A

		Univariable Models					Multivariable Models
		PD-L1	BCR Richness	TCR Richness	logTMB	TIS GEP	RFE-optimal
Histology non-specific (Scheme 1)	BLCA+ SKCM+ KIRC (110)	0.584	0.666	0.641	0.601	0.637	0.737
	BLCA (59)	0.604	0.663	0.512	0.744	0.585	0.659
	SKCM (95)	0.562	0.618	0.606	0.641	0.628	0.654
	KIRC (31)	0.575	0.726	0.743	0.45	0.741	0.833
	STAD (29)	0.809	0.5	0.699		0.858	
BLCA-specific (Scheme 2)	BLCA (53)	0.48	0.569	0.563	0.755	0.528	0.766
SKCM-specific (Scheme 3)	SKCM (31)	0.555	0.613	0.725	0.679	0.546	0.807

ROC-AUC
0.5 0.7 0.8

B

	TCR richness	BCR richness	PD-L1	logTMB	GEP	CD8+ T cells infiltration	CD4+ T cells infiltration	B cells infiltration	Tumor purity
Histology non-specific (Scheme 1)	■	■	■	■	■	■	■	■	■
BLCA-specific (Scheme 2)	■	■	■	■	■	■	■	■	■
SKCM-specific (Scheme 3)	■	■		■				■	■