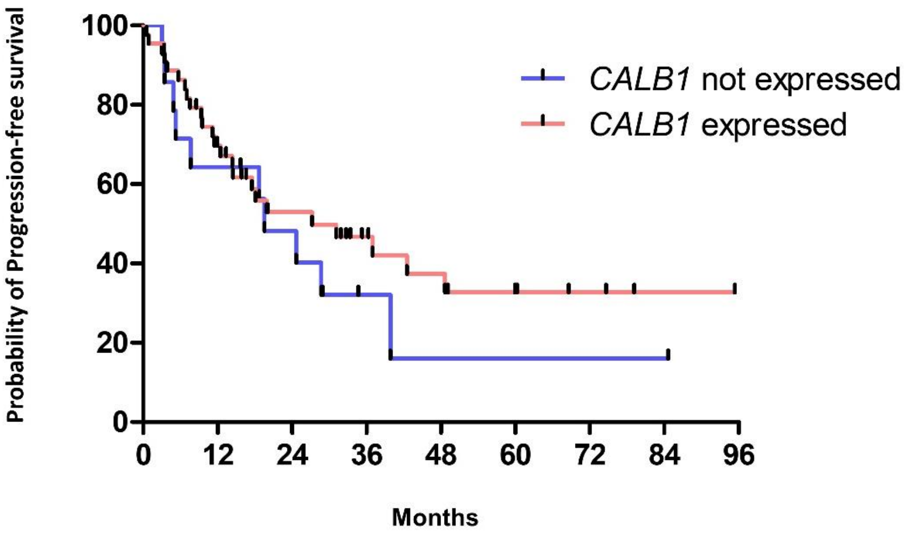
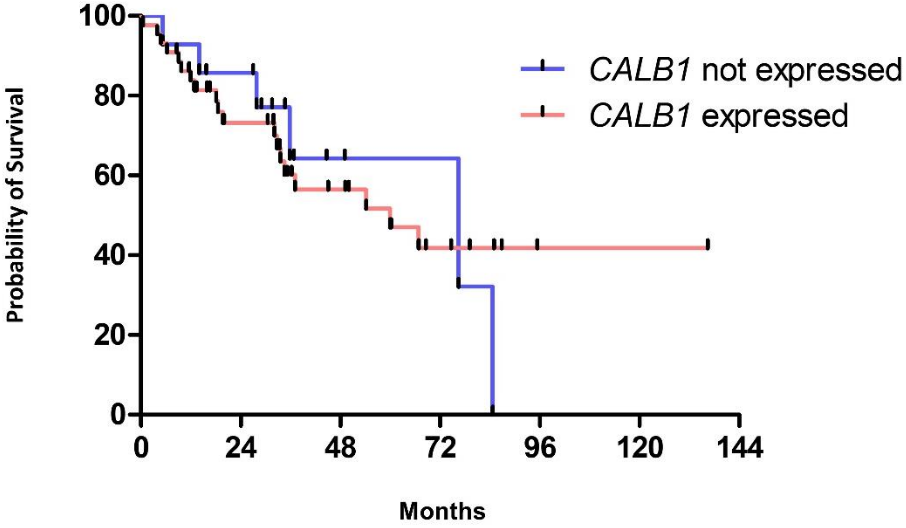


Figure A1. Differential Expression Analysis of Samples from Patients Treated with Placebo. Volcano plot showing the significance (y-axis) and fold-change (x-axis) of all genes compared between tumors in the Placebo Treated Set of patients, stratified by PFS short (< 3mo) and PFS long (> 5.5mo). *CALB1* was not significantly different between the two groups (Padj = 0.40).

3. **Figure A2**



Not expressed	14	9	6	2	1	1	1	1	0
expressed	44	28	17	11	8	5	3	1	0



Not expressed	14	11	3	2	0	0	0
expressed	44	26	14	6	2	1	0

Figure A2. CALB1 Is Not a General Marker of Good Prognosis in The Cancer Genome Atlas (TCGA) for DDLS. Kaplan-Meier curves for progression-free and overall survival of patients with DDLS from publicly available TCGA for sarcoma data, stratified by *CALB1* expression. P-values from log-rank tests are not significant (>0.05). Data accessed from cbioportal.org on 25 March 2021.

4. Figure A3

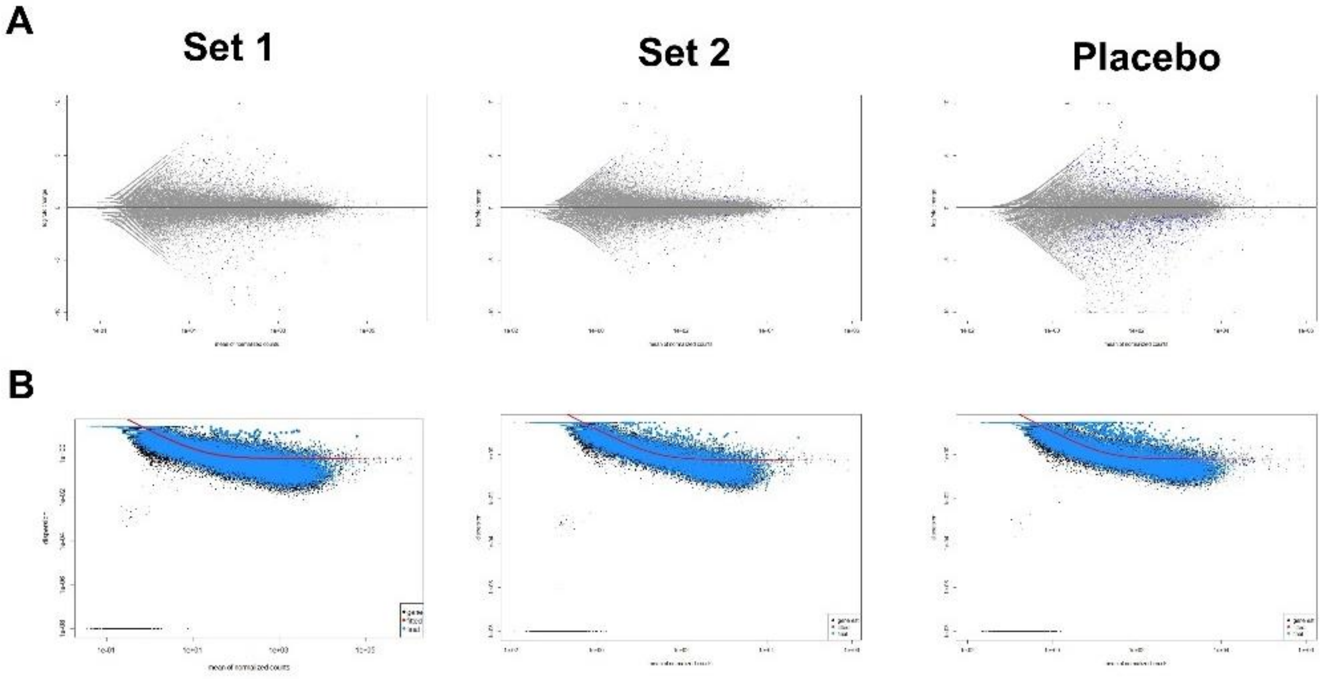


Figure A3. Quality Control Metric Plots for RNA Sequencing Differential Expression Analysis. A. MA plots show the $\log_{10}$ fold change (y-axis) and average normalized counts (x-axis) for all assessed genes from patients treated with selinexor in Set 1 and Set 2, and those treated with placebo. **B.** Dispersion plots show the dispersion estimates over the average normalized counts for all assessed genes from patients treated with selinexor in Set 1 and Set 2, and those treated with placebo. Black dots are the expression estimates, blue dots are the final model and the red dots are plots on the fitted estimate curve.

5. Table A1. Inclusion/Exclusion Criteria

Inclusion Criteria

1. Written informed consent in accordance with national, local, and institutional guidelines obtained prior to any screening procedures
2. Must be willing and able to comply with the protocol
3. Patients ≥ 12 years of age (patients <18 years of age are permitted only in countries in which adolescents have been approved by the national/local regulatory/ethical authority).
4. Patients with a body surface area (BSA) ≥ 1.2 m^2 as calculated per Dubois 1916[6] or Mosteller 1987[7]
5. Documented histologic evidence of DDLS at any time from initial diagnosis to randomization AND current evidence of DDLS requiring treatment (documented evidence of disease progression from the most recent treatment):
   - Documentation of histologic evidence of DDLS requires the following:
     - This information will be provided based on prior diagnostic testing and is required for randomization.
     - Tissue (fresh or archival) will be provided for confirmatory histology at a central laboratory but confirmatory results are not required prior to randomization.
     - If archival tissue > 12 months old, the quality of the sample for confirmatory histology must be confirmed by the site histopathologist prior to randomization.
6. Must have measurable disease according to:
   - The bidimensional WHO Response Criteria[8] (Phase 2 patients only)
   - RECIST v. 1.1[9] (Phase 3 patients only)
7. Radiologic evidence of progressive disease (PD) within 6 months prior to randomization. If the patient received other intervening therapy after PD is documented, further PD must be documented after the completion of the intervening therapy, with the exception of patients who discontinued most recent treatment after no more than 1 dose.
8. Must have received at least 2 but no more than 5 prior systemic therapies for the treatment of liposarcoma.
9. Patients should have recovered from all major surgery, radiation or other interventions ≥ 21 days prior to randomization. Patients must have recovered from any clinically significant therapy-related toxicity to ≤ Grade 1 per CTCAE v. 4.03. Minor procedures, such as biopsies, dental work, or placement of a port or intravenous line for infusion, are permitted.
10. If patients received any previous systemic therapy, the last dose must have been ≥21 days prior to randomization (or ≥5 half-lives of that drug [whichever is shorter]), with all clinically significant therapy-related toxicities having resolved to ≤ Grade 1 CTCAE v. 4.03.
11. ECOG performance status ≤1[10]
12. Adequate laboratory functional values:
    - Adequate hematopoietic function:
      - Absolute neutrophil count (ANC) ≥1500/mm^3
      - Platelets ≥100,000/mm^3
      - Hemoglobin (Hb) ≥9 g/dL
      - Transfusions, hematopoietic growth factors, and hematinics are NOT permitted during screening
    - Adequate hepatic function:
      - Bilirubin ≤1.5 x upper limit of normal (ULN) (except patients with Gilbert's syndrome [hereditary indirect hyperbilirubinemia] who must have a total bilirubin of ≤3 x ULN)
      - Alkaline phosphatase (ALP), aspartate aminotransferase (AST), and alanine aminotransferase (ALT) <3.0 x ULN (except patients with liver involvement of their liposarcoma who must have an AST and ALT ≤5 x ULN).
    - Adequate renal function: Serum creatinine of ≤ 1.5 mg/dL or estimated creatinine clearance of ≥ 30 mL/min, calculated using the Cockcroft and Gault formula (140 – Age) • Mass (kg)/ (72 • creatinine mg/dL); multiply by 0.85 if female[11]
13. Female patients of childbearing potential must have a negative serum pregnancy test at Screening. Female patients of childbearing potential and fertile male patients who are sexually active with a female of childbearing potential must

Exclusion Criteria

1. Patients with liposarcoma of pure WDLS, myxoid/round cell or pleomorphic tumor histologic subtypes.
2. Significant cardiovascular impairment, defined as:
   a. Cardiac failure, New York Heart Association (NYHA) Class ≥ 3 according to the NYHA Functional Classification
   b. Unstable angina or myocardial infarction within 3 months of enrollment
   c. Serious and potentially life-threatening arrhythmia.
3. Patients with known central nervous system metastases.
4. Female patients who are pregnant or nursing.
5. Prior malignancy that required treatment, or has shown evidence of recurrence (except for non melanoma skin cancer or adequately treated cervical carcinoma in situ) during the 5 years prior to randomization. Cancer treated with curative intent > 5 years prior to randomization and without evidence of recurrence is allowed.
6. Known active hepatitis B infection, as defined by seropositivity for hepatitis B surface antigen (HBs Ag); or known hepatitis C infection, as defined by seropositivity for hepatitis C antibody, with elevated liver aminotransferases (i.e., above the levels specified in inclusion criterion #12) or any other evidence of active hepatitis.
7. Known human immunodeficiency virus (HIV) infection.
8. Any medical condition, such as an uncontrolled infection or uncontrolled diabetes mellitus (Type 2), which in the opinion of the Investigator would make study involvement unreasonably hazardous
9. Psychiatric illness that would prevent the patient from giving informed consent or being compliant with the study procedures
10. Patients unable to swallow tablets, patients with malabsorption syndrome, or any other GI disease or GI dysfunction that could interfere with absorption of study treatment
11. Inability or unwillingness to take supportive medications such as anti-nausea and anti-anorexia agents as recommended by the NCCN CPGO for antiemesis and anorexia/cachexia (palliative care).
12. Patients who had involuntary weight loss of ≥ 10% in the 3 months prior to randomization.
13. Participation in an investigational anticancer study ≤ 21 days prior to randomization.
14. A circulating lymphocyte count of >50,000/µL (for sites in France only)

agree to use highly effective contraception throughout the study and for 3 months following the last dose of study treatment.

ALP= alkaline phosphatase, ALT= alanine aminotransferase, ANC= absolute neutrophil count, AST= aspartate aminotransferase, BSA= body surface area, CNS=central nervous system, CTCAE= Common Terminology Criteria for Adverse Events, DDLS= dedifferentiated liposarcoma, ECOG= Eastern Cooperative Oncology Group, G-CSF=granulocyte colony stimulating factor, GM-CSF=granulocyte-macrophage colony stimulating factor, EPO=erythropoietin, GVHD=graft versus host disease, HIV= human immunodeficiency virus, Hb= hemoglobin, HBsAg=hepatitis B virus surface antigen, HCV=hepatitis C virus, HIV=human immunodeficiency virus, PD=progressive disease, NCCN CPGO= National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology, NYHA = New York Heart Association, MM=multiple myeloma, RECIST= Response Evaluation Criteria in Solid Tumors, RNA=ribonucleic acid, ULN= upper limit of normal, WDLS= well-differentiated liposarcoma ,WHO= World Health Organization.

6. Table A2. Set 1: Sensitive and Resistant Tumors by Change in Target Size

Tumor response	Change in target lesions from baseline by RECIST (%)	Selinexor treatment duration (days)
sensitive*	-72.9	247
sensitive	-62.6	353
sensitive	-33.3	52
sensitive	-24.9	387
sensitive*	-21	71
sensitive	-12.7	204
sensitive	-12.5	136
sensitive	-6.2	253
resistant	92.9	52
resistant	53.5	38
resistant	44.9	41
resistant	31.2	45
resistant	27.8	66
resistant*	25.1	38
resistant	22.3	50
resistant	12.5	52
resistant	10	143

*Open label cross-over patient

7. Table A3. Set 2: Patients with Favorable or Poor Response by PFS

Response Group	Treatment Randomization Arm	Best Overall Response	PFS (Months)
favorable	selinexor	PR	2.76
favorable	selinexor	PR	2.89
favorable	selinexor	PR	11.5
favorable	selinexor	SD	16.76
favorable	selinexor	SD	16.76*
favorable	selinexor	SD	16.62
favorable	selinexor	SD	13.83*
favorable	selinexor	SD	10.84*
favorable	selinexor	SD	8.54
favorable	selinexor	SD	8.41
favorable	selinexor	SD	8.31
favorable	selinexor	SD	8.31
favorable	selinexor	SD	8.28
favorable	selinexor	SD	7.13*
favorable	selinexor	SD	6.74
favorable	selinexor	SD	6.54*
poor	selinexor	SD	1.45
poor	selinexor	SD	1.61
poor	selinexor	SD	2.73
poor	selinexor	SD	2.73
poor	selinexor	SD	2.76
poor	selinexor	SD	2.76
poor	selinexor	SD	2.76
poor	selinexor	SD	1.97
poor	selinexor	PD	1.41
poor	selinexor	PD	1.41
poor	selinexor	PD	1.54
poor	selinexor	PD	1.61
poor	selinexor	PD	1.15
poor	selinexor	PD	1.22
poor	selinexor	PD	1.35
poor	selinexor	PD	1.38
poor	selinexor	PD	1.45
poor	selinexor	PD	1.48
poor	selinexor	PD	1.51
poor	selinexor	PD	1.58
poor	selinexor	PD	1.68
poor	selinexor	PD	2.43

favorable	placebo	SD	5.55
favorable	placebo	PD	5.55
favorable	placebo	PD	5.59
favorable	placebo	PD	5.52
favorable	placebo	SD	6.93
favorable	placebo	SD	5.68
poor	placebo	SD	2.79
poor	placebo	SD	1.45
poor	placebo	PD	1.41
poor	placebo	SD	1.45
poor	placebo	PD	2.79
poor	placebo	PD	2.79
poor	placebo	PD	1.64
poor	placebo	SD	1.41
poor	placebo	PD	1.25
poor	placebo	PD	1.41
poor	placebo	PD	1.45
poor	placebo	PD	1.87
poor	placebo	SD	2.53
poor	placebo	PD	1.45
poor	placebo	PD	1.38
poor	placebo	PD	1.41
poor	placebo	PD	1.45
poor	placebo	PD	2.73
poor	placebo	PD	1.64
poor	placebo	PD	1.38
poor	placebo	SD	1.41
poor	placebo	PD	1.58
poor	placebo	PD	1.45
poor	placebo	PD	1.51
poor	placebo	SD	1.41

PFS, progression free survival; SD, stable disease; PD, progressive disease; PR, partial response

[*] Censored for PFS

8. Table A4. Subsequent therapies of all enrolled patients

Therapy post treatment (n, %)	Selinexor (n=188)	Placebo (n=97)	Placebo-Open Selinexor (n=57)
Patient with any post-treatment antineoplastic therapy	71 (37.8)	13 (32.5)	17 (29.8)
Chemotherapy	59 (31.4)	12 (30.0)	16 (28.1)
Immunotherapy	4 (2.1)	1 (2.5)	3 (5.3)
Radiation	12 (6.4)	2 (5.0)	1 (1.8)
Surgery	1 (0.5)	0	2 (3.5)
Other	4 (2.1)	0	2 (3.5)
Biologic therapy	1 (0.5)	0	0
Cryoablation	0	0	1 (1.8)
Eribulin	1 (0.5)	0	0
Olaratumab	1 (0.5)	0	0
Palbociclib	1 (0.5)	0	0
Palbociclib (Ibrance)CDK4/6 inhibitor	1 (0.5)	0	0
Biological therapy	1 (0.5)	0	0

9. Table A5. Serious Treatment-Emergent Adverse Events

Event	Selinexor (N = 187) n (%)	Placebo (N = 97) n (%)	Total (N = 284) n (%)
Abdominal pain	6 (3.2)	1 (1.0)	7 (2.5)
Nausea	4 (2.1)	0	4 (1.4)
Small intestinal obstruction	2 (1.1)	2 (2.1)	4 (1.4)
Acute kidney injury	2 (1.1)	1 (1.0)	3 (1.1)
Anemia	3 (1.6)	0	3 (1.1)
Decreased appetite	2 (1.1)	1 (1.0)	3 (1.1)
Pleural effusion	3 (1.6)	0	3 (1.1)
Pneumonia	3 (1.6)	0	3 (1.1)
Pulmonary embolism	2 (1.1)	1 (1.0)	3 (1.1)
Vomiting	2 (1.1)	1 (1.0)	3 (1.1)
Back pain	0	2 (2.1)	2 (0.7)
Bronchitis viral	2 (1.1)	0	2 (0.7)
Cardiac failure	2 (1.1)	0	2 (0.7)
Cataract	2 (1.1)	0	2 (0.7)
Cellulitis	1 (0.5)	1 (1.0)	2 (0.7)
Chronic obstructive pulmonary disease	1 (0.5)	1 (1.0)	2 (0.7)
Dehydration	2 (1.1)	0	2 (0.7)
Dyspnea	1 (0.5)	1 (1.0)	2 (0.7)
General physical health deterioration	2 (1.1)	0	2 (0.7)
Hyperglycaemia	2 (1.1)	0	2 (0.7)
Influenza	2 (1.1)	0	2 (0.7)
Myelodysplastic syndrome	2 (1.1)	0	2 (0.7)
Pneumothorax	2 (1.1)	0	2 (0.7)
Sepsis	0	2 (2.1)	2 (0.7)
Syncope	2 (1.1)	0	2 (0.7)
Thrombocytopenia	2 (1.1)	0	2 (0.7)
Tumor pain	2 (1.1)	0	2 (0.7)
Upper gastrointestinal hemorrhage	2 (1.1)	0	2 (0.7)
Urinary tract infection	1 (0.5)	1 (1.0)	2 (0.7)

Note: For patients who cross over, AEs that occur after the crossover are not included.

10. Table A6. Set 1: Differentially Expressed Genes between Sensitive and Resistant Tumors

Gene Name	Log$_2$ Fold Change*	SE of the Log$_2$ Fold Change	Wald Statistic	Wald Test P-value	Benjamini-Hochberg Adjusted P-value
CALB1	24.72	2.42	10.18	2.42E-24	7.53E-20
MYBPC1	-9.71	1.35	-7.22	5.31E-13	8.25E-09
NEB	-5.11	0.83	-6.16	7.30E-10	7.57E-06
C4BPA	7.52	1.29	5.83	5.67E-09	4.41E-05
SLN	-5.62	1.07	-5.23	1.68E-07	0.00104401
NLGN1	3.84	0.75	5.14	2.69E-07	0.00139174
HJV	-7.18	1.43	-5.03	5.01E-07	0.00222483
GRM1	-6.15	1.24	-4.95	7.29E-07	0.00283411
CLLU1	-5.82	1.19	-4.91	9.24E-07	0.00319218
KCNB2	5.15	1.06	4.87	1.09E-06	0.00338826
AC009501.2	5.09	1.05	4.84	1.29E-06	0.00365149
UNC45B	-4.50	0.94	-4.79	1.64E-06	0.00423665
CACNA1S	-4.82	1.01	-4.77	1.86E-06	0.00444133
WNT11	3.37	0.71	4.71	2.47E-06	0.00451712
GATM	-1.86	0.39	-4.71	2.52E-06	0.00451712
MYLPF	-5.04	1.06	-4.75	2.07E-06	0.00451712
DNAH17	3.20	0.68	4.71	2.51E-06	0.00451712
AC024028.1	6.18	1.32	4.70	2.62E-06	0.00451712
FRRS1L	4.58	0.98	4.65	3.35E-06	0.00547504
NPY6R	-6.38	1.39	-4.59	4.45E-06	0.00692376
ASB5	-8.36	1.83	-4.56	5.17E-06	0.00765169
LINC02397	-5.97	1.32	-4.54	5.61E-06	0.00792847
SMPX	-9.22	2.04	-4.51	6.43E-06	0.00799396
ADAMTS19	5.67	1.25	4.53	5.93E-06	0.00799396
PCDH9	2.12	0.47	4.52	6.31E-06	0.00799396
ESR1	-2.57	0.58	-4.45	8.39E-06	0.00966109
MEX3A	2.31	0.52	4.46	8.09E-06	0.00966109
LMOD3	-5.27	1.19	-4.43	9.41E-06	0.01022451
COL4A3	-4.20	0.95	-4.43	9.54E-06	0.01022451
NPNT	-2.17	0.49	-4.40	1.11E-05	0.01042765
LINC01285	2.15	0.49	4.40	1.06E-05	0.01042765
AC073316.1	5.16	1.17	4.40	1.08E-05	0.01042765
AL023495.1	-5.78	1.31	-4.41	1.04E-05	0.01042765
MYOM2	-3.09	0.70	-4.38	1.18E-05	0.01082719
AC023403.1	-4.85	1.12	-4.34	1.45E-05	0.01291156
MROCKI	-3.69	0.85	-4.32	1.55E-05	0.01335768
BEX1	4.81	1.13	4.27	1.97E-05	0.01430472
CHRNG	-8.83	2.05	-4.30	1.73E-05	0.01430472
SLC10A5P1	3.00	0.70	4.27	1.98E-05	0.01430472

LINC01087	-4.45	1.04	-4.27	1.92E-05	0.01430472
AL136114.1	-6.14	1.44	-4.27	1.92E-05	0.01430472
AC022893.2	4.98	1.16	4.29	1.79E-05	0.01430472
AC007529.2	6.32	1.48	4.28	1.87E-05	0.01430472
DUSP26	-5.25	1.23	-4.26	2.05E-05	0.0144329
FOXG1	4.64	1.09	4.26	2.09E-05	0.0144329
CASQ2	-4.02	0.95	-4.25	2.14E-05	0.0144787
MS4A14	-1.82	0.43	-4.24	2.24E-05	0.01480022
AC183088.2	-6.65	1.57	-4.23	2.37E-05	0.01536777
PTGES	2.16	0.51	4.22	2.45E-05	0.01556701
TMEM132A	1.51	0.36	4.18	2.92E-05	0.01629943
FRK	-2.76	0.66	-4.18	2.94E-05	0.01629943
MATN4	4.52	1.08	4.19	2.82E-05	0.01629943
LINC02599	2.71	0.65	4.20	2.72E-05	0.01629943
AC092967.1	4.63	1.11	4.19	2.76E-05	0.01629943
MARCOL	6.59	1.57	4.19	2.77E-05	0.01629943
SPIB	-3.47	0.83	-4.18	2.94E-05	0.01629943
DUSP13	-5.56	1.33	-4.16	3.15E-05	0.01651678
TNNI1	-4.90	1.18	-4.17	3.08E-05	0.01651678
GAP43	3.86	0.93	4.15	3.29E-05	0.01651678
RPL10P6	3.85	0.93	4.16	3.18E-05	0.01651678
MIR133A1HG	-5.56	1.34	-4.16	3.25E-05	0.01651678
SFTPD-AS1	-3.14	0.76	-4.16	3.25E-05	0.01651678
SNTG1	5.23	1.26	4.15	3.36E-05	0.01659268
LINC00689	-3.96	0.96	-4.12	3.73E-05	0.01810697
KLHL41	-3.95	0.96	-4.12	3.81E-05	0.01819736
GABRB3	4.74	1.15	4.11	3.89E-05	0.01830284
C6	-4.01	0.98	-4.08	4.50E-05	0.02087711
CHRND	-6.47	1.59	-4.07	4.71E-05	0.0214154
TRIM55	-4.71	1.16	-4.07	4.75E-05	0.0214154
MYPN	-5.05	1.25	-4.05	5.09E-05	0.02258368
HTR2B	-2.72	0.67	-4.04	5.27E-05	0.02308366
MTX1	0.78	0.19	4.03	5.67E-05	0.02447209
ZIC3	8.28	2.07	4.00	6.22E-05	0.02648722
SPATA8	-6.00	1.50	-3.99	6.53E-05	0.02741253
REEP6	1.90	0.48	3.97	7.25E-05	0.02966874
LINC02301	-4.63	1.17	-3.97	7.18E-05	0.02966874
LDB3	-2.52	0.64	-3.95	7.87E-05	0.03178629
HTR7P1	0.72	0.18	3.94	8.22E-05	0.03277257
NPW	2.73	0.69	3.93	8.40E-05	0.03277257
GREB1	2.22	0.56	3.93	8.43E-05	0.03277257
TMPRSS11A	6.18	1.58	3.92	8.85E-05	0.03396639
AMIGO2	1.89	0.48	3.91	9.06E-05	0.03436166
DLX6	3.39	0.87	3.90	9.56E-05	0.03454878
PLCD4	-2.04	0.52	-3.90	9.45E-05	0.03454878

MYH8	-6.37	1.63	-3.90	9.53E-05	0.03454878
TTN	-3.50	0.90	-3.90	9.47E-05	0.03454878
GORAB	-2.02	0.52	-3.89	0.00010184	0.03556925
CHRNA1	-3.60	0.93	-3.89	0.00010083	0.03556925
AL157895.2	-4.78	1.23	-3.89	0.00010166	0.03556925
LMOD2	-6.70	1.73	-3.88	0.00010558	0.0360645
CCDC144NL	-3.29	0.85	-3.88	0.00010543	0.0360645
ZBTB8B	2.49	0.64	3.87	0.00011051	0.03733872
CDH15	-4.22	1.10	-3.85	0.00011884	0.03929996
LBP	-4.63	1.20	-3.85	0.00011853	0.03929996
FAM163A	4.00	1.04	3.84	0.00012169	0.0398196
CLEC19A	-2.82	0.74	-3.84	0.00012416	0.04020473
SMYD5	0.74	0.19	3.83	0.0001275	0.04044354
LINC01937	3.77	0.98	3.83	0.000127	0.04044354
IBSP	-6.60	1.73	-3.82	0.00013359	0.04152787
AKAP6	-2.96	0.77	-3.82	0.00013271	0.04152787
CFAP61	-2.77	0.73	-3.82	0.00013552	0.04170968
MYH7	-7.57	1.98	-3.81	0.00013691	0.04172272
PRKAG3	-4.67	1.23	-3.80	0.00014193	0.04283449
SGCA	-3.20	0.84	-3.80	0.0001471	0.0429106
SCN3B	-3.09	0.81	-3.79	0.00014839	0.0429106
STAC3	-1.90	0.50	-3.80	0.00014537	0.0429106
CERS1	4.26	1.12	3.80	0.00014583	0.0429106
LINC01193	-5.42	1.43	-3.79	0.00014909	0.0429106
XIRP2	-5.22	1.38	-3.77	0.00016067	0.04549239
OGDHL	3.91	1.04	3.77	0.00016098	0.04549239
LINC02282	6.91	1.83	3.77	0.00016429	0.0460096
CACNA1A	3.37	0.90	3.75	0.00017977	0.04979784
CYP4B1	6.58	1.76	3.74	0.00018263	0.04979784
MTX1P1	0.71	0.19	3.74	0.00018151	0.04979784

SE, standard error; est, estimate

[*]Positive higher in resistant tumors

11. Table A7: Set 2: Significantly Differentially Expressed Genes between Patients with Favourable and Poor Response

Gene Name	Log$_2$ Fold Change[*]	SE of the Log$_2$ Fold Change	Wald Statistic	Wald Test P-value	Benjamini-Hochberg Adjusted P-value
ATP2B1-AS1	2.58	0.43	-5.97	2.35E-09	7.45E-05
PSMD8	0.88	0.15	-5.75	8.84E-09	0.0001404
COX5B	0.91	0.16	-5.58	2.47E-08	0.00026179
EIF3I	0.76	0.14	-5.35	8.97E-08	0.00071216
FBL	1.09	0.21	-5.25	1.53E-07	0.0009721
TBCE	-0.64	0.12	5.15	2.59E-07	0.00106088
COLCA1	-2.36	0.45	5.19	2.07E-07	0.00106088
CIRBP-AS1	2.57	0.50	-5.15	2.67E-07	0.00106088
HMX1	5.78	1.14	-5.05	4.47E-07	0.00132677
AL596247.1	-1.91	0.38	5.04	4.60E-07	0.00132677
HOTAIR	-3.60	0.71	5.05	4.46E-07	0.00132677
RPL5P13	-2.12	0.42	4.99	5.93E-07	0.00156863
AL354861.3	-6.10	1.23	4.98	6.43E-07	0.00157147
EDAR	-4.74	0.96	4.94	7.70E-07	0.00174554
LINC00924	-3.20	0.65	4.92	8.44E-07	0.0017868
LINC00923	-3.66	0.75	4.91	9.17E-07	0.00182074
CHRNG	7.24	1.49	-4.85	1.22E-06	0.00227061
AUP1	0.57	0.12	-4.82	1.45E-06	0.00256245
KIF5A	3.98	0.83	-4.78	1.73E-06	0.00261634
MYDGF	0.80	0.17	-4.78	1.72E-06	0.00261634
PRKCSH	0.95	0.20	-4.78	1.72E-06	0.00261634
AP003900.1	5.06	1.06	-4.77	1.86E-06	0.00268925
SLC5A9	3.38	0.71	-4.75	2.01E-06	0.00278139
RNA5SP344	-1.66	0.35	4.74	2.13E-06	0.00281179
AC064875.1	-2.79	0.60	4.66	3.15E-06	0.00299133
LTF	-2.16	0.46	4.65	3.36E-06	0.00299133
MIR570	-1.11	0.24	4.69	2.80E-06	0.00299133
LEF1	-2.15	0.47	4.63	3.74E-06	0.00299133
ADGRV1	-3.09	0.66	4.64	3.45E-06	0.00299133
MDH2	0.92	0.20	-4.70	2.56E-06	0.00299133
PAK3	-2.34	0.50	4.65	3.25E-06	0.00299133
H3P32	-3.68	0.79	4.66	3.17E-06	0.00299133
PTGS1	1.95	0.42	-4.67	3.01E-06	0.00299133
SYT1	-2.52	0.54	4.66	3.17E-06	0.00299133
NDUFA12	1.51	0.32	-4.70	2.55E-06	0.00299133
RBFOX1	4.57	0.97	-4.71	2.49E-06	0.00299133
BCAS1	2.98	0.64	-4.63	3.60E-06	0.00299133
RPS15	0.88	0.19	-4.64	3.53E-06	0.00299133
RAD23A	0.94	0.20	-4.62	3.77E-06	0.00299133

C19orf53	0.78	0.17	-4.69	2.77E-06	0.00299133
ATP1A4	-2.91	0.63	4.61	4.03E-06	0.00312093
VAMP4	-1.56	0.34	4.60	4.26E-06	0.00318374
BANK1	-2.56	0.56	4.60	4.31E-06	0.00318374
MYH7	7.68	1.68	-4.57	4.79E-06	0.003459
AC020978.7	-0.81	0.18	4.57	4.93E-06	0.00347654
CHORDC1P4	-0.90	0.20	4.56	5.04E-06	0.00347654
AC091057.4	-1.14	0.25	4.56	5.15E-06	0.00348103
FRG1FP	2.51	0.55	-4.54	5.68E-06	0.00375621
FGGY	1.80	0.40	-4.49	7.12E-06	0.00443495
AC006538.3	-2.53	0.56	4.49	7.07E-06	0.00443495
PSMC4	0.90	0.20	-4.50	6.94E-06	0.00443495
ERFE	2.35	0.53	-4.48	7.35E-06	0.00448677
TCL6	-3.16	0.71	4.46	8.18E-06	0.00490173
AC020612.1	-0.98	0.22	4.45	8.74E-06	0.00514115
CNTN5	-5.07	1.14	4.44	9.01E-06	0.00520013
IL9R	-2.12	0.48	4.41	1.04E-05	0.0058843
PTPRR	3.81	0.86	-4.40	1.07E-05	0.0058843
PSMB5	0.71	0.16	-4.40	1.07E-05	0.0058843
MED17	-0.61	0.14	4.39	1.15E-05	0.00621241
DDOST	0.75	0.17	-4.38	1.18E-05	0.0062631
GET3	1.12	0.26	-4.37	1.25E-05	0.00648428
NUDC	0.70	0.16	-4.35	1.34E-05	0.00686848
DES	3.34	0.77	-4.34	1.43E-05	0.00711522
RBM42	0.78	0.18	-4.34	1.42E-05	0.00711522
SNRPC	0.83	0.19	-4.33	1.49E-05	0.00725695
AC078799.1	-1.09	0.25	4.32	1.58E-05	0.00735802
RNU7-77P	-1.22	0.28	4.32	1.56E-05	0.00735802
ZNF641	-0.66	0.15	4.32	1.54E-05	0.00735802
LINC01632	3.79	0.88	-4.31	1.63E-05	0.00738891
MIF	1.32	0.31	-4.31	1.62E-05	0.00738891
PSMC3	0.75	0.18	-4.30	1.73E-05	0.0076422
LINC02408	-2.63	0.61	4.30	1.71E-05	0.0076422
PTBP1	0.55	0.13	-4.29	1.78E-05	0.00775418
PRRC2C	-1.17	0.27	4.27	1.95E-05	0.00811867
RPL26L1	0.71	0.17	-4.27	1.96E-05	0.00811867
H2BC4	0.89	0.21	-4.26	2.04E-05	0.00811867
ITIH2	-6.12	1.44	4.26	2.05E-05	0.00811867
PSMA3-AS1	-0.58	0.14	4.26	2.01E-05	0.00811867
C1QBP	0.74	0.17	-4.27	1.97E-05	0.00811867
TNNT1	4.85	1.14	-4.26	2.02E-05	0.00811867
AC004858.1	-1.07	0.25	4.25	2.11E-05	0.00828112
ALYREF	0.93	0.22	-4.24	2.20E-05	0.00851923
AMT	-1.42	0.33	4.24	2.24E-05	0.00857885
MIR4274	-2.56	0.61	4.23	2.31E-05	0.00861493

TUBB4B	1.02	0.24	-4.23	2.30E-05	0.00861493
RN7SL269P	-1.12	0.26	4.23	2.37E-05	0.00865671
MGAT4C	2.96	0.70	-4.23	2.37E-05	0.00865671
EIF6	0.91	0.22	-4.21	2.50E-05	0.00902945
CALB1	**3.80**	**0.90**	**-4.21**	**2.54E-05**	**0.00905551**
KHSRP	0.58	0.14	-4.20	2.70E-05	0.00953275
C5orf46	3.54	0.85	-4.19	2.81E-05	0.00954252
HCG27	-0.95	0.23	4.19	2.78E-05	0.00954252
MTCO3P15	4.66	1.11	-4.19	2.81E-05	0.00954252
SNORD3A	1.10	0.26	-4.19	2.82E-05	0.00954252
UPB1	-1.18	0.28	4.18	2.87E-05	0.00960839
RPL7AP30	1.12	0.27	-4.18	2.97E-05	0.00962483
ZNF663P	3.45	0.82	-4.18	2.94E-05	0.00962483
DPM1	0.87	0.21	-4.18	2.94E-05	0.00962483
ITPKB-IT1	-1.42	0.34	4.16	3.20E-05	0.00987384
SULT1C2	-3.04	0.73	4.16	3.17E-05	0.00987384
RN7SL517P	-0.84	0.20	4.17	3.08E-05	0.00987384
NHS	-1.62	0.39	4.16	3.19E-05	0.00987384
AC009120.2	-0.58	0.14	4.16	3.20E-05	0.00987384
MOCS3	1.01	0.24	-4.15	3.25E-05	0.00993843
LMOD3	4.80	1.16	-4.15	3.37E-05	0.01000054
RPL14P3	0.93	0.22	-4.15	3.33E-05	0.01000054
UBL5	0.65	0.16	-4.15	3.36E-05	0.01000054
BCL2	-0.68	0.16	4.13	3.58E-05	0.01053889
SUPT16H	0.50	0.12	-4.12	3.72E-05	0.01084954
AC012170.1	-0.98	0.24	4.12	3.84E-05	0.01094071
KLHL14	-2.11	0.51	4.12	3.86E-05	0.01094071
RPL18A	0.73	0.18	-4.12	3.84E-05	0.01094071
PPIAP22	0.89	0.22	-4.11	3.94E-05	0.01106297
TWIST2	1.56	0.38	-4.10	4.06E-05	0.01118376
MYOT	5.65	1.38	-4.11	4.02E-05	0.01118376
RPL13AP23	5.34	1.30	-4.10	4.09E-05	0.01118376
SATB1-AS1	-2.09	0.51	4.09	4.30E-05	0.01165791
OR1J4	3.92	0.96	-4.09	4.33E-05	0.01165791
AP002812.4	-0.89	0.22	4.08	4.57E-05	0.01219348
AC135731.2	-3.71	0.91	4.07	4.64E-05	0.01227278
AC125437.1	-0.78	0.19	4.07	4.71E-05	0.01227278
FAM83D	1.83	0.45	-4.07	4.71E-05	0.01227278
AC016405.1	-0.95	0.23	4.06	4.86E-05	0.01234029
AC023034.1	2.55	0.63	-4.06	4.81E-05	0.01234029
SLC7A4	2.53	0.62	-4.06	4.83E-05	0.01234029
UXT	0.76	0.19	-4.06	5.01E-05	0.01236922
HTATSF1	0.84	0.21	-4.06	4.95E-05	0.01236922
AC009558.2	-4.28	1.06	4.05	5.02E-05	0.01236922
AC007599.2	-1.04	0.26	4.06	4.92E-05	0.01236922

RN7SKP139	-4.38	1.08	4.05	5.23E-05	0.01275761
SNX22	-1.91	0.47	4.04	5.26E-05	0.01275761
AL139246.2	-1.80	0.44	4.04	5.31E-05	0.01276893
PGAM4	1.12	0.28	-4.03	5.57E-05	0.01330112
CD151	0.73	0.18	-4.02	5.72E-05	0.01350219
RPN2	0.77	0.19	-4.02	5.74E-05	0.01350219
EXOSC10-AS1	2.45	0.61	-4.01	6.16E-05	0.01400099
OSTCP8	-0.84	0.21	4.01	6.05E-05	0.01400099
SLC35G1	-1.03	0.26	4.00	6.22E-05	0.01400099
FOXC2	-2.34	0.58	4.01	6.20E-05	0.01400099
EEF1A2	3.45	0.86	-4.01	6.17E-05	0.01400099
ZNF83	-0.63	0.16	4.01	6.16E-05	0.01400099
APEX1	0.57	0.14	-4.00	6.28E-05	0.01404733
NDUFS5	0.70	0.17	-3.99	6.54E-05	0.01410842
PRDX4	0.84	0.21	-3.99	6.56E-05	0.01410842
ANK1	2.35	0.59	-3.99	6.54E-05	0.01410842
RPL18AP3	0.80	0.20	-3.99	6.58E-05	0.01410842
RPL36AL	0.77	0.19	-4.00	6.43E-05	0.01410842
TRIM72	2.76	0.69	-4.00	6.36E-05	0.01410842
H3P31	-0.89	0.22	3.98	6.75E-05	0.01429805
UHRF1	1.32	0.33	-3.98	6.75E-05	0.01429805
CLCA1	6.04	1.52	-3.98	7.01E-05	0.01466622
PPP1R7	0.55	0.14	-3.98	7.02E-05	0.01466622
RN7SL398P	-0.93	0.24	3.95	7.82E-05	0.01624085
LINC02055	4.76	1.21	-3.95	7.90E-05	0.0162804
THSD7B	-2.08	0.53	3.94	8.02E-05	0.01631878
FCF1P4	-3.29	0.84	3.94	8.06E-05	0.01631878
TSTA3	0.62	0.16	-3.94	8.07E-05	0.01631878
AURKA	1.68	0.43	-3.94	8.16E-05	0.01639215
CD1C	-1.82	0.46	3.94	8.30E-05	0.01640144
HSPE1P13	-1.00	0.26	3.94	8.26E-05	0.01640144
AC092745.2	2.89	0.73	-3.94	8.32E-05	0.01640144
RPS2	0.73	0.19	-3.93	8.49E-05	0.01665178
ENSG00000279312	-1.14	0.29	3.93	8.59E-05	0.01674287
GBA3	4.00	1.02	-3.92	8.75E-05	0.01695202
AC019322.1	-2.71	0.69	3.91	9.25E-05	0.01774836
KPNA2	1.24	0.32	-3.91	9.28E-05	0.01774836
TAGLN2	1.32	0.34	-3.90	9.43E-05	0.01780421
RABGAP1L-IT1	-0.95	0.24	3.90	9.59E-05	0.01780421
RN7SKP106	4.12	1.06	-3.90	9.56E-05	0.01780421
LINC01388	3.44	0.88	-3.90	9.47E-05	0.01780421
EEF2	0.82	0.21	-3.90	9.58E-05	0.01780421
RABGAP1L	-0.67	0.17	3.90	9.76E-05	0.0180174
AC011369.2	-4.08	1.05	3.88	0.00010296	0.01889856
CLIC4P3	1.37	0.35	-3.88	0.00010523	0.01909719

MRPL28	0.81	0.21	-3.88	0.00010524	0.01909719
GTF2IP7	-2.55	0.66	3.87	0.00010838	0.01944449
TSPAN8	3.51	0.91	-3.87	0.0001083	0.01944449
ELOVL1	0.55	0.14	-3.87	0.0001096	0.01955388
EIF4EBP1	0.69	0.18	-3.87	0.00011102	0.01958743
MTND6P5	-1.13	0.29	3.86	0.00011164	0.01958743
TOP1	0.46	0.12	-3.86	0.0001116	0.01958743
ATRAID	0.81	0.21	-3.86	0.00011481	0.01971304
MLLT3	-0.67	0.17	3.86	0.00011484	0.01971304
AP003969.2	-1.40	0.36	3.86	0.00011437	0.01971304
MT-RNR2	1.75	0.45	-3.86	0.00011423	0.01971304
PQBP1	0.85	0.22	-3.85	0.00011676	0.01993386
FOXD3-AS1	3.43	0.89	-3.84	0.00012098	0.02032798
LDB3	2.36	0.61	-3.84	0.00012074	0.02032798
FFAR1	-3.66	0.95	3.85	0.00012031	0.02032798
AC023202.1	4.16	1.08	-3.84	0.00012413	0.02061168
AC079600.3	-1.73	0.45	3.84	0.00012462	0.02061168
FARSA	1.10	0.29	-3.84	0.00012367	0.02061168
AC074138.1	-0.93	0.24	3.83	0.00012616	0.02075827
RPLP0	0.78	0.20	-3.83	0.00012844	0.0209163
TECR	0.71	0.19	-3.83	0.00012782	0.0209163
HNRNPCP2	0.50	0.13	-3.83	0.00012985	0.02103845
TTC34	-1.55	0.40	3.82	0.00013201	0.02110702
H2AC16	1.53	0.40	-3.82	0.00013324	0.02110702
ZDHHC21	-0.70	0.18	3.82	0.0001336	0.02110702
FAM111A	-0.59	0.15	3.82	0.00013245	0.02110702
FXYD2	-1.56	0.41	3.82	0.00013249	0.02110702
GOLGA8H	-1.60	0.42	3.81	0.00013798	0.02160392
TBCB	0.51	0.13	-3.81	0.0001381	0.02160392
TAGLN2P1	1.60	0.42	-3.81	0.00013902	0.02164016
FSD2	3.18	0.83	-3.80	0.00014211	0.02201328
USH2A	2.43	0.64	-3.80	0.00014479	0.02221279
DDX10	-0.54	0.14	3.80	0.00014433	0.02221279
AC011503.1	-4.99	1.31	3.80	0.00014647	0.02236275
AL359555.4	-2.77	0.73	3.79	0.00015066	0.02289201
AC127502.2	-0.76	0.20	3.79	0.00015173	0.02294501
MSRB3	-1.77	0.47	3.79	0.0001533	0.02296332
HPD	2.98	0.79	-3.79	0.00015298	0.02296332
AC096531.2	2.16	0.57	-3.78	0.00015558	0.0231958
SMARCA2	-0.63	0.17	3.78	0.00015681	0.02326962
H3P47	1.18	0.31	-3.78	0.00015851	0.02330423
AC026150.1	-2.59	0.69	3.78	0.00015821	0.02330423
MUC20-OT1	-0.80	0.21	3.77	0.00016166	0.02333449
C14orf180	3.07	0.81	-3.77	0.00016049	0.02333449
CTSA	0.73	0.19	-3.77	0.00016128	0.02333449

UBA52	0.66	0.18	-3.77	0.00016047	0.02333449
APEX2	0.50	0.13	-3.77	0.00016429	0.02360665
MANEAL	1.33	0.35	-3.76	0.00016683	0.02386436
AL136164.3	-1.17	0.31	3.76	0.00016781	0.02387425
KATNAL2	1.11	0.29	-3.76	0.0001684	0.02387425
PSMD3	0.41	0.11	-3.76	0.00016947	0.02388589
AC092279.1	-0.51	0.14	3.76	0.00016999	0.02388589
DYRK1B	0.90	0.24	-3.76	0.00017139	0.02397643
ACTA1	5.18	1.38	-3.75	0.00017357	0.02406897
UBE2C	1.39	0.37	-3.76	0.00017325	0.02406897
WSB1	-0.48	0.13	3.75	0.00017539	0.02421562
PAICS	0.69	0.18	-3.75	0.0001762	0.02422272
PCNA	0.89	0.24	-3.75	0.00017807	0.02437362
NEB	2.57	0.69	-3.74	0.0001808	0.02453593
LINC00472	-1.07	0.28	3.74	0.00018066	0.02453593
FOXD3	3.32	0.89	-3.73	0.00018784	0.02508078
RPS15P4	1.18	0.32	-3.73	0.00018837	0.02508078
EXOC5P1	-1.44	0.39	3.74	0.00018761	0.02508078
AC109635.3	4.38	1.17	-3.73	0.00018876	0.02508078
NPHS1	-2.96	0.79	3.73	0.0001885	0.02508078
HSD17B10	1.02	0.27	-3.73	0.00019348	0.02528416
RBP4	-2.38	0.64	3.73	0.00019345	0.02528416
AC138649.1	-2.45	0.66	3.73	0.00019303	0.02528416
APCDD1	1.72	0.46	-3.73	0.00019337	0.02528416
NDUFB10	0.72	0.19	-3.72	0.00019811	0.02573884
NACC1	0.85	0.23	-3.72	0.00019858	0.02573884
TECRP1	1.06	0.29	-3.72	0.0002005	0.02588203
MRPL51	0.59	0.16	-3.71	0.00020323	0.026128
AP001059.1	-1.80	0.49	3.71	0.00020437	0.02616864
ALG3	0.71	0.19	-3.71	0.00020739	0.02630045
AP000866.6	-0.74	0.20	3.71	0.00020954	0.02630045
GAS6-AS1	-1.17	0.32	3.71	0.00020711	0.02630045
UBL7	0.57	0.16	-3.71	0.00020939	0.02630045
AF015720.1	2.52	0.68	-3.71	0.00020872	0.02630045
CLCNKB	-2.74	0.74	3.70	0.00021751	0.02719382
AC139426.3	-3.49	0.95	3.70	0.00021874	0.02720737
PSMA7	0.64	0.17	-3.70	0.00021933	0.02720737
RBIS	-0.58	0.16	3.69	0.00022063	0.02726164
AFP	3.54	0.96	-3.69	0.00022528	0.02730491
LINC01018	3.69	1.00	-3.69	0.00022444	0.02730491
CENPW	1.73	0.47	-3.69	0.00022481	0.02730491
KCNB2	3.51	0.95	-3.69	0.00022527	0.02730491
AC008147.2	-1.09	0.29	3.69	0.0002235	0.02730491
IDH2	0.79	0.21	-3.69	0.00022802	0.02753182
COG2	-0.60	0.16	3.68	0.00023184	0.02778245

AC068896.3	-1.14	0.31	3.68	0.00023179	0.02778245
AC012046.1	-1.07	0.29	3.68	0.00023449	0.02799466
FLNC	1.54	0.42	-3.68	0.00023607	0.02807731
SARNP	-0.62	0.17	3.67	0.00024099	0.02855593
AL136984.1	-0.87	0.24	3.67	0.00024287	0.02867104
AC009229.4	-2.31	0.63	3.67	0.00024541	0.02874913
NPY2R	3.17	0.86	-3.67	0.00024625	0.02874913
PRMT1	0.67	0.18	-3.67	0.00024469	0.02874913
DOLPP1	0.63	0.17	-3.66	0.00024862	0.02891995
STX7	-0.77	0.21	3.66	0.00025157	0.02894508
AC024293.1	0.76	0.21	-3.66	0.00025006	0.02894508
SLC1A5	0.69	0.19	-3.66	0.00025118	0.02894508
PPIAP11	1.04	0.28	-3.66	0.000254	0.02911935
PRKCQ-AS1	-1.93	0.53	3.66	0.00025634	0.02915314
GPN3	0.86	0.23	-3.66	0.00025609	0.02915314
CD22	-2.04	0.56	3.66	0.00025705	0.02915314
XRCC5	0.39	0.11	-3.65	0.00026003	0.02938634
ICMT	0.55	0.15	-3.65	0.00026346	0.02945969
NDUFB11	0.90	0.25	-3.65	0.00026266	0.02945969
PHB	0.54	0.15	-3.65	0.00026269	0.02945969
C2orf83	4.33	1.19	-3.65	0.00026702	0.02975267
AC019197.1	-2.16	0.59	3.64	0.00027566	0.02978345
TFPI	1.07	0.29	-3.64	0.00026917	0.02978345
NMUR1	-2.19	0.60	3.64	0.00027668	0.02978345
STRIT1	4.69	1.29	-3.64	0.00027541	0.02978345
H2AC12	1.28	0.35	-3.64	0.00027314	0.02978345
EPC1	-0.38	0.10	3.64	0.00027625	0.02978345
MYPN	3.58	0.98	-3.64	0.00027388	0.02978345
AC112777.1	1.29	0.35	-3.64	0.0002701	0.02978345
ADRM1	0.68	0.19	-3.64	0.00027375	0.02978345
CLPP	0.60	0.16	-3.64	0.00027495	0.02978345
MCM4	0.91	0.25	-3.63	0.00028411	0.03048009
DNTTIP1	0.66	0.18	-3.63	0.00028553	0.03052929
RPL21P123	-1.26	0.35	3.63	0.00028734	0.03053475
CARM1	0.90	0.25	-3.63	0.0002875	0.03053475
CDC26	0.70	0.19	-3.62	0.00029532	0.03115698
AC004784.1	3.09	0.85	-3.62	0.00029497	0.03115698
CDKN2AIPNL	0.83	0.23	-3.62	0.00029866	0.03125215
UBE2MP1	1.19	0.33	-3.62	0.00029814	0.03125215
LMNB2	1.06	0.29	-3.61	0.00030114	0.03125215
SGTA	0.58	0.16	-3.61	0.00030047	0.03125215
AC022432.1	2.63	0.73	-3.62	0.00029979	0.03125215
RNU6-148P	3.13	0.87	-3.61	0.00030352	0.03139559
MRPS2	0.68	0.19	-3.61	0.0003047	0.03141592
CSE1L	0.75	0.21	-3.61	0.00030582	0.03142893

MED30	0.75	0.21	-3.61	0.00030723	0.03145959
EMC7	0.49	0.14	-3.61	0.0003081	0.03145959
AC108727.1	-1.02	0.28	3.61	0.00031131	0.03158296
CLDN16	-2.57	0.71	3.60	0.00031229	0.03158296
RPL35	0.62	0.17	-3.61	0.00031207	0.03158296
MLIP	2.99	0.83	-3.60	0.00031534	0.03168934
TRAF7	0.65	0.18	-3.60	0.00031501	0.03168934
CPNE1	0.63	0.18	-3.60	0.00031756	0.0318117
CYP19A1	2.58	0.72	-3.60	0.00031907	0.03186251
PGD	0.74	0.21	-3.60	0.00032101	0.03195647
IL9RP3	-1.46	0.41	3.60	0.00032269	0.03202327
POLR2E	0.54	0.15	-3.60	0.00032393	0.03204617
RN7SL200P	-1.16	0.32	3.59	0.00033321	0.03243407
SIRLNT	4.35	1.21	-3.59	0.00033305	0.03243407
AC078962.2	-1.45	0.40	3.59	0.00033175	0.03243407
MYBPC1	4.83	1.35	-3.59	0.00033195	0.03243407
AC020978.6	-0.72	0.20	3.59	0.00033398	0.03243407
SNTA1	0.98	0.27	-3.59	0.00032936	0.03243407
LINC01226	-2.23	0.62	3.58	0.00033848	0.03247398
BX679664.2	-1.15	0.32	3.58	0.00033761	0.03247398
OR2M4	3.36	0.94	-3.59	0.00033658	0.03247398
MYBPC3	-1.65	0.46	3.58	0.00033847	0.03247398
AURKAIP1	0.98	0.27	-3.58	0.00034588	0.03269804
AL365209.1	-2.21	0.62	3.58	0.00034597	0.03269804
MIR6083	-1.57	0.44	3.58	0.0003421	0.03269804
CERS5	-0.52	0.15	3.58	0.00034547	0.03269804
KRT42P	-2.78	0.78	3.58	0.00034289	0.03269804
AL049780.2	-1.59	0.45	3.57	0.00035815	0.0336492
SIRT2	1.00	0.28	-3.57	0.0003573	0.0336492
PCSK7	-0.59	0.16	3.57	0.00035956	0.03368169
AC091979.1	3.54	0.99	-3.57	0.00036246	0.0338537
RNU6-522P	-1.11	0.31	3.56	0.00036884	0.03434879
PCOLCE	1.07	0.30	-3.56	0.00037006	0.03436116
ANKRD20A11P	-1.86	0.52	3.56	0.00037513	0.03473109
CHRND	4.54	1.28	-3.56	0.00037636	0.03474352
GPAT2	1.75	0.49	-3.55	0.00038372	0.03501515
LSM14B	0.51	0.14	-3.55	0.00038244	0.03501515
CCDC124	0.68	0.19	-3.55	0.00038171	0.03501515
Z95114.4	2.30	0.65	-3.55	0.00038285	0.03501515
PLTP	1.37	0.39	-3.55	0.0003849	0.03502294
MCM2	1.05	0.30	-3.55	0.00039155	0.03552581
RACK1	0.57	0.16	-3.54	0.00039576	0.03580573
MYOZ1	3.46	0.98	-3.54	0.00040474	0.0362943
PTGES3P4	1.77	0.50	-3.54	0.0004053	0.0362943
AC046158.2	-0.71	0.20	3.54	0.00040688	0.0362943

DMAC2	0.59	0.17	-3.54	0.00040471	0.0362943
RUVBL2	0.67	0.19	-3.54	0.0004059	0.0362943
CTU1	0.79	0.22	-3.53	0.00041553	0.03696282
AC104506.1	2.63	0.75	-3.53	0.00042261	0.03710411
AL357054.3	-1.99	0.57	3.52	0.00042402	0.03710411
MTCO1P11	-1.03	0.29	3.52	0.00042361	0.03710411
CHORDC1	-0.74	0.21	3.52	0.00042413	0.03710411
CUTC	0.88	0.25	-3.53	0.00042079	0.03710411
MRPS12	1.03	0.29	-3.53	0.00042227	0.03710411
H2AC20	0.87	0.25	-3.52	0.00043548	0.03796842
PSMB6	0.79	0.23	-3.52	0.0004364	0.03796842
RNA5SP300	-2.07	0.59	3.52	0.00043775	0.03798125
CELSR3	1.86	0.53	-3.51	0.00044041	0.03810849
CHIT1	-1.83	0.52	3.51	0.00044364	0.03813138
DNAJB14	-0.75	0.21	3.51	0.00045011	0.03813138
POLD2	0.74	0.21	-3.51	0.00044341	0.03813138
EIF4A1P10	0.80	0.23	-3.51	0.00045029	0.03813138
NSDHL	0.87	0.25	-3.51	0.00044911	0.03813138
MIR624	-0.84	0.24	3.51	0.00045026	0.03813138
AC011939.2	-0.95	0.27	3.51	0.00044849	0.03813138
EIF3D	0.50	0.14	-3.51	0.0004489	0.03813138
B3GALT6	0.65	0.18	-3.51	0.00045429	0.03836802
AC005746.1	-0.75	0.22	3.50	0.0004569	0.03848621
PRICKLE1	-1.18	0.34	3.50	0.00045969	0.03861911
P2RY14	-1.74	0.50	3.50	0.00046725	0.03915077
TRAF5	-0.73	0.21	3.50	0.00047334	0.03951878
TUBBP1	0.76	0.22	-3.49	0.00047662	0.03951878
LINC00092	-2.11	0.60	3.49	0.00047436	0.03951878
SLC7A6OS	-0.41	0.12	3.49	0.0004765	0.03951878
AC011352.1	3.67	1.05	-3.49	0.00047892	0.0396054
PADI4	2.75	0.79	-3.49	0.00048179	0.0397394
NOP14	0.53	0.15	-3.49	0.00048952	0.03978528
RN7SKP110	-1.46	0.42	3.49	0.00048712	0.03978528
AP003168.2	-0.74	0.21	3.49	0.0004897	0.03978528
GADD45GIP1	0.85	0.24	-3.49	0.00048545	0.03978528
ACTN4	0.56	0.16	-3.49	0.0004897	0.03978528
SLC17A7	1.69	0.49	-3.49	0.00048986	0.03978528
ACAP2-IT1	-0.80	0.23	3.48	0.00049382	0.03990297
CD83	-1.08	0.31	3.48	0.00049339	0.03990297
NUP37	0.69	0.20	-3.48	0.00049523	0.03991539
PLOD1	0.85	0.25	-3.48	0.00049761	0.04000534
AC119673.1	-1.06	0.31	3.48	0.00050911	0.0405199
OR7E66P	1.99	0.57	-3.48	0.00050764	0.0405199
SNORD101	-0.86	0.25	3.48	0.00050821	0.0405199
ENSG00000237721	1.87	0.54	-3.48	0.00050911	0.0405199

AC022919.1	-0.73	0.21	3.47	0.00051574	0.04094456
GOT1	0.89	0.26	-3.47	0.0005215	0.04119575
PMP22	0.80	0.23	-3.47	0.00052054	0.04119575
TOMM7	0.55	0.16	-3.47	0.00052493	0.04135397
COL13A1	-1.85	0.53	3.47	0.00052611	0.04135397
MKRN9P	3.41	0.98	-3.47	0.00052754	0.04136451
FAM50A	0.79	0.23	-3.46	0.0005335	0.04142571
CEND1	2.87	0.83	-3.46	0.00053354	0.04142571
MED28P6	-2.78	0.80	3.46	0.00053328	0.04142571
CFAP61	2.44	0.70	-3.46	0.00053349	0.04142571
MST1P2	1.50	0.43	-3.46	0.00053532	0.04146227
PELP1	0.50	0.15	-3.46	0.00053672	0.04146392
TVP23C	-0.51	0.15	3.46	0.00053795	0.04146392
AC120045.1	-2.73	0.79	3.46	0.00054221	0.0415923
USP6	1.70	0.49	-3.46	0.00054223	0.0415923
PPDPF	0.76	0.22	-3.45	0.00055247	0.042275
TK1	1.23	0.36	-3.45	0.00055691	0.04251255
MYOCOS	-1.89	0.55	3.45	0.00055963	0.04261783
ADGRG5	-1.78	0.51	3.45	0.00056159	0.04266485
ANKRD44-IT1	-1.33	0.38	3.45	0.00056494	0.04281652
AL136146.2	-1.09	0.32	3.45	0.00056684	0.0428587
KCNIP2	-0.86	0.25	3.45	0.00056838	0.04287276
CCNH	-0.49	0.14	3.44	0.00057504	0.04327252
MRPL24	0.56	0.16	-3.44	0.00057969	0.04351905
AC097460.2	-0.98	0.28	3.44	0.00058732	0.04391929
TMEM218	-0.48	0.14	3.44	0.00059055	0.04391929
AC092115.2	0.74	0.22	-3.44	0.00058796	0.04391929
SOD1	0.72	0.21	-3.44	0.00058969	0.04391929
AC130448.2	-2.19	0.64	3.43	0.00059747	0.04432995
AL512328.1	-2.14	0.62	3.43	0.00060669	0.04448336
PPM1K	-0.68	0.20	3.43	0.00061382	0.04448336
MYOZ2	2.58	0.75	-3.43	0.00060708	0.04448336
SLC39A7	0.53	0.15	-3.42	0.00061495	0.04448336
RNU6-1163P	3.97	1.16	-3.43	0.00061319	0.04448336
ST18	-1.75	0.51	3.43	0.00060896	0.04448336
KDM4C	-0.60	0.18	3.43	0.00060655	0.04448336
EIF3A	0.35	0.10	-3.43	0.00060415	0.04448336
GAPDH	0.88	0.26	-3.43	0.00061029	0.04448336
TPPP3	1.34	0.39	-3.43	0.00061242	0.04448336
MRPL58	0.80	0.23	-3.43	0.00060133	0.04448336
COPS6	0.43	0.13	-3.42	0.00061752	0.04456791
CDHR1	2.12	0.62	-3.42	0.00062044	0.04467708
RPS2P46	0.63	0.19	-3.42	0.00062219	0.04470174
AC090948.1	-0.91	0.27	3.42	0.00063594	0.04538195
HUWE1	0.34	0.10	-3.42	0.00063554	0.04538195

SGSM1	-1.36	0.40	3.42	0.00063485	0.04538195
DNAH3	2.95	0.86	-3.41	0.00063812	0.0454356
EIF4G1	0.40	0.12	-3.41	0.00064565	0.04576632
PHB2	0.52	0.15	-3.41	0.00064458	0.04576632
CYC1	0.80	0.24	-3.41	0.00064793	0.04582542
CYP26B1	1.33	0.39	-3.41	0.00065191	0.04600463
ACOXL	-3.27	0.96	3.41	0.00066013	0.0463296
PPP4C	0.57	0.17	-3.41	0.00065999	0.0463296
IMPA2	0.93	0.27	-3.41	0.00066164	0.0463296
ECH1	0.74	0.22	-3.40	0.00066235	0.0463296
P4HB	0.58	0.17	-3.40	0.00066844	0.04665254
ASB5	4.32	1.27	-3.40	0.00067192	0.04679241
CACNA1S	3.44	1.01	-3.40	0.0006743	0.04685569
AC009229.1	-2.82	0.83	3.40	0.00067784	0.04699893
RTN2	1.17	0.35	-3.40	0.00068348	0.04728669
WTAPP1	-2.45	0.72	3.39	0.00068811	0.04750348
ANXA2P2	0.87	0.26	-3.39	0.00069669	0.04788735
RPL6	0.51	0.15	-3.39	0.00069557	0.04788735
DCDC2C	-3.81	1.12	3.39	0.0006999	0.04790092
SUPT3H	-0.85	0.25	3.39	0.00069893	0.04790092
SPIB	-2.08	0.61	3.39	0.00070469	0.04812522
AC009032.1	-0.66	0.19	3.39	0.00070656	0.04814948
AC016734.2	-0.65	0.19	3.38	0.00071269	0.04832676
TRIM27	-0.36	0.11	3.38	0.00071373	0.04832676
RNU7-40P	-1.17	0.35	3.38	0.00071249	0.04832676
SCARNA22	1.36	0.40	-3.38	0.00071707	0.04834679
VGLL2	3.10	0.92	-3.38	0.00071644	0.04834679
TCL1A	-2.57	0.76	3.38	0.0007274	0.04893914
ADGRF2	2.99	0.89	-3.37	0.00074144	0.04895078
IDH3G	0.51	0.15	-3.38	0.00073686	0.04895078
AC104964.1	-1.19	0.35	3.38	0.00072925	0.04895078
AP003497.2	-2.54	0.75	3.38	0.00073312	0.04895078
AL136982.3	-0.69	0.21	3.38	0.00073608	0.04895078
TSR3	0.70	0.21	-3.37	0.00074086	0.04895078
GPX4	1.05	0.31	-3.37	0.00073984	0.04895078
PAK4	1.00	0.30	-3.37	0.00073825	0.04895078
XRCC6	0.49	0.14	-3.37	0.00074069	0.04895078
SH3BGR	1.63	0.48	-3.37	0.00074666	0.0491931
CHST7	1.06	0.31	-3.37	0.00074851	0.04921292
AL031599.1	2.64	0.78	-3.37	0.00075171	0.04921893
AC073896.5	-2.68	0.80	3.37	0.00075118	0.04921893
HKDC1	-2.42	0.72	3.37	0.00076142	0.04965028
AAR2	0.55	0.16	-3.37	0.00076077	0.04965028
LAMTOR2	0.68	0.20	-3.36	0.00076754	0.04994695

SE, standard error; *Positive higher in resistant tumors

12. Table A8. Baseline Characteristics of Patients by *CALB1* Expression Status

	CALB1 Expressed			*CALB1* Not Expressed			Total
Characteristic	Selinexor (N = 29)	Placebo (N = 17)	Total (N = 47)	Selinexor (N = 16)	Placebo (N = 14)	Total (N = 30)	Total (N = 76)
Age							
Median (range) — year	63 (44-79)	67 (46-80)	63 (44-80)	66 (51-75)	66.5 (40-77)	66.5 (40-77)	64.5 (40-80)
Distribution – no. (%)							
18 - 64	16 (55.2)	8 (47.1)	24 (52.2)	8 (50.0)	6 (42.9)	14 (46.7)	38 (50.0)
65-74	11 (37.9)	6 (35.3)	17 (37.0)	7 (43.8)	6 (42.9)	13 (43.3)	30 (39.5)
≥ 75	2 (6.9)	3 (17.6)	5 (10.9)	1 (6.3)	2 (14.3)	3 (10.0)	8 (10.5)
Male sex – no. (%)	18 (62.1)	13 (76.5)	31 (67.4)	9 (56.3)	11 (78.6)	20 (66.7)	51 (67.1)
Race n (%)							
Asian	1 (3.4)	0	1 (2.2)	1 (6.3)	0	1 (3.3)	2 (2.6)
Black or African American	0	0	0	0	1 (7.1)	1 (3.3)	1 (1.3)
White	23 (79.3)	16 (94.1)	39 (84.8)	12 (75.0)	12 (85.7)	24 (80.0)	63 (82.9)
Other/Missing	5 (17.2)	1 (5.9)	6 (13.0)	3 (18.8)	1 (7.1)	4 (13.3)	10 (13.2)
Geographic Region n (%)							
North America	15 (51.7)	15 (88.2)	30 (65.2)	5 (31.3)	7 (50.0)	12 (40.0)	42 (55.3)
Europe and Israel	14 (48.3)	2 (11.8)	16 (34.8)	11 (68.8)	7 (50.0)	18 (60.0)	34 (44.7)
ECOG performance-status score — no. (%)†							
0	15 (51.7)	10 (58.8)	25 (54.3)	5 (31.3)	7 (50.0)	12 (40.0)	37 (48.7)
1	14 (48.3)	7 (41.2)	21 (45.7)	11 (68.8)	7 (50.0)	18 (60.0)	39 (51.3)
Median duration from most recent progression (range) — months							
Median time since initial diagnosis (range) —months	41.6 (11-328)	36.1 (11-140)	40.2 (11-328)	58.3 (11-195)	79.6 (23-173)	63.6 (11-195)	47.9 (11-328)
Disease Stage Category at Study Entry, n (%)							
Metastasis	24 (82.8)	15 (88.2)	39 (84.8)	14 (87.5)	11 (78.6)	25 (83.3)	64 (84.2)
Lung	4 (13.8)	1 (5.9)	5 (10.9)	3 (18.8)	2 (14.3)	5 (16.7)	10 (13.2)
Liver	2 (6.9)	3 (17.6)	5 (10.9)	1 (6.3)	0	1 (3.3)	6 (7.9)
Peritoneal Cavity	7 (24.1)	7 (41.2)	14 (30.4)	5 (31.3)	3 (21.4)	8 (26.7)	22 (28.9)
Other	11 (37.9)	4 (23.5)	15 (32.6)	5 (31.3)	6 (42.9)	11 (36.7)	26 (34.2)
Site of Study Entry Liposarcoma Lesion, n (%)							
Primary/Extension	27 (93.1)	16 (94.1)	43 (93.5)	15 (93.8)	14 (100.0)	29 (96.7)	72 (94.7)
Extremity (Lower + Upper)	0	0	0	1 (6.3)	0	1 (3.3)	1 (1.3)
Retroperitoneum	22 (75.9)	9 (52.9)	31 (67.4)	9 (56.3)	10 (71.4)	19 (63.3)	50 (65.8)
Other	5 (17.2)	7 (41.2)	12 (26.1)	5 (31.3)	4 (28.6)	9 (30.0)	21 (27.6)
Median Prior Antineoplastic Regimen — no. (range)	2 (1-5)	2 (2-5)	2 (1-5)	2 (1-5)	2 (1-5)	2 (1-5)	2 (1-5)

	CALB1 Expressed			*CALB1* Not Expressed			Total
Characteristic	Selinexor (N = 29)	Placebo (N = 17)	Total (N = 47)	Selinexor (N = 16)	Placebo (N = 14)	Total (N = 30)	Total (N = 76)
Number of prior antineoplastic regimen — no. (%)							
≤2	16 (55.2)	9 (52.9)	25 (54.3)	10 (62.5)	8 (57.1)	18 (60.0)	43 (56.6)
≥3	13 (44.8)	8 (47.1)	21 (45.7)	6 (37.5)	6 (42.9)	12 (40.0)	33 (43.4)
Previous Systemic Therapy							
Eribulin	10 (34.5)	7 (41.2)	17 (37.0)	3 (18.8)	5 (35.7)	8 (26.7)	25 (32.9)
Anthracyclines	23 (79.3)	15 (88.2)	38 (82.6)	14 (87.5)	10 (71.4)	24 (80.0)	62 (81.6)
Anthracyclines + Alkylating Agents	23 (79.3)	15 (88.2)	38 (82.6)	14 (87.5)	11 (78.6)	25 (83.3)	63 (82.9)
Gemcitabine + Taxanes	10 (34.5)	8 (47.1)	18 (39.1)	5 (31.3)	4 (28.6)	9 (30.0)	27 (35.5)
Trabectedin	11 (37.9)	6 (35.3)	17 (37.0)	8 (50.0)	4 (28.6)	12 (40.0)	29 (38.2)
Dacarbazine	3 (10.3)	1 (5.9)	4 (8.7)	2 (12.5)	1 (7.1)	3 (10.0)	7 (9.2)
MDM2 inhibitor	1 (3.4)	0	1 (2.2)	1 (6.3)	0	1 (3.3)	2 (2.6)
CDK4 inhibitor	9 (31.0)	5 (29.4)	14 (30.4)	0	4 (28.6)	4 (13.3)	18 (23.7)
Immune checkpoint inhibitor	2 (6.9)	4 (23.5)	6 (13.0)	2 (12.5)	2 (14.3)	4 (13.3)	10 (13.2)
Tyrosine kinase inhibitor	8 (27.6)	8 (47.1)	16 (34.8)	1 (6.3)	4 (28.6)	5 (16.7)	21 (27.6)
Others	2 (6.9)	2 (11.8)	4 (8.7)	0	1 (7.1)	1 (3.3)	5 (6.6)
Prior radiotherapy, n (%)							
Yes	17 (58.6)	6 (35.3)	23 (50.0)	6 (37.5)	6 (42.9)	12 (40.0)	35 (46.1)
Prior surgery, n (%)							
Yes	27 (93.1)	14 (82.4)	41 (89.1)	14 (87.5)	13 (92.9)	27 (90.0)	68 (89.5)
Number of Prior Surgeries							
Median (range)	2.0 (1-5)	2.0 (1-7)	2.0 (1-7)	2.0 (1-7)	2.0 (1-5)	2.0 (1-7)	2.0 (1-7)

[†] Eastern Cooperative Oncology Group (ECOG) performance-status scores range from 0 to 5, with higher scores reflecting greater disability.

13. Table A9. Baseline Characteristics of Patients with Sequenced Tumors vs. Patients without Sequenced Tumors

	Selinexor		Placebo	
Characteristic	**Patients with Sequenced Tumors (N=45)***	**Patients without Sequenced Tumors (N=143)**	**Patients with Sequenced Tumors (N=31)**	**Patients without Sequenced Tumors (N=66)**
Age				
Median (range) — year	63 (44-79)	65 (33-84)	67 (40-80)	65 (31-85)
Distribution – no. (%)				
18 - 64	24 (53.3)	68 (47.5)	14 (45.2)	32 (48.5)
65-74	18 (40.0)	55 (38.5)	12 (38.7)	29 (43.9)
≥ 75	3 (6.7)	20 (14.0)	5 (16.1)	5 (7.6)
Male sex – no. (%)	27 (60.0)	87 (60.8)	24 (77.4)	40 (60.6)
Race n (%)				
Asian	2 (4.4)	7 (4.9)	0	3 (4.5)
Black or African American	0	3 (2.1)	1 (3.2)	0
White	35 (77.8)	104 (72.7)	28 (90.3)	52 (78.8)
Other/Missing	0	1 (0.7)	0	0
Geographic Region n (%)				
North America	20 (44.4)	70 (49.0)	22 (71.0)	33 (50.0)
Europe and Israel	25 (55.6)	73 (51.0)	9 (29.0)	33 (50.0)
ECOG performance-status score — no. (%)[†]				
0	20 (44.4)	51 (35.7)	17 (54.8)	24 (36.4)
1	25 (55.6)	92 (64.3)	14 (45.2)	42 (63.6)
Median duration from most recent progression (range) — months	0.92 (0.2-5.6)	0.85 (0.1-6.7)	0.62 (0.1-3.1)	0.69 (0.1-15.5)
Median time since initial diagnosis (range) —months	49 (11-328)	52.9 (5-313)	43.9 (11-173)	61.0 (13-301)
Disease Stage Category at Study Entry, n (%)				
Metastasis	38 (84.4)	96 (67.1)	26 (83.9)	52 (78.8)
Lung	7 (15.6)	21 (14.7)	3 (9.7)	13 (19.7)
Liver	3 (6.7)	9 (6.3)	3 (9.7)	6 (9.1)
Peritoneal Cavity	12 (26.7)	35 (24.5)	10 (32.3)	16 (24.2)
Other	16 (35.6)	31 (21.7)	10 (32.3)	17 (25.8)
Primary/Extension Site of Study Entry Liposarcoma Lesion, n (%)				
Extremity (Lower + Upper)	1 (2.2)	8 (5.6)	0	3 (4.5)
Retroperitoneum	31 (68.9)	107 (74.8)	19 (61.3)	47 (71.2)

Other	10 (22.2)	23 (16.1)	11 (35.5)	11 (16.7)
Median Prior Antineoplastic Regimen — no. (range)	45 (100.0)	143 (100.0)	31 (100.0)	66 (100.0)
Number of prior antineoplastic regimen — no. (%)				
≤2	26 (57.8)	78 (54.5)	17 (54.8)	36 (54.5)
≥3	19 (42.2)	65 (45.5)	14 (45.2)	30 (45.5)
Previous Systemic Therapy				
Eribulin	13 (28.9)	53 (37.1)	12 (38.7)	23 (34.8)
Anthracyclines	37 (82.2)	128 (89.5)	25 (80.6)	59 (89.4)
Anthracyclines + Alkylating Agents	37 (82.2)	131 (91.6)	26 (83.9)	61 (92.4)
Gemcitabine + Taxanes	15 (33.3)	57 (39.9)	12 (38.7)	16 (24.2)
Trabectedin	19 (42.2)	50 (35.0)	10 (32.3)	26 (39.4)
Dacarbazine	5 (11.1)	20 (14.0)	2 (6.5)	5 (7.6)
MDM2 inhibitor	2 (4.4)	6 (4.2)	0	1 (1.5)
CDK4 inhibitor	9 (20.0)	24 (16.8)	9 (29.0)	12 (18.2)
Immune checkpoint inhibitor	4 (8.9)	9 (6.3)	6 (19.4)	7 (10.6)
Tyrosine kinase inhibitor	9 (20.0)	52 (36.4)	12 (38.7)	18 (27.3)
Others	2 (4.4)	7 (4.9)	3 (9.7)	6 (9.1)
Prior radiotherapy, n (%)				
Yes	23 (51.1)	63 (44.1)	63 (44.1)	33 (50.0)
Prior surgery, n (%)				
Yes	41 (91.1)	127 (88.8)	27 (87.1)	55 (83.3)
Number of Prior Surgeries				
Median (range)	2 (1-7)	2 (1-10)	2 (1-7)	2 (1-4)

*****Represents only patients from phase 3. The biomarker discovery in set 1 comparing patients with tumor growth vs shrinkage also contained patients from phase 2.

[†] Eastern Cooperative Oncology Group (ECOG) performance-status scores range from 0 to 5, with higher scores reflecting greater disability.

14. References

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15. Remark Checklist

Item to be reported		Page no.
INTRODUCTION		
1	**State the marker examined, the study objectives, and any pre-specified hypotheses.**	
	"The object of the molecular correlative studies was to identify predictive biomarkers of response to selinexor through assessment of RNA-levels of all expressed genes in tumor biopsies from treated patients. Studies were exploratory with no prespecified hypothesis."	S2
MATERIALS AND METHODS		
Patients		
2	**Describe the characteristics (e.g., disease stage or co-morbidities) of the study patients, including their source and inclusion and exclusion criteria.**	
	These are included in Table A1.	Table A1
3	**Describe treatments received and how chosen (e.g., randomized or rule-based).**	
	"Patients were randomly assigned in a 2:1 ratio… Selinexor (60mg) or matching placebo was administered twice weekly in 6-week cycles. Patients were stratified by prior eribulin or trabectedin use and by the number of other (i.e., not eribulin or trabectedin) prior systemic therapies (≤2 versus ≥3). Supportive care measures included a 5HT3 antagonist (e.g., ondansetron), olanzapine and, if needed, low-dose steroids. Treatment was administered until disease progression, discontinuation, or unacceptable side effects. If radiographic progression was confirmed by central independent radiology review in the placebo arm, eligible patients were allowed to cross over to selinexor. Patients on selinexor with confirmed progression were permitted to continue selinexor if their treating physician considered them to be benefiting from the therapy."	12-13
Specimen characteristics		
4	**Describe type of biological material used (including control samples) and methods of preservation and storage.**	
	"RNA was extracted from formalin-fixed paraffin-embedded (FFPE) resected tumors or tumor biopsies of patients who were treated on study for at least one complete cycle. FFPE blocks and slides were stored at room temperature."	S2
Assay methods		
5	**Specify the assay method used and provide (or reference) a detailed protocol, including specific reagents or kits used, quality control procedures, reproducibility assessments, quantitation methods, and scoring and reporting protocols. Specify whether and how assays were performed blinded to the study endpoint.**	
	"Ribodepleted RNA sequencing was performed by HudsonAlpha Discovery Sequencing and Bioinformatics Division (Huntsville, AL) as follows: RNA was extracted using the HudsonAlpha Discovery proprietary dual DNA/RNA extraction protocol from FFPE. The concentration of extracted RNA was quantified using Ribogreen assays (Invitrogen). 20-500 ng RNA was used as input for library prep with the TruSeq™ Stranded Total RNA With Ribo-Zero™ Plus rRNA Depletion protocol (Illumina). Fragment size estimation was performed using the Caliper DNA-HS chip, and Kapa	S2

	qPCR quantification was performed to estimate the nanomolar concentration of the final libraries. RNA libraries were pooled and sequenced at 100 base pair read length with a target depth of 100M paired-end reads on NovaSeq 6000 instruments (Illumina). Samples with fewer than 30M pass-filter reads were removed. Hudson Alpha scientists were blinded to patient outcomes.”	
Study design		
6	**State the method of case selection, including whether prospective or retrospective and whether stratification or matching (e.g., by stage of disease or age) was used. Specify the time period from which cases were taken, the end of the follow-up period, and the median follow-up time.** A full list of inclusion or exclusion criteria for the study is provided in Table A1. Patients who were included in the exploratory biomarker studies are described in Figure S1, and Tables A2-A3. Median follow-up was 14.6 months (IQR 8.2 to 23.5) as indicated on page 15.	14, Fig. S1 Tables 1, A1, A2, A3
7	**Precisely define all clinical endpoints examined.** “PFS, defined as the time from date of randomization until the first date of progression confirmed by central radiographic review, based on RECIST v1.1, or death due to any cause.”	13
8	**List all candidate variables initially examined or considered for inclusion in models.** “Differential expression analysis was performed for 58,395 genes in the human GRCh38.92.gtf reference”	S2
9	**Give rationale for sample size; if the study was designed to detect a specified effect size, give the target power and effect size.** “The sample size was designed to have 90% power to detect a hazard ratio of 0.6 between selinexor and placebo for the primary efficacy endpoint of PFS, using a one-sided test with a nominal level of 0.025”	14
Statistical analysis methods		
10	**Specify all statistical methods, including details of any variable selection procedures and other model-building issues, how model assumptions were verified, and how missing data were handled.** “Differential expression analysis was performed for 58,395 genes in the human GRCh38.92.gtf reference, using a negative binomial distribution with DeSeq2. P-values were calculated with Wald’s method and adjusted with Benjamini and Hochberg method. Visual examination of MA plots validated symmetry and examination of dispersion plots showed values generally scatter around the fitted curve, which decreases with increasing mean expression levels.”	S2, Fig. A3
11	**Clarify how marker values were handled in the analyses; if relevant, describe methods used for cutpoint determination.** “…gene-level expressions were determined with featurecounts.[2] Differential expression analysis was performed for 58,395 genes in the human GRCh38.92.gtf reference, using a negative binomial distribution with DeSeq2.”	S2
	Marker Cutoff determination was based on detectable vs. no detectable expression of *CALB1*, as indicated throughout the manuscript.	16-17, Fig. 3F-H,

		Fig. A2
RESULTS		
Data		
12	**Describe the flow of patients through the study, including the number of patients included in each stage of the analysis (a diagram may be helpful) and reasons for dropout. Specifically, both overall and for each subgroup extensively examined report the numbers of patients and the number of events.**	
	Consort diagram is included as Figure 1.	Fig 1.
13	**Report distributions of basic demographic characteristics (at least age and sex), standard (disease-specific) prognostic variables, and tumor marker, including numbers of missing values.**	
	Baseline demographic and clinical characteristics are provided in table 1.	Table 1.
Analysis and presentation		
14	**Show the relation of the marker to standard prognostic variables.**	
	Table A8 shows the relationship of the marker to baseline demographic and clinical characteristics, including those associated with prognosis.	Table A8
15	**Present univariable analyses showing the relation between the marker and outcome, with the estimated effect (e.g., hazard ratio and survival probability). Preferably provide similar analyses for all other variables being analyzed. For the effect of a tumor marker on a time-to-event outcome, a Kaplan-Meier plot is recommended.**	
	Hazard ratios, survival probabilities by time and Kaplan Meier plots are shown in Figure 3.	Fig. 3
16	**For key multivariable analyses, report estimated effects (e.g., hazard ratio) with confidence intervals for the marker and, at least for the final model, all other variables in the model.**	
	No multivariable analyses are performed.	
17	**Among reported results, provide estimated effects with confidence intervals from an analysis in which the marker and standard prognostic variables are included, regardless of their statistical significance.**	
	We are only reporting on a single molecular variable so are not including multivariable models.	
18	**If done, report results of further investigations, such as checking assumptions, sensitivity analyses, and internal validation.**	
	N/A	
DISCUSSION		
19	**Interpret the results in the context of the pre-specified hypotheses and other relevant studies; include a discussion of limitations of the study.**	
	"To better delineate which patients were more likely to benefit from selinexor, we conducted exploratory molecular biomarker studies using a representative subset of patients (**Appendix Table A9, online only**). These analyses revealed that expression of	20, Table A9

	CALB1 was strongly associated with resistance to selinexor. We confirmed that CALB1 is not a prognostic marker in DD-LPS, as there was no association between *CALB1* expression and outcomes in the placebo arm or the TCGA data. CALB1 was an unexpected discovery, as it encodes a calcium binding protein highly expressed in the central nervous system and kidneys, where it acts as a buffer and calcium sensor.[28] Although most human adult tissues do not express *CALB1*, its ectopic expression has been observed in several cancer types.[29, 30] Recent functional studies have demonstrated a novel oncogenic activity of CALB1 where it binds MDM2 to enhance MDM2-mediated suppression of p53 signaling.[29] This is especially important in the context of DD-LPS, as MDM2 overexpression is a hallmark of this disease, and treatment with selinexor, which restores p53 activity. We speculate CALB1 expression could prevent selinexor from overcoming MDM2-mediated suppression of p53 causing drug resistance and additional laboratory work is ongoing.”	
20	**Discuss implications for future research and clinical value.**	
	“Further investigation is warranted for selinexor as a treatment for patients with DD-LPS with *CALB1* expression.”	21