

Supplementary Table 1. Analyses of immunotherapy response.

HLA-related genes	CAF markers	Chemokine/cytokine
HLA-DRB5	ASPN	IL10
HLA-F	COL11A1	TNF
HLA-C	EMILIN1	CSF1
HLA-E	CAV1	TGFB2
HLA-DQA1	MFAP5	TGFB1
HLA-DRB1	SLC16A4	HMGB1
HLA-DPB1	COL3A1	IL13
HLA-DMA	FOXF1	TGFB3
HLA-A	SPARC	
HLA-DQB2	PDGFRB	
HLA-DQB1	S100A4	
HLA-DPA1	FN1	
HLA-B	COL1A1	
HLA-DMB	MMP2	
HLA-DOA	TNC	
HLA-DRA	PDPN	
HLA-DQA2	PDGFRA	
HLA-G	ACTA2	
	ZEB1	
	FAP	
	OGN	
	MMP11	

Supplementary Table 2. Differentially expressed CAF-related genes.

Gene	LogFC	AveExpr	T	P.Value	adj.P.Value	B	Type
COL1A1	2.78	7.33	12.84	0	0	65.05	up
CXCL13	2.37	3.49	9.8	0	0	36.79	up
CCNB1	2.25	3.57	15.77	0	0	96.1	up
SULF1	1.94	3.62	10.71	0	0	44.77	up
CCNA2	1.85	2.6	13.62	0	0	73.01	up
CDC6	1.71	2	13.72	0	0	74	up
CPS1	1.22	1.39	3.86	0	0	-0.32	up
AGT	1.15	2.32	5.16	0	0	5.37	up
SHCBP1	1.14	1.6	12.05	0	0	57.19	up
E2F1	1.06	2.97	8.16	0	0	23.89	up
KDM5B	0.99	3.35	13.23	0	0	68.98	up
PARP1	0.94	4.69	12.29	0	0	59.55	up
RUNX2	0.87	1.59	9.81	0	0	36.89	up
CDK4	0.82	4.53	8.03	0	0	22.91	up
BAK1	0.78	3.88	9.63	0	0	35.34	up
GCLM	0.68	3.1	5.35	0	0	6.31	up
FGFRL1	0.64	3.35	6.53	0	0	12.91	up
B4GALT7	0.64	2.83	10.05	0	0	38.97	up
GALNT3	0.62	3.66	4.27	0	0	1.29	up
ULK3	0.56	3.51	7.57	0	0	19.68	up
RPS19	0.53	7.4	4.94	0	0	4.29	up
ZFP36L2	-0.5	5.56	-5.05	0	0	4.81	down
RAB14	-0.52	5.01	-9.49	0	0	34.26	down
SKI	-0.59	4.18	-7.32	0	0	17.96	down
SDC4	-0.62	7.57	-5.8	0	0	8.69	down
FGF18	-0.63	0.94	-5.74	0	0	8.36	down
DLL4	-0.64	2.54	-6.74	0	0	14.23	down
ZMIZ1	-0.65	3.34	-7.96	0	0	22.44	down
SPRY2	-0.67	3.44	-6.99	0	0	15.81	down
CDKN1A	-0.67	5.26	-5.97	0	0	9.65	down
PTGS2	-0.74	3.48	-3.17	0	0	-2.7	down
DMTN	-0.75	3.02	-6.29	0	0	11.48	down
SHISA2	-0.76	1.93	-3.87	0	0	-0.28	down
FGF10	-0.8	0.24	-19.65	0	0	140.83	down
AIF1	-0.92	4.52	-6.87	0	0	15.01	down
DAB2IP	-0.92	3.15	-10.87	0	0	46.15	down
NUPR1	-0.93	3.77	-6.62	0	0	13.43	down
CCL2	-0.98	4.31	-6.15	0	0	10.65	down
PDLIM1	-0.99	6.04	-11.75	0	0	54.31	down
SPRY4	-1.03	3.4	-8.83	0	0	28.94	down
CYGB	-1.05	2.63	-11.49	0	0	51.86	down
EGR3	-1.06	1.42	-9.34	0	0	32.96	down
HYAL2	-1.07	4.1	-13.77	0	0	74.55	down
FGF2	-1.09	0.76	-15.38	0	0	91.82	down
PRKCE	-1.3	1.6	-19.65	0	0	140.81	down
APLN	-1.33	2.1	-9.52	0	0	34.47	down
AKAP12	-1.35	2.35	-8.15	0	0	23.75	down
NDST1	-1.41	3.61	-16.72	0	0	106.71	down
KL	-1.51	0.8	-18.23	0	0	124.13	down
TBX2	-1.62	2.36	-14.98	0	0	87.41	down
CCN2	-1.63	6.16	-10.45	0	0	42.37	down
GAS6	-1.82	4.08	-14.41	0	0	81.29	down
HYAL1	-2.19	2.46	-13.52	0	0	71.9	down
FGFR4	-2.3	1.89	-16.96	0	0	109.43	down
AQP1	-2.54	6.17	-10.74	0	0	44.95	down
RGCC	-2.84	5.52	-23.51	0	0	187.29	down
SCGB1A1	-5.17	5.08	-11.28	0	0	49.97	down