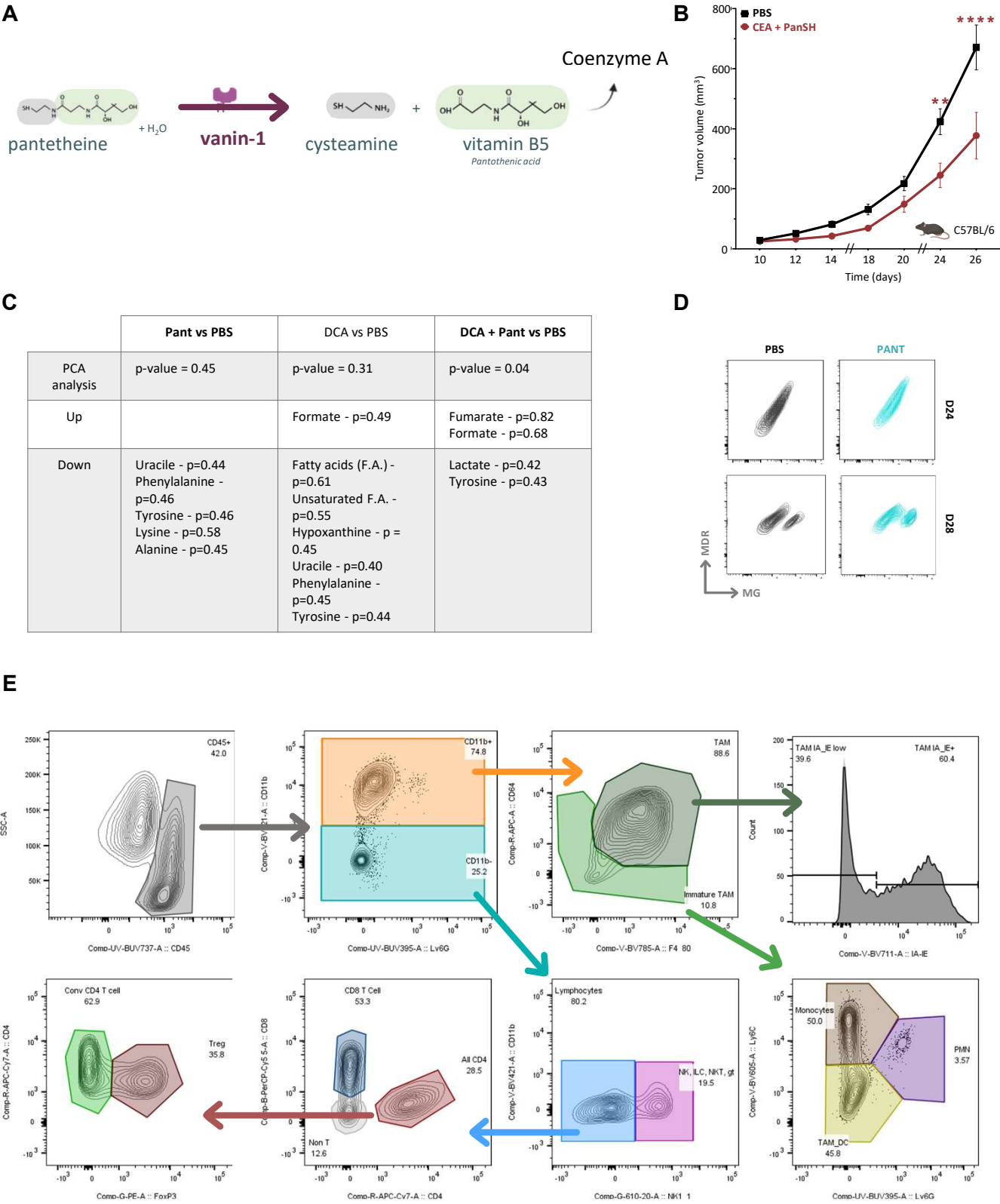
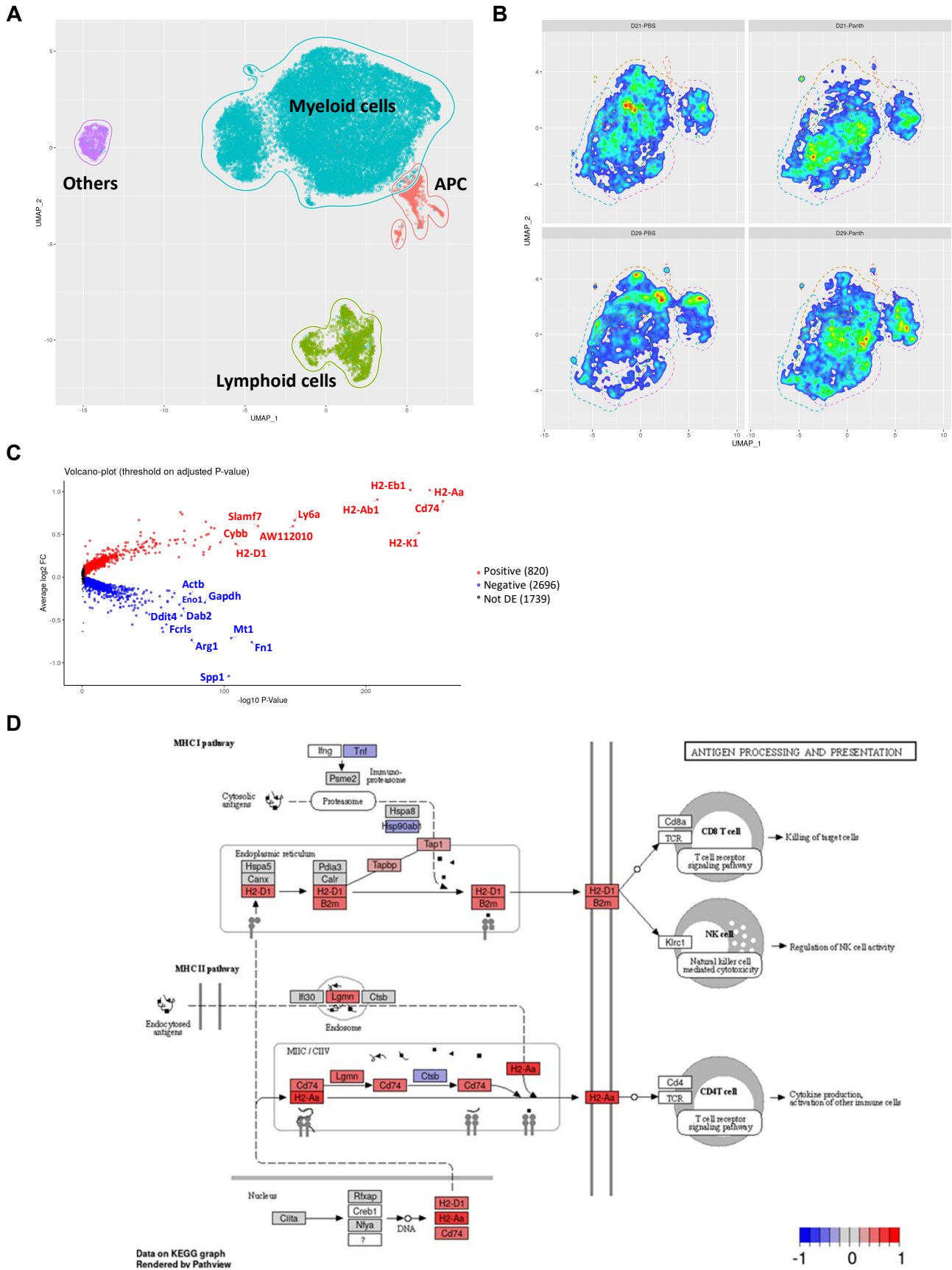


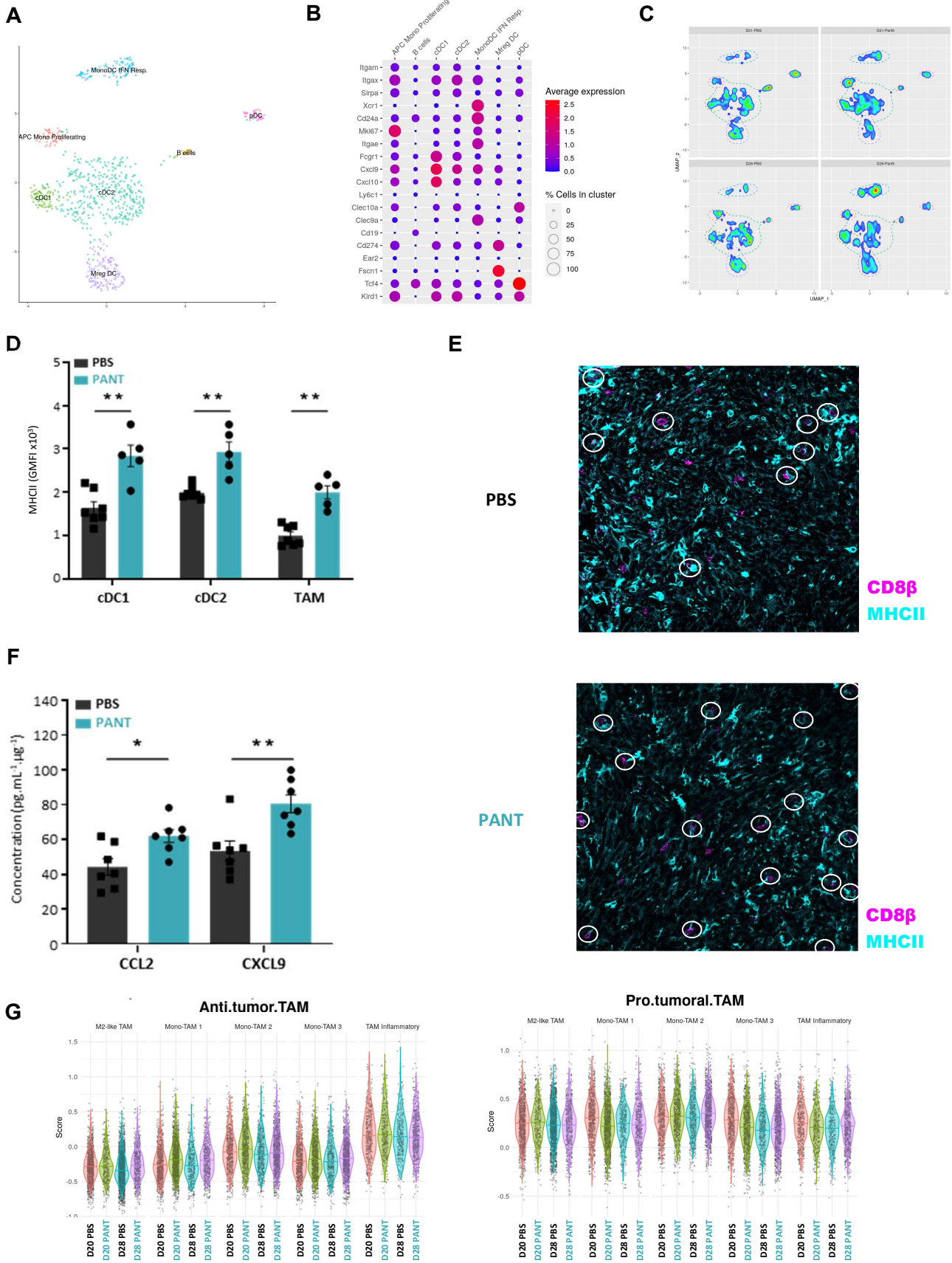
Supplementary Data 1



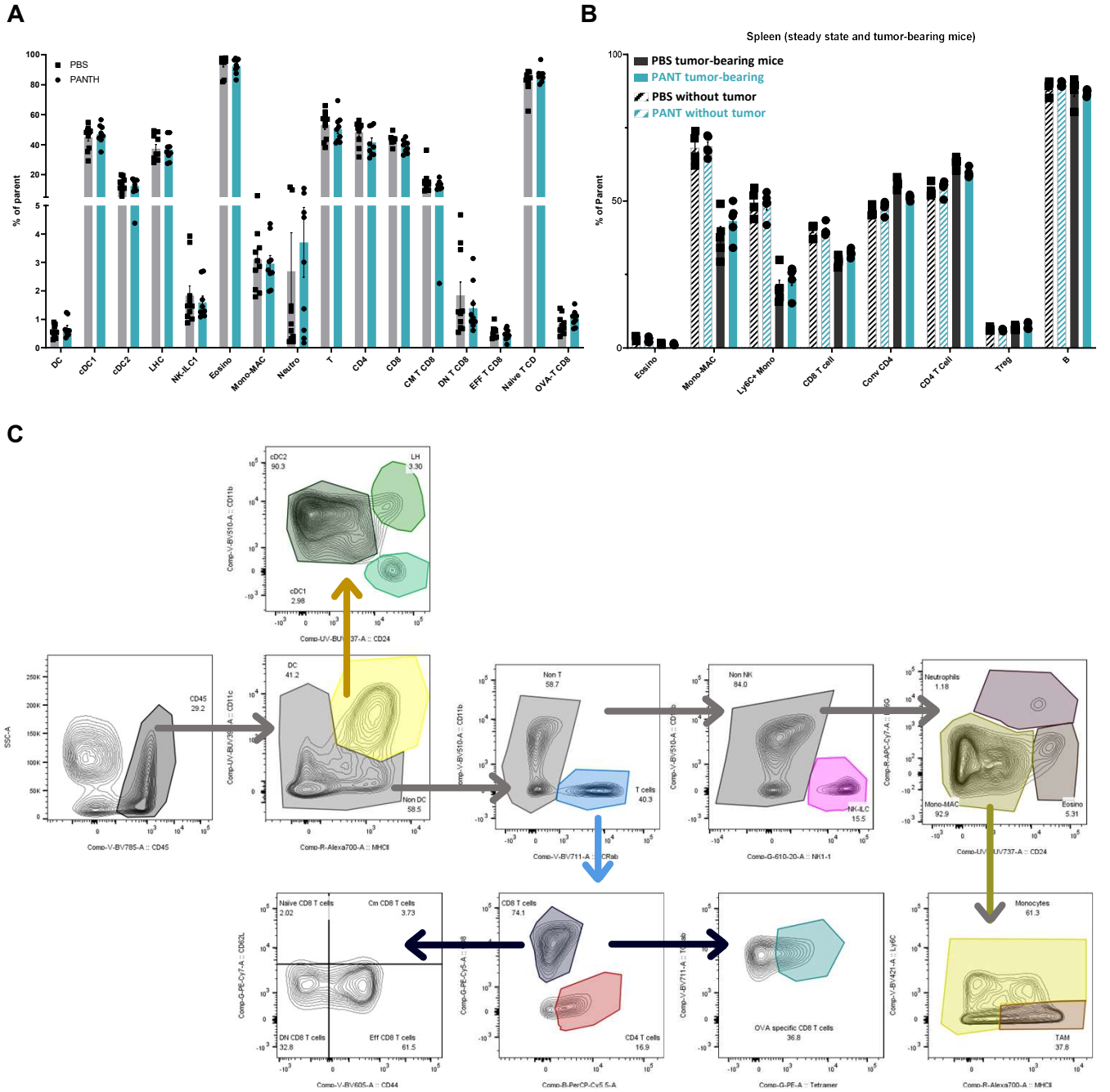
Supplementary Data 2



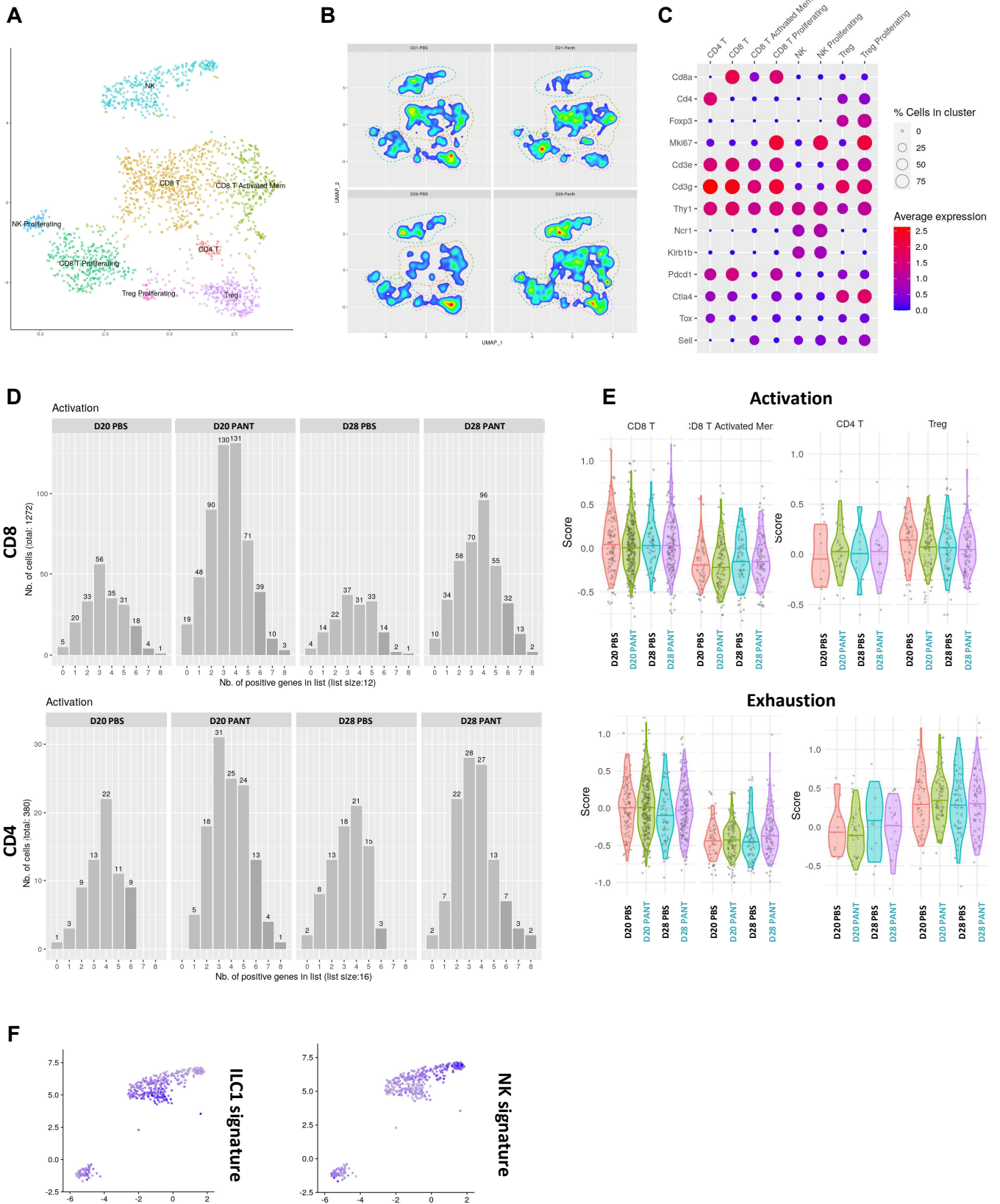
Supplementary Data 3



Supplementary Data 4

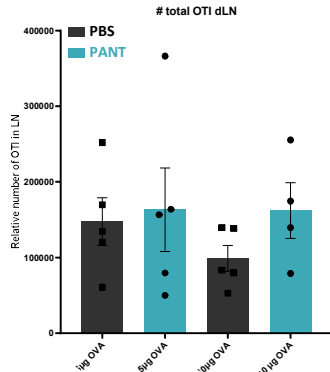


Supplementary Data 5

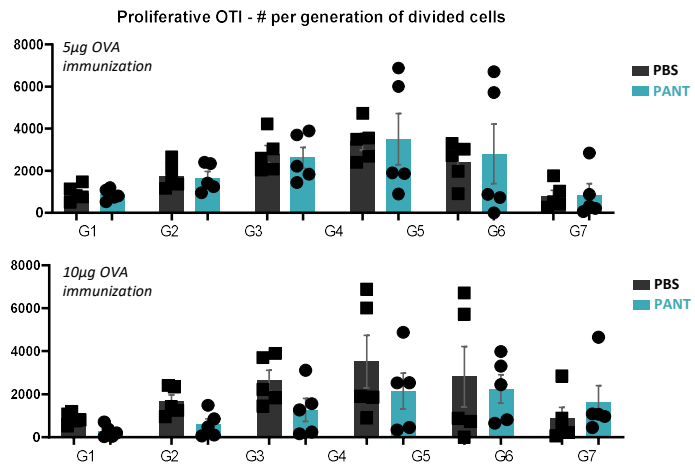


Supplementary Data 6

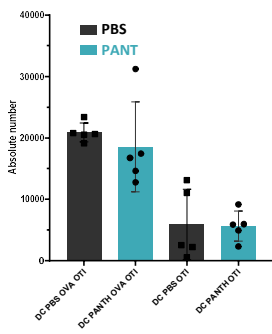
A



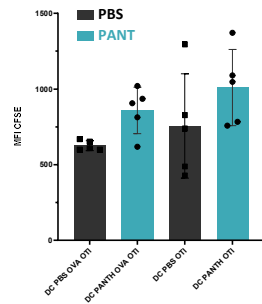
B



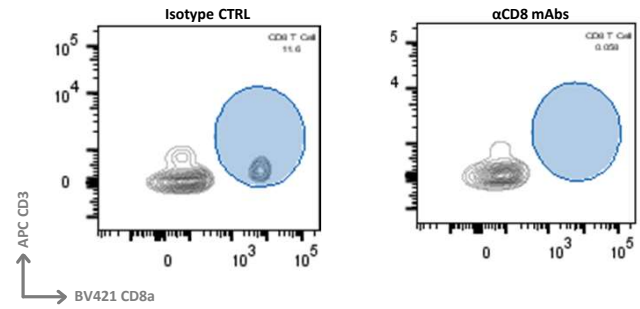
C



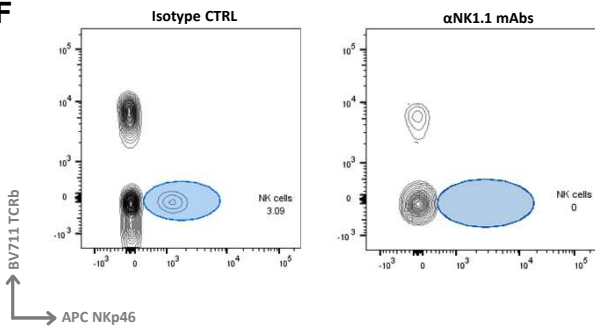
D



E

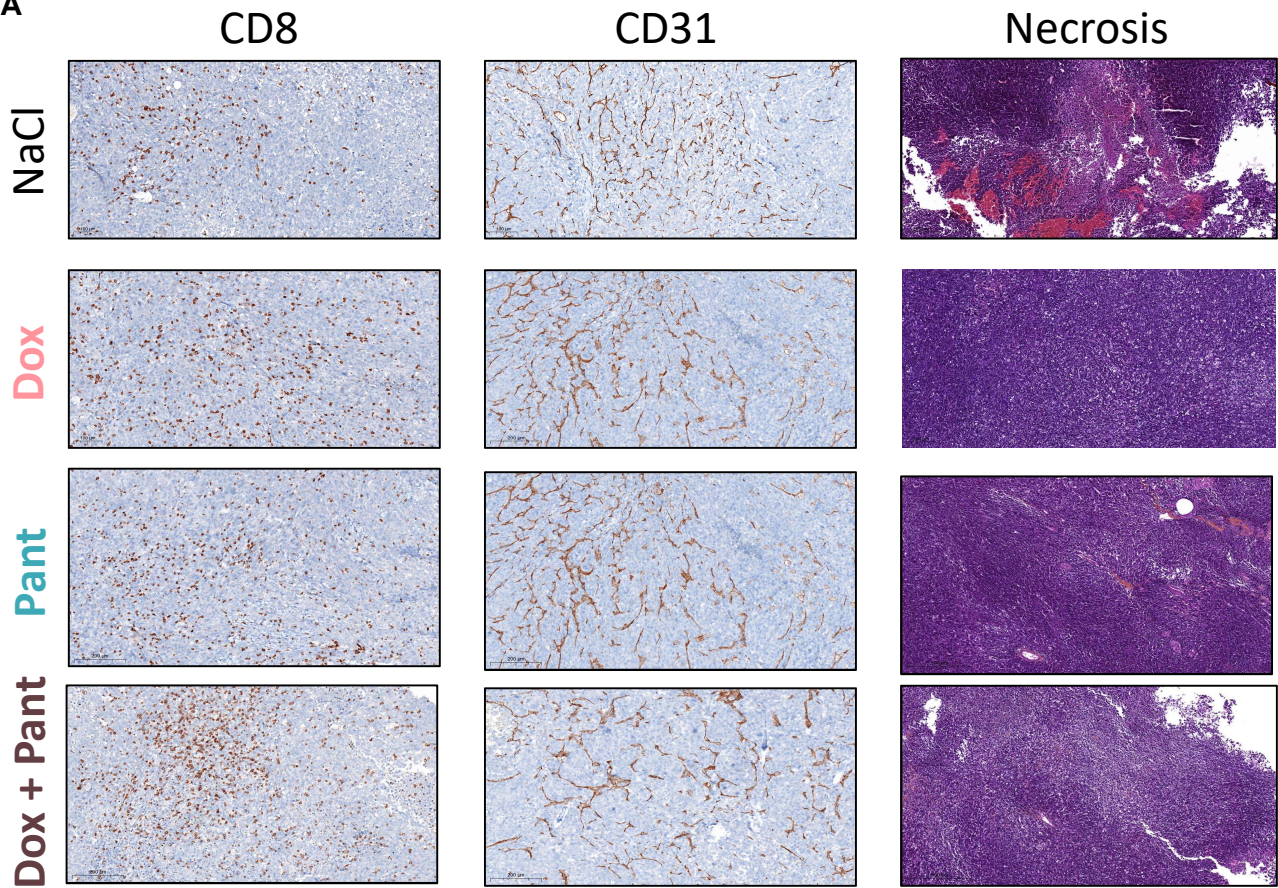


F

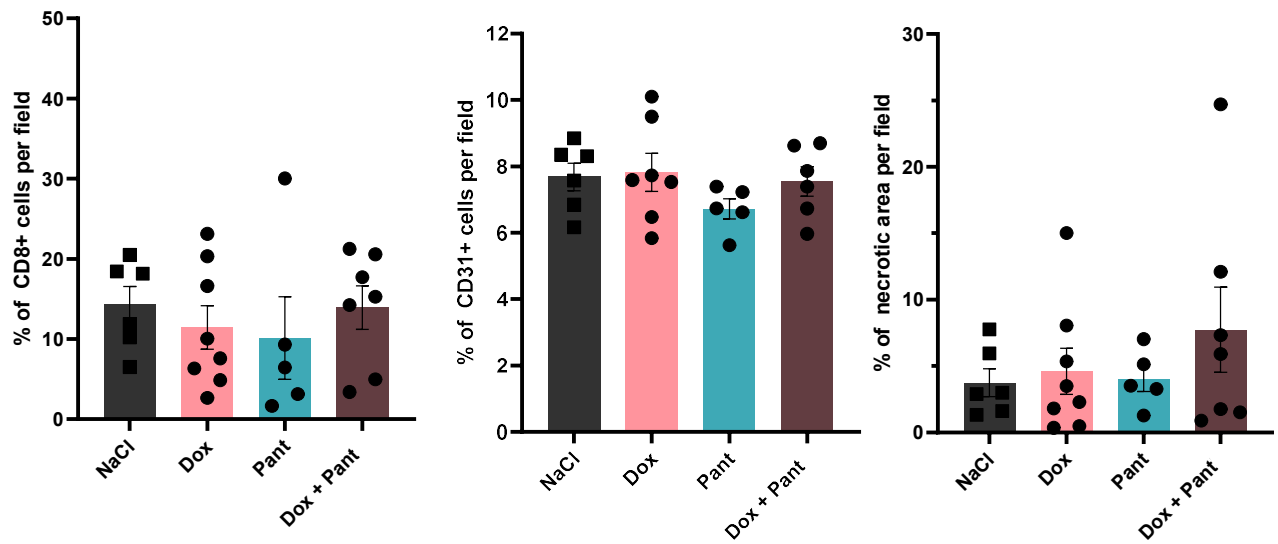


Supplementary Data 7

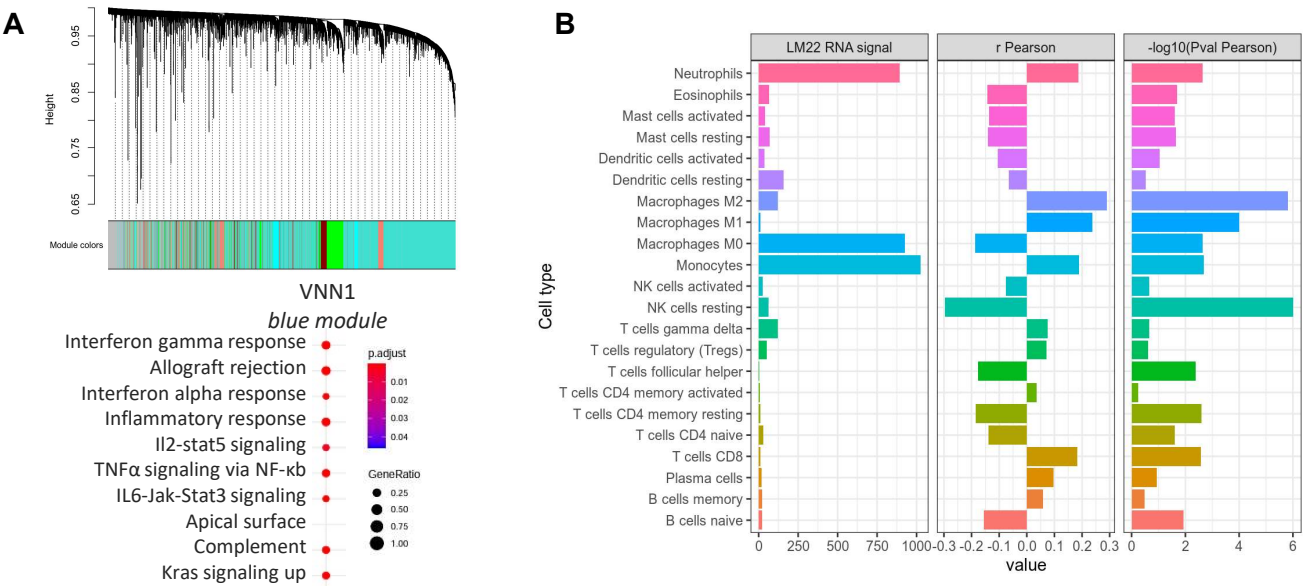
A



B



Supplementary Data 8



C

List of soft tissue sarcoma data sets included in our analysis					
Reference	Source of data	Technological platform	N° of probe sets/genes	All samples	STS primary tumor samples included in the present analysis
Baird K et al., Cancer Res 2005	GEO database, GSE2553	Homemade, spotted DNA/cDNA	12K	181	146
Barretina J et al., Nat Genet 2010	GEO database, GSE21124	Affymetrix, array U133 A	22K	158	126
Beck A et al., Oncogene 2010	GEO database, GSE17555	Stanford, spotted DNA/cDNA	24K	51	25
Chibon F et al., Nat. Med. 2010	GEO database, GSE21050	Affymetrix, array U133 Plus 2.0	54K	310	310
Detwiller K et al., Cancer Res 2005	GEO database, GSE2719	Affymetrix, array U133 A	22K	54	37
Gibault L et al., J Pathol 2011	GEO database, GSE23980	Affymetrix, array U133 Plus 2.0	54K	171	34
Gobble R et al., Cancer Res 2011	GEO database, GSE30929	Affymetrix, array U133 A	22K	140	140
Hadju M et al., J Pathol 2010	http://cbio.mskcc.org/public/SFT/	Affymetrix, array U133 Plus 2.0	54K	56	30
Henderson S et al., Genome Biology 2005	Array Express database, E-MEXP-353	Affymetrix, array U133 A	22K	96	42
Nakayama R et al., Modern Pathol 2007	GEO database, GSE6481	Affymetrix, array U133 A	22K	105	99
Nielsen TO et al., Lancet 2002	GEO database, GSE3443	Stanford, spotted DNA/cDNA	24K	46	25
Renner M et al., Genome Biol 2013	GEO database, GSE52392	Illumina, array Human HT-12 V3.0	48K	94	79
TCGA, Cell 2017	TCGA portal, https://tcga-data.nci.nih.gov	Illumina, RNA sequencing V2	25K	265	224
West R et al., PLoS Biology 2005	http://microarray-pubs.stanford.edu/tma-portal/DTF_SFTbreast	Stanford, spotted DNA/cDNA	24K	57	29
Ylipää A et al., Cancer 2011	http://www3.mdanderson.org/~genomics/sarcoma_data_matrix_for_supplemental.zip	Agilent, array 44K G4112A (012391)	44K	68	31
				Total	1,377

D

Clinicopathological characteristics of patients and samples in the whole population and according to VNN1-based classification						
Characteristics	All patients			VNN1		p-value
	N	N (%)	N	low	high	
Age (years), median (range)	532	61.25 (2-92.12)	532	55.33 (2-92.12)	63.53 (16.16-91)	0,000
Sex						0,056
Female	303	303 (50%)	303	172 (54%)	131 (45%)	
Male	306	306 (50%)	306	149 (46%)	157 (55%)	
Pathological grade						0,000
1	62	366 (86%)	62	10 (5%)	52 (21%)	
2-3	366	62 (14%)	366	176 (95%)	190 (79%)	
Pathological size (pT)						0,462
pT1	29	29 (17%)	29	10 (14%)	19 (19%)	
pT2	141	141 (83%)	141	62 (86%)	79 (81%)	
Tumor depth						0,088
Deep	144	144 (89%)	144	70 (95%)	74 (85%)	
Superficial	17	17 (11%)	17	4 (5%)	13 (15%)	
Tumor site						0,005
Extremity	208	208 (42%)	208	94 (38%)	114 (46%)	
Head and neck	9	9 (2%)	9	2 (1%)	7 (3%)	
Internal trunk	195	195 (39%)	195	97 (39%)	98 (40%)	
Superficial Trunk	84	84 (17%)	84	55 (22%)	29 (12%)	
Follow-up (months), median (range)	610	30 (1-222)	610	26 (1-222)	32 (1-222)	0,106
MFS event	610	183 (30%)	610	96 (35%)	87 (26%)	0,026
5-year MFS [95%CI]	610	64% [59-69]	610	61% [54-68]	66% [60-73]	0,030

Supplementary Data 9

A

List of bone sarcoma data sets included in our analysis					
Reference	Source of data	Technological platform	N° of probe sets/genes	All samples	Bone sarcoma primary tumor samples included in the present analysis
Nicolle R et al., Nat Commun 2019	Array Express database, E-MTAB-7264	Affymetrix, array HuGene 2.0 st	54K	164	83
Savola S et al., ISRN Oncol 2011	GEO database, GSE17679	Affymetrix, array U133 Plus 2.0	54K	117	64
Therapeutically Applicable Research to Generate Effective Treatments (TARGET) database	TARGET portal, https://target-data.nci.nih.gov/Public/OS/	Illumina, RNA sequencing V2	60K	101	94
Volchenboum S et al., J Pathol Clin Res 2015	GEO database, GSE63157	Affymetrix, array U133 Plus 2.0	22K	85	85
				Total	326

B

