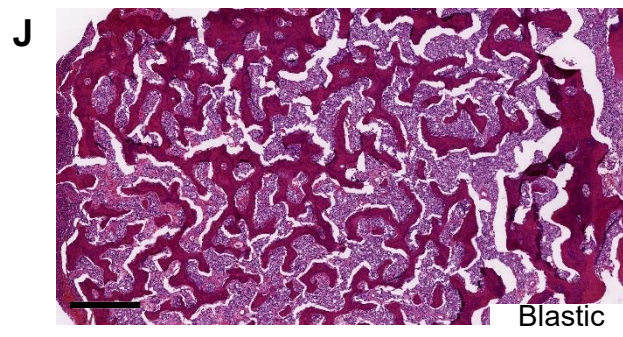
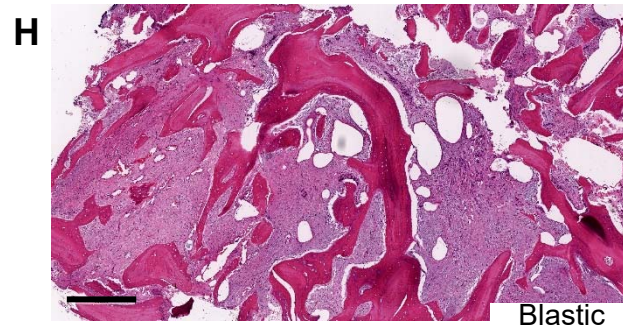
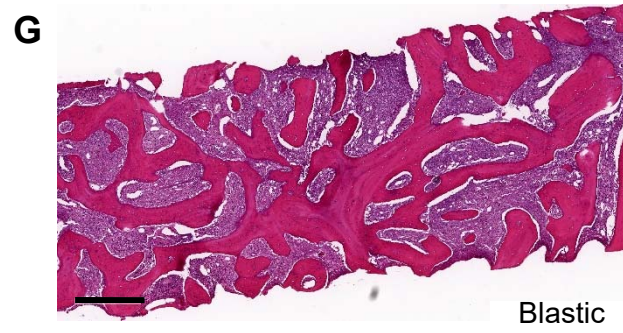
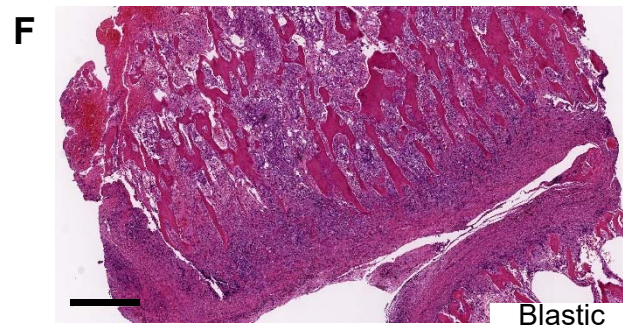
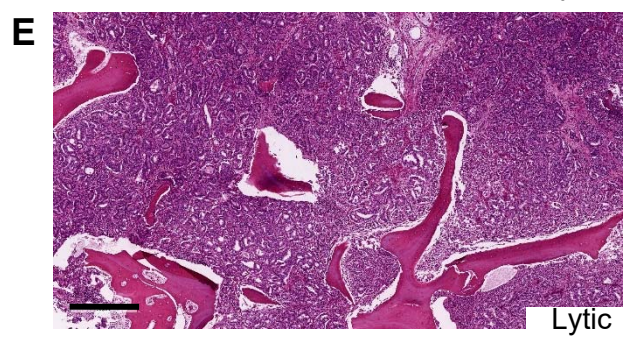
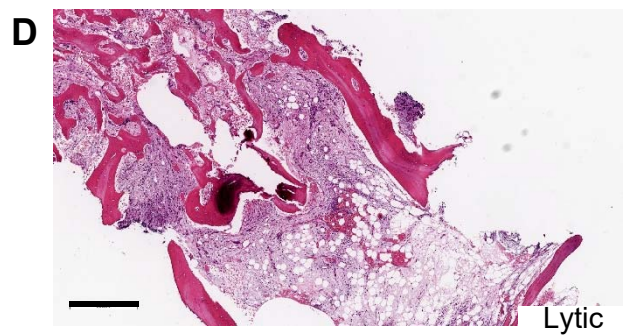
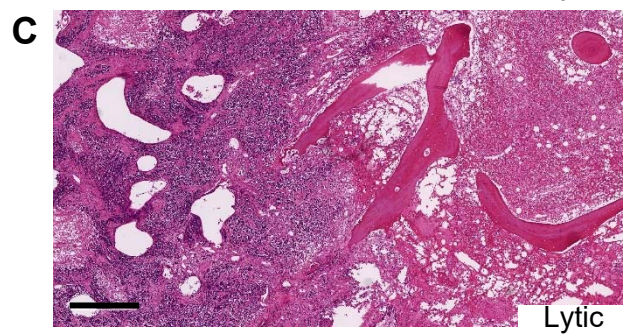
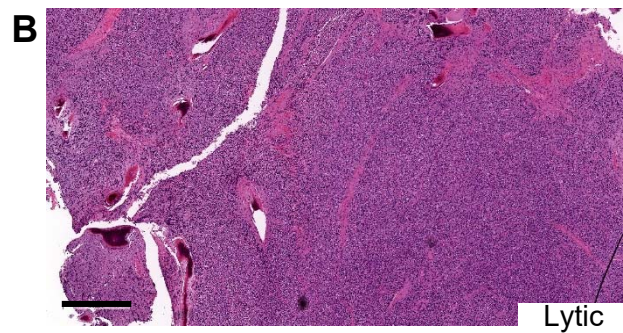
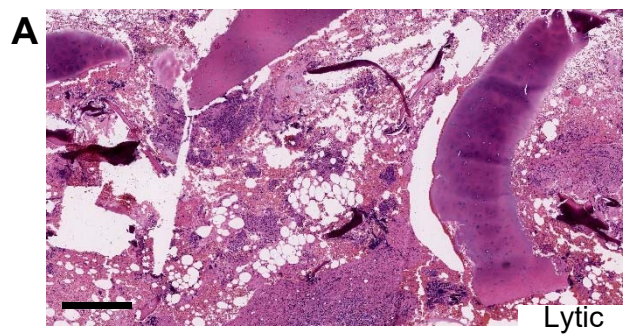


Supplemental Data Ihle

The following is supplemental data to be submitted with primary data:

Supplemental Figure 1 Ihle



Supplemental Figure 2 Ihle

A

Sample ID	Nucleic Acid Conc.	Unit	A260	A280	260/280	260/230	Sample Type	Factor
RNA 06	66.6	ng/μl	1.664	0.91	1.83	0.17	RNA	40
RNA 13	10.6	ng/μl	0.266	0.169	1.57	0.04	RNA	40
RNA 21	52.1	ng/μl	1.303	0.779	1.67	0.24	RNA	40
RNA 27	155	ng/μl	3.875	2.009	1.93	0.31	RNA	40
RNA 32	378.8	ng/μl	9.47	4.582	2.07	0.55	RNA	40
RNA 33	30.4	ng/μl	0.759	0.35	2.17	0.05	RNA	40
RNA 33A	401.9	ng/μl	10.048	4.941	2.03	0.65	RNA	40
RNA 35	15.2	ng/μl	0.381	0.185	2.06	0.04	RNA	40
RNA 36	44	ng/μl	1.1	0.654	1.68	0.07	RNA	40
RNA 47	10	ng/μl	0.25	0.147	1.7	0.05	RNA	40
RNA 48	17.8	ng/μl	0.445	0.247	1.8	0.05	RNA	40
RNA 50	191.1	ng/μl	4.778	2.415	1.98	0.33	RNA	40
RNA 51	55.3	ng/μl	1.383	0.689	2.01	0.12	RNA	40
RNA 52	130.9	ng/μl	3.274	1.664	1.97	0.26	RNA	40
RNA 55	6.6	ng/μl	0.166	0.1	1.66	0.06	RNA	40
RNA 56	35	ng/μl	0.875	0.496	1.76	0.1	RNA	40

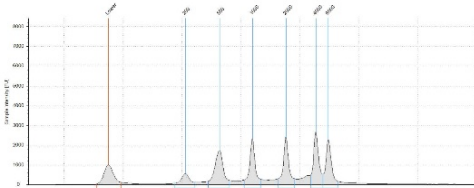
B

Sample Info

Well	RNA	28S/18S (Area)	Conc. [pg/μl]	Sample Description	Alert	Observations
A1	-	-	3859	Electronic Ladder		Ladder
B1	3.2	-	328	13	⚠	RNA concentration outside recommended range for RNA
C1	1.0	-	671	21	⚠	RNA concentration outside recommended range for RNA
D1	1.7	-	5290	27		
E1	1.0	-	20400	32		
F1	2.1	-	858	33	⚠	RNA concentration outside recommended range for RNA
G1	1.1	-	18800	33A		
H1	2.1	-	1090	36		
A2	2.0	-	5540	50		
B2	1.5	-	9680	51		
C2	2.0	-	6660	52		
D2	1.8	-	684	56	⚠	RNA concentration outside recommended range for RNA
E2	1.1	-	3400	55		
F2	2.9	-	166	47	⚠	RNA concentration outside recommended range for RNA
G2	1.1	-	1390	48		
H2	3.1	-	339	55	⚠	RNA concentration outside recommended range for RNA

C

A1: Electronic Ladder



Sample Table

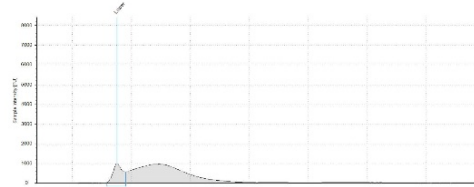
Well	RNA	28S/18S (Area)	Conc. [pg/μl]	Sample Description	Alert	Observations
A1	-	-	-	Electronic Ladder		Ladder

Peak Table

Size [nt]	Calibrated Conc. [pg/μl]	Assigned Conc. [pg/μl]	Peak Molarity [nmol/L]	%Integrated Area	Peak Comment	Observations
25	115	-	2876	6.53		Linear Marker
100	625	-	5086	20.25		
1500	544	-	1106	17.62		
2300	367	-	832	18.28		
4000	314	-	452	17.91		
6000	345	-	325	17.52		

D

A1: 06



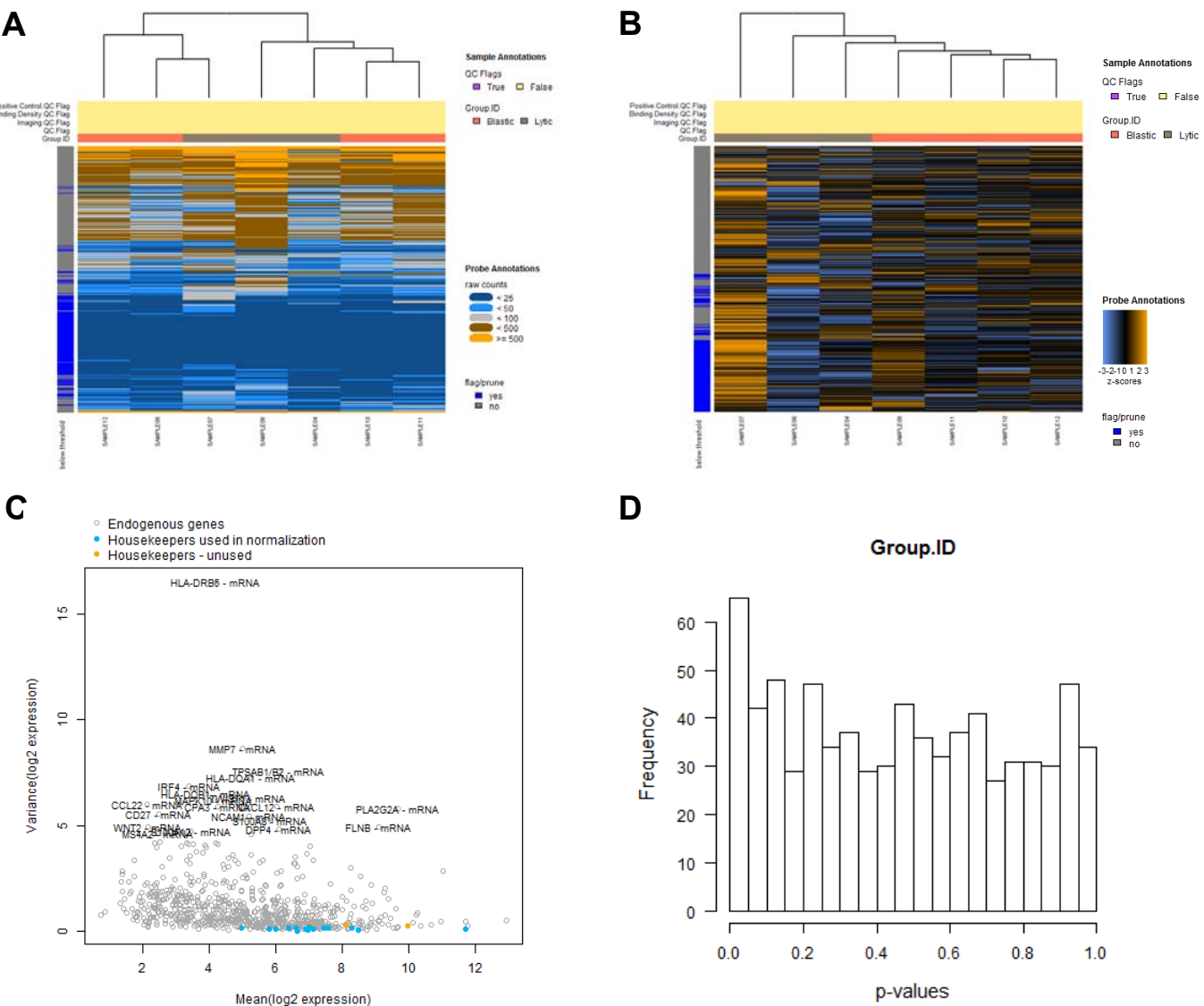
Sample Table

Well	RNA	28S/18S (Area)	Conc. [pg/μl]	Sample Description	Alert	Observations
A1	1.6	-	1500	06		

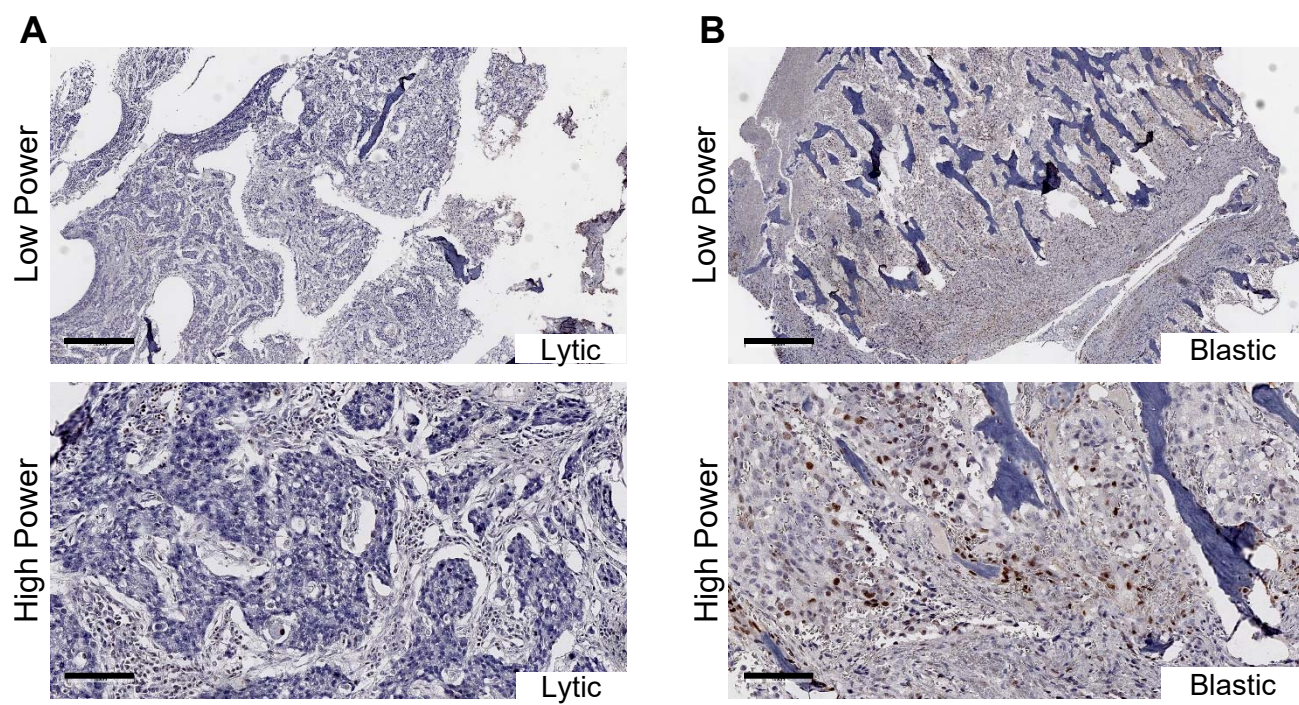
Peak Table

Size [nt]	Calibrated Conc. [pg/μl]	Assigned Conc. [pg/μl]	Peak Molarity [nmol/L]	%Integrated Area	Peak Comment	Observations
25	115	-	62400	-		Linear Marker

Supplemental Figure 3 Ihle



Supplemental Figure 4 Ihle



**Supplemental Table 1. Patient Sample
Treatment History and Characteristics**

Metastasis Site	
Rib	1/15
Spine	3/15
Pelvis	2/15
Femur	5/15
Humerus	2/15
Thoracic	1/15
Orbit	1/15
Other Bone	2/15
Bone Disease	
Lytic	5/15
Blastic	10/15
Hormone Therapy	
Androgen Deprivation	6/15
Leuprolide	11/15
Bicalutamide	3/15
Degarelix	2/15
Goserelin	1/15
Enzalutamide	4/15
Diethylstilbestrol	1/15
Abiraterone	3/15
Megestrol Acetate	1/15
Radiation	
	13/15
Chemotherapy	
Docetaxel	5/15
Cabazitaxel	1/15
Carboplatin	4/15
Mitoxantrone	1/15
Osteoporosis	
Denosumab	5/15
Ibandronic Acid	1/15
Other	
Finasteride	1/15
Unknown patient history	3/15

Supplemental Table 2 Ihle

Gene Name	Log2 fold change	std error (log2)	Linear fold change	P-value	Gene sets	probe ID
TREM2-mRNA	1.43	0.236	2.69	0.00176	Myeloid Compartment	NM_018965.3:848
SHC2-mRNA	-3.46	0.613	0.091	0.00243	Cytokine and Chemokine Signaling, MAPK	NM_012435.2:681
NEL1-mRNA	-1.87	0.364	0.274	0.00365	DNA Damage Repair	NM_024608.2:1675
CYBB-mRNA	1.63	0.348	3.1	0.0054	Antigen Presentation, Hypoxia, Immune Cell Adhesion and Migration, Myeloid Compartment	NM_000397.3:1034
ITGA2-mRNA	-1.45	0.31	0.365	0.0054	Immune Cell Adhesion and Migration, Matrix Remodeling and Metastasis, PI3K-Akt	NM_002023.3:903
LAMC2-mRNA	-3.11	0.674	0.116	0.00574	Matrix Remodeling and Metastasis, PI3K-Akt	NM_005562.2:1027
PTGER4-mRNA	2.19	0.516	4.55	0.00819		NM_000958.2:975
GOT1-mRNA	0.734	0.177	1.66	0.00893	Metabolic Stress	NM_002079.2:568
CCL3/1-mRNA	2.33	0.566	5.03	0.00919	Cytokine and Chemokine Signaling	NM_021006.5:411
PDGFA-mRNA	-0.912	0.224	0.531	0.0096	MAPK, Matrix Remodeling and Metastasis, PI3K-Akt	NM_033023.4:2390
WNT5A-mRNA	3.02	0.778	8.1	0.0117	Hedgehog Signaling, Wnt Signaling	NM_003392.3:987
CCL4-mRNA	1.82	0.49	3.54	0.0137	Antigen Presentation, Cytokine and Chemokine Signaling, Myeloid Compartment	NM_002984.2:35
E2F3-mRNA	-0.798	0.222	0.575	0.0157	Angiogenesis, Cell Proliferation, Metabolic Stress, Notch Signaling	NM_001243076.2:2707
LYZ-mRNA	2.38	0.673	5.21	0.0166	Myeloid Compartment	NM_000239.2:381
LILRB2-mRNA	2.26	0.657	4.78	0.0186	Costimulatory Signaling, Myeloid Compartment	NM_001278405.1:256
SIRPA-mRNA	1.25	0.386	2.37	0.0234	Cytotoxicity, Myeloid Compartment	NM_001040023.1:3355
SLC7A5-mRNA	2.1	0.657	4.28	0.0242	Metabolic Stress	NM_003486.6:2011
CSF3R-mRNA	1.6	0.502	3.02	0.0247	Cytokine and Chemokine Signaling, JAK-STAT Signaling, Myeloid Compartment, PI3K-Akt	NM_000760.3:2066
CXCL8-mRNA	2.68	0.847	6.41	0.025	Cytokine and Chemokine Signaling, Metabolic Stress	NM_000584.3:170
KRAS-mRNA	-0.766	0.243	0.588	0.0255	Autophagy, Cytokine and Chemokine Signaling, MAPK, Metabolic Stress, PI3K-Akt	NM_004985.3:1790
CTSS-mRNA	1.67	0.539	3.19	0.0267	Antigen Presentation, Matrix Remodeling and Metastasis	NM_004079.3:685
CCL5-mRNA	3.04	0.984	8.22	0.0272	Cytokine and Chemokine Signaling, Myeloid Compartment	NM_002985.2:277
S100A9-mRNA	3.44	1.12	10.9	0.028	Myeloid Compartment	NM_002965.3:137
NKG7-mRNA	2.71	0.92	6.56	0.0319		NM_005601.3:633
HLA-DRA-mRNA	2.03	0.697	4.09	0.0331	Antigen Presentation, Costimulatory Signaling, Immune Cell Adhesion and Migration, Interferon Signaling	NM_019111.3:335
CDKN2A-mRNA	0.763	0.263	1.7	0.0339	Cell Proliferation, Metabolic Stress	NM_000077.4:1052
PIK3CD-mRNA	2.37	0.845	5.19	0.0375	Autophagy, Cytokine and Chemokine Signaling, Hypoxia, Immune Cell Adhesion and Migration, JAK-STAT Signaling, MAPK, Metabolic Stress, PI3K-Akt	NM_001350234.1:664
TNFRSF10B-mRNA	-1.24	0.444	0.423	0.0382	Apoptosis	NM_003842.3:565
CD14-mRNA	1.33	0.477	2.52	0.0382	Apoptosis, MAPK, Myeloid Compartment	NM_001174105.1:1020
SYK-mRNA	0.776	0.279	1.71	0.0388	PI3K-Akt	NM_003177.5:808
CDKN1A-mRNA	-1.6	0.579	0.329	0.0394	Cell Proliferation, Hypoxia, JAK-STAT Signaling, Metabolic Stress, Myeloid Compartment, PI3K-Akt	NM_000389.2:1975
PCK2-mRNA	1.54	0.56	2.92	0.04	Metabolic Stress, PI3K-Akt	NM_001018073.2:1307
DNMT1-mRNA	1.04	0.381	2.05	0.0417	Epigenetic Regulation	NM_001130823.2:2500
TNFRSF1B-mRNA	1.13	0.424	2.19	0.044	NF-kappaB Signaling	NM_001066.2:596
FPRI-mRNA	2.3	0.862	4.93	0.0444	Myeloid Compartment	NM_002029.3:625
MMP7-mRNA	-3.37	1.5	0.0639	0.0459	Matrix Remodeling and Metastasis, Wnt Signaling	NM_002423.3:265
S100A8-mRNA	3.77	1.45	13.6	0.048	Myeloid Compartment	NM_002964.4:365
CLEC7A-mRNA	1.12	0.43	2.17	0.0488	Immune Cell Adhesion and Migration, Myeloid Compartment	NM_197954.2:55

Supplemental Table 3 Ihle

Supplemental Table 3. GSA Global Significance Scores of Differential Expression in Lytic vs. Baseline of Blastic

	Undirected Group	Directed Group
Myeloid Compartment	2.287	2.155
Antigen Presentation	1.624	1.417
Epigenetic Regulation	1.339	1.264
Cytokine and Chemokine Signaling	1.955	1.077
Hypoxia	1.58	1
Immune Cell Adhesion and Migration	1.697	0.958
Costimulatory Signaling	1.429	0.892
Metabolic Stress	1.585	0.891
Hedgehog Signaling	1.613	0.881
Cell Proliferation	1.423	0.796
Interferon Signaling	1.037	0.776
Cytotoxicity	1.079	0.754
JAK-STAT Signaling	1.39	0.693
DNA Damage Repair	1.609	0.485
Autophagy	1.546	0.442
Apoptosis	1.258	0.412
Lymphoid Compartment	1.183	-0.516
Angiogenesis	1.237	-0.905
MAPK	1.511	-0.974
Matrix Remodeling and Metastasis	1.759	-1.07

Supplemental Table 4 Ihle

Supplemental Table 4. DSP Normalized Antibody Counts: Tumor ROI.														
Antigen	Lytic					Blastic								
	Patient 1	Patient 2	Patient 3	Average	ST DEV	Patient 1	Patient 2	Patient 3	Average	ST DEV	Patient 1	Patient 2	Patient 3	p-Value
Pan-Cytokeratin	11380	11199	13124	10798	2128	2114	2636	2723	1072	332	953	3444	5158	4879
CD3	45	70	181	192	97	110	36	224	154	488	155	240	166	121
CD68	5257	7635	3888	5520	8434	4335	4733	8038	7964	6293	16503	5626	7019	3362
P-AKT (Ser473)	3824	4017	5055	3372	1066	3486	4080	695	528	299	627	6485	2794	2072
P-STAT3 (Tyr705)	84	108	86	66	280	99	130	179	136	161	143	258	144	67
Ki-67	2205	1821	2040	1375	21387	11251	10561	14149	4864	7242	3174	1820	6824	6329
Bcl-2	238	295	223	257	2062	1013	1171	1493	203	457	246	273	661	624
CD45	239	274	445	741	148	71	50	133	331	359	349	312	288	189
CD4	848	1147	786	959	1295	772	653	1216	1249	1202	1665	713	1042	302
FoxP3	29	24	27	24	91	33	39	52	45	24	27	188	50	47
GZMB	582	749	567	574	1252	986	797	1350	737	747	678	548	797	267
CD44	305	478	355	501	1960	1164	1085	3134	924	937	964	183	999	832
CD8A	88	70	301	557	229	182	101	356	142	397	137	215	231	147
CD45RO	253	321	245	299	208	213	132	172	285	361	291	218	250	65
CD11c	2339	3215	1534	2103	1869	1367	1404	2955	5999	4972	12893	1812	3538	3284
CD14	276	274	251	266	160	94	81	148	126	149	149	255	186	73
CD163	137	159	173	201	166	137	141	167	221	205	262	228	183	40
CD68B	736	81	201	254	54	28	35	50	258	98	63	262	177	199
CD56	3219	1935	848	1410	347	117	102	527	995	2098	4106	341	1337	1284
HLA-DR	1411	1345	1181	1117	605	981	503	1374	3838	1849	2702	1175	1507	929
B7-H3	67229	88204	57082	60250	35405	25110	28186	41767	109585	63428	99911	58194	61196	27090
B7-H4 VTCN1	46	77	50	54	169	62	80	106	92	40	69	303	96	74
PD-L1	171	206	179	181	542	262	280	402	307	203	243	1291	355	314
PD1	37	47	32	32	148	70	56	94	57	42	43	282	78	72
STING TMEM173	2377	1554	2517	2708	10958	6905	7406	6737	1459	1444	1572	2976	4051	3138
VISTA	481	346	436	403	1020	499	525	635	491	423	546	347	513	180
OX40L	24	22	22	19	130	57	57	78	58	25	42	317	71	84
Beta-2-Microglobulin	28009	30940	27780	27605	5022	2908	2068	5152	7596	5047	9129	6910	13181	11558
IDO-1	1645	1864	2047	1746	2849	1701	1853	2797	1777	1471	1455	3975	2098	744
ICOS CD278	30	39	42	45	225	111	118	170	77	74	93	155	98	60

Supplemental Table 5 Ihle

Supplemental Table 5. DSP Normalized Antibody Counts: Macrophage ROI.																												
Antigen	Patient 1					Patient 2					Patient 3					ST DEV		Blastic					ST DEV		p-Value			
	13455	10690	4255	12025	687	3183	3659	3276	6862	3031	398	460	5165	4565	738	250	443	513	575	1917	1550	650	864	701		692	808	492
Pan-Cytokeratin	410	811	435	259	702	65	120	62	454	299	9059	5504	1515	2808	8440	4750	2428	3653	4830	3111	3082	2373	1218	540	495	3175	2288	0.0024587
CD3	20651	22289	41782	11686	28007	27933	12735	19632	22898	13659	164831	55504	36817	42233	26048	29016	8642	61411	74815	76434	54136	69489	46458	39367	42646	48042	21688	0.0686366
CD68	11569	15897	1715	4575	539	548	1341	625	3439	7128	369	1894	4137	4993	1451	1443	1425	533	534	565	592	456	400	747	314	769	445	0.2191454
P-AKT (Ser473)	157	144	607	126	135	155	296	134	203	213	320	247	228	136	694	810	727	695	642	570	654	463	348	460	417	589	148	0.0186042
P-STAT3 (Tyr705)	6800	5874	5001	2626	5521	1210	10920	1295	288	384	427	331	3390	3413	786	451	1542	2126	2967	1947	2038	240	269	259	293	1174	979	0.0000023
Ki-67	417	457	620	409	790	1267	1654	1159	450	256	1049	539	756	432	1723	1401	1081	2024	1831	1595	1664	1098	955	1086	998	1405	379	0.0253627
Bcl-2	1266	2305	3055	1144	1107	335	158	291	967	1153	4729	7141	1971	2089	7397	6120	1803	8050	7730	4866	5649	5940	2341	2322	1438	4878	2491	0.0005016
CD45	3605	4621	14198	1823	5400	2280	2020	1703	5989	5976	12467	12394	6040	4507	11056	7715	3392	7792	7336	5895	6147	10913	5259	5362	4752	6874	2420	0.2955022
CD4	69	87	158	47	30	45	88	53	73	43	155	99	79	42	223	372	237	158	160	182	131	120	104	144	88	174	80	0.0007850
FoxP3	725	1017	831	648	636	993	1150	986	703	470	1321	875	863	242	2436	2131	3447	3915	3950	2624	2948	886	595	724	588	2204	1320	0.0011645
GZMB	905	1700	4255	993	6163	1705	5439	1179	4599	4994	8467	9248	4137	2901	18016	11192	2645	12768	14857	11244	10139	7625	3241	3362	3426	8955	5283	0.0060880
CD44	361	529	409	350	656	156	216	108	184	384	6234	8007	1466	2673	5945	4488	2087	4188	4258	3530	3815	1928	650	466	293	2877	1895	0.0812364
CD8A	1056	1001	1715	648	516	179	241	158	554	427	3554	4031	1173	1304	3672	2211	701	796	876	825	828	2126	949	828	627	1303	933	0.3938490
CD45RO	6249	5381	9857	5505	15150	10072	5351	5747	12604	7214	98776	76512	21535	31399	15788	9901	3257	9621	10698	10566	7397	63768	35004	42114	34124	22022	19043	0.4824949
CD11c	682	832	1353	535	147	210	163	175	363	213	2233	1316	685	651	1063	2156	524	854	729	746	707	1639	882	1155	793	1022	479	0.0874231
CD14	413	462	693	312	852	571	283	521	655	384	9273	4723	1595	2709	1175	2101	865	2694	2553	2236	1658	646	446	391	417	1380	898	0.4022317
CD163	4399	5386	1056	4817	96	27	68	28	1213	43	175	247	1463	2101	58	67	143	207	74	741	154	117	98	494	80	203	217	0.0307800
CD68B	7088	5366	70845	2507	308	198	1023	135	295	9988	1952	317	8335	19944	1242	1084	12624	696	467	389	605	1063	263	305	402	1740	3626	0.1465293
CD56	3483	5648	7330	1980	12586	1087	3369	806	11633	5933	39023	20999	9490	10983	57119	18147	6938	23723	20747	11758	14628	76697	42637	40723	30278	31218	21309	0.0026255
HLA-DR	142173	165024	273846	64649	21718	27835	63046	20128	67884	52629	56442	77472	86070	73800	90044	66764	28421	22397	17567	21217	17307	25756	11097	20735	11580	30262	24919	0.0133582
B7-H3	105	128	165	60	53	114	155	72	97	85	253	158	120	56	383	420	490	259	217	205	232	141	134	178	161	256	121	0.0010303
B7-H4 VTCN1	443	539	798	297	403	336	657	310	341	213	952	687	498	229	1888	1553	1806	1313	1118	1243	1064	530	623	1040	754	1176	448	0.0000725
PD-L1	92	92	211	71	151	74	125	63	133	43	447	322	152	121	718	426	362	266	253	215	221	703	385	368	293	383	176	0.0006712
STING TMEM173	13517	18756	18961	28765	4811	8480	9918	8433	5714	2774	2961	3170	10522	8072	11483	11473	3150	27949	24027	15998	19840	7243	6388	5822	8434	12891	8072	0.2447933
VISTA	3001	4180	1861	1615	1229	1444	1218	1244	2364	598	3097	2671	2043	1033	1354	1778	1105	2927	3159	2979	3538	1116	1315	1310	1337	1993	946	0.4517587
OX40L	46	51	79	24	72	70	108	68	41	85	204	158	84	51	340	298	420	218	216	211	252	120	86	184	158	227	97	0.0001005
Beta-2-Microglobulin	57899	63237	66095	30738	11217	4974	9778	4092	23435	14384	18109	21746	27142	22652	43529	31056	12454	23488	19645	17098	16980	24760	14348	22160	14889	21855	9001	0.2390058
IDO-1	2155	2264	3398	2036	1483	2241	3424	1997	1876	1409	4408	3205	2491	911	9183	8848	10401	7337	7221	7714	6971	3521	3513	4557	3511	6616	2474	0.0000117
ICOS CD278	141	267	238	73	110	207	301	165	152	85	680	411	236	170	845	359	347	298	208	278	293	177	131	144	148	293	200	0.2324160

Supplemental Table 6 Ihle

Supplemental Table 6. DSP Normalized Antibody Counts: T Cell ROI.																												
Antigen	Lytic										Blastic																	
	Patient 1	Patient 2	Patient 3	Average	ST DEV	Patient 1	Patient 2	Patient 3	Average	ST DEV	Patient 1	Patient 2	Patient 3	Average	ST DEV	p-Value												
Pan-Cytokeratin	2689	902	813	2270	656	1618	2092	665	404	766	442	1211	809	738	250	443	1557	1501	1049	3067	1720	238	185	640	181	964	0.4886265	
CD3	2928	34437	21747	607	976	1437	533	18964	34021	9330	15378	12760	13118	8640	4750	2428	7529	1502	2830	2820	3210	17735	4968	5133	2166	5568	4306	0.1084383
CD8	34256	35154	20991	7650	8170	17411	10646	50262	29985	17118	22508	23705	13208	26048	29016	8642	10217	24791	41919	40716	43058	39795	32650	30358	10642	28168	12636	0.3593421
P-AKT (Ser473)	2490	459	2285	715	658	1110	950	419	928	931	651	1054	694	1451	1443	1425	1173	653	565	1272	701	592	619	488	596	915	397	0.5675189
P-STAT3 (Tyr705)	383	387	871	154	119	220	166	271	121	291	286	297	213	694	810	727	658	936	715	1731	648	565	453	363	825	760	344	0.0009567
KL67	738	1055	1530	7648	6540	19184	10265	937	1170	320	312	4518	5971	786	451	1542	1673	49072	29001	32675	3883	507	314	369	225	10041	16864	0.3063658
Bcl-2	815	1273	1123	936	733	1700	1302	961	767	912	1093	1056	286	1723	1401	1081	1805	2573	1792	2636	1757	2804	1607	1073	1641	1824	570	0.0007278
CD45	4968	141108	55112	270	355	338	206	10708	20542	4209	12594	22764	42410	7397	6120	1803	11432	8012	6458	6639	5765	40920	7453	7490	14521	10334	10112	0.3635516
CD4	6404	37184	32165	2797	2291	5248	2581	20972	23690	11541	26567	15585	12937	11056	7715	3392	8676	8485	7130	6968	7698	30315	11525	11571	8842	10281	6706	0.2423489
FoxP3	61	129	310	49	35	65	50	148	161	58	130	109	81	223	372	237	216	153	147	362	193	169	111	103	88	198	92	0.0221655
GZMB	571	1635	2440	925	763	2666	639	1035	605	863	1015	1196	734	2436	2131	3447	2589	3110	3072	4259	4818	2171	1196	1219	737	2599	1230	0.0036109
CD44	2390	17190	13885	1570	2334	3877	1540	11768	6538	8224	14624	7631	5844	18016	11192	2645	11417	5811	5960	5480	19511	12068	5176	7327	5312	9160	5349	0.5213671
CD8A	6598	27316	18823	514	818	2754	656	16635	24900	8380	11163	10778	9832	5945	4488	2087	10538	2610	2670	2449	3014	3734	2258	2038	1196	3585	2527	0.0376913
CD45RO	1447	16071	13923	265	347	499	281	5385	9403	2628	5412	5060	5716	3572	2211	701	4225	1305	1005	1025	959	7980	2553	2726	2758	2585	2039	0.1984562
CD11c	21381	39536	19578	2018	3249	2926	2524	60809	21268	18602	16835	18975	18034	15788	9901	3257	11411	2239	5597	6389	7013	49360	43851	34339	7518	16389	16477	0.7240041
CD14	760	636	1685	157	97	209	146	1565	848	1106	1665	807	627	1063	2156	524	658	348	358	767	945	1547	1030	1312	834	962	521	0.5282061
CD163	288	1128	1433	230	386	346	210	5446	3592	1338	3227	1602	1741	1175	2101	865	868	1493	1050	1261	2349	798	443	379	353	1095	637	0.3786417
CD68B	3698	60311	349	26	37	56	29	394	242	78	286	5955	18060	58	67	143	111	5601	2564	2116	920	63	148	347	238	1031	1672	0.3885947
CD56	18952	4866	2459	974	296	577	973	4744	484	1290	1405	3365	5413	1242	1084	12624	1294	3066	644	1117	439	993	429	558	397	1991	3426	0.4812811
HLA-DR	6476	18657	15531	1085	3550	4934	2165	27762	18201	12395	12594	11213	8397	57119	18147	6938	21313	2664	10255	9901	3085	56648	54804	28318	15385	23715	20925	0.0760201
B7-H3	134552	20042	61677	30968	23145	32856	34931	139917	48428	131367	129870	71614	50731	90044	66764	28421	60944	17344	26914	26897	36563	14376	10126	30166	14481	35253	24658	0.0487829
B7-H4 VTCN1	105	169	407	82	46	123	73	148	161	116	130	142	96	383	420	490	389	232	193	841	252	143	263	163	154	327	199	0.0107671
PD-L1	449	1184	2479	293	246	603	297	678	888	446	885	768	639	1888	1553	1806	1552	1166	1219	4535	1390	1056	1108	612	662	1546	1021	0.0400246
PD1	216	475	930	111	86	181	89	456	404	475	416	349	251	718	426	362	752	235	234	612	254	919	540	417	468	495	220	0.1549712
STING TMEM173	14250	107476	30112	7810	4183	12406	13159	3031	7224	5916	4007	19052	30309	11483	11473	3150	8334	38385	34714	26617	15443	13145	6358	8336	6098	15294	11603	0.7058408
VISTA	2207	10448	2982	560	706	1597	998	3228	6498	3171	2966	3215	2917	1354	1778	1105	1005	4184	4452	5575	2780	1880	1141	2759	852	2405	1570	0.4261707
Ox40L	44	177	291	84	66	97	68	160	202	107	78	125	75	340	298	420	505	242	235	1323	342	232	180	152	181	371	317	0.0225043
Beta-2-Microglobulin	37750	59337	100077	7489	7069	14862	6488	49079	19008	38707	45901	35069	28595	43529	31056	12454	28841	20164	20144	20998	23328	63224	33019	28730	37001	30207	13402	0.6149607
IDO-1	2218	8370	6410	1716	1340	2737	1839	3265	2543	2803	4736	3452	2190	9183	8848	10401	7029	5984	5283	8430	6915	3111	7448	2867	4033	6628	2437	0.0034851
ICOS CD278	255	959	1065	116	98	194	107	1146	1816	640	729	648	559	845	359	347	915	302	302	606	357	1162	425	341	265	519	296	0.5060462

Supplemental Table 7. Antibody Panel for DSP

Antigen	Function
Pan-Cytokeratin	Signaling
AKT	Signaling
P-AKT	Signaling
STAT3	Signaling
STAT3 (Phospho Y705)	Signaling
Ki-67	Signaling
Bcl-2	Signaling
Beta-Catenin	Signaling
CD45	Immune Cell Profiling
CD3	Immune Cell Profiling
CD4	Immune Cell Profiling
FoxP3	Immune Cell Profiling
GZMB	Immune Cell Profiling
CD44	Immune Cell Profiling
CD8A	Immune Cell Profiling
CD45RO	Immune Cell Profiling
CD11c	Immune Cell Profiling
CD14	Immune Cell Profiling
CD68	Immune Cell Profiling
CD163	Immune Cell Profiling
CD66B	Immune Cell Profiling
CD56	Immune Cell Profiling
HLA-DR	Immune Cell Profiling
B7-H3	Immune Checkpoint
B7-HA VTCN1	Immune Checkpoint
PD-L1	Immune Checkpoint
PD1	Immune Checkpoint
STING TMEM173	Immune Checkpoint
VISTA	Immune Checkpoint
OX40L CD252 TXGP1	Immune Checkpoint
Beta-2-Microglobulin	Immune Checkpoint
IDO-1	Immune Checkpoint
ICOS CD278	Immune Checkpoint