A: logTMB TCGA vs anti-PD1/L1 KIRC anti-PD1/L1 **SKCM KIRC** SKCM anti-PD1/L1 (n.high = 51, n.low = 51)(n.high = 8, n.low = 7)(n.high = 185, n.low = 185)(n.high = 76, n.low = 75)Survival probability Survival probability Survival probability Survival probability HR = 0.45(0.2067-0.9655) HR = 1.65(1.0903-2.4837) HR = 0.52(0.1446-1.8573)HR = 0.63(0.3996-0.987)0.00 - logrankP = 0.04190.00 - logrankP = 0.03550.00 - logrankP = 0.01660.00 - logrankP = 0.305100 150 Time in months Time in months Time in months Time in months **BLCA STAD** BLCA anti-PD1/L1 (n.high = 203, n.low = 204)(n.high = 216, n.low = 217)(n.high = 110, n.low = 109)Survival probability Survival probability Survival probability 0.25 -HR = 0.77(0.5699-1.0478) HR = 0.5(0.3564-0.7035)HR = 0.57(0.424-0.7697)0.00 - logrankP = 0.0961120 160 Time in months Time in months Time in months Strata + logTMB=high + Strata + logTMB=high + logTMB=low logTMB=low B: PD-L1 expression TCGA vs anti-PD1/L1 KIRC anti-PD1/L1 **SKCM KIRC** SKCM anti-PD1/L1 (n.high = 50, n.low = 51)(n.high = 265, n.low = 265)(n.high = 109, n.low = 109)(n.high = 14, n.low = 14)Survival probability Survival probability Survival probability Survival probability HR = 0.74(0.5465-0.9979)HR = 0.75(0.5209-1.0754) HR = 0.69(0.3276-1.4527)HR = 1.1(0.4151-2.8956)0.00 - logrankP = 0.3260.00 - logrankP = 0.04760.00 - logrankP = 0.1160.00 - logrankP = 0.853100 150 10 30 Time in months Time in months Time in months Time in months STAD anti-PD1/L1 **BLCA STAD** BLCA anti-PD1/L1 (n.high = 203, n.low = 203)(n.high = 138, n.low = 138)(n.high = 22, n.low = 21)(n.high = 185, n.low = 185)Survival probability Survival probability vability 0.75 Survival probability Survival probe HR = 0.76(0.5639-1.0132) HR = 0.6(0.2614-1.3638) HR = 0.85(0.6344-1.1435)HR = 1.02(0.7337-1.4137) $0.00 - \log \text{logrankP} = 0.913$ 0.00 - logrankP = 0.06030.00 - logrankP = 0.2160.00 - logrankP = 0.28520 30 120 10 25 10 80 120 160 15 20 15 Time in months Time in months Time in months Time in months Strata + PD L1=high + PD L1=low Strata + PD_L1=high + PD_L1=low C: T-cell inflamed GEP TCGA vs anti-PD1/L1 **SKCM** SKCM anti-PD1/L1 KIRC anti-PD1/L1 **KIRC** (n.high = 14, n.low = 14)(n.high = 50, n.low = 51)(n.high = 266, n.low = 267)(n.high = 109, n.low = 109)1.00 1.00 Survival probability Survival probability Survival probability Survival probability HR = 1.08(0.7995-1.4486) HR = 0.84(0.5844-1.204)HR = 1.23(0.4878-3.1262) HR = 0.55(0.2589-1.1837) 0.00 - logrankP = 0.1220.00 - logrankP = 0.6280.00 - logrankP = 0.340.00 - logrankP = 0.656150 30 100 30 Time in months Time in months Time in months Time in months **BLCA STAD** BLCA anti-PD1/L1 STAD anti-PD1/L1 (n.high = 203, n.low = 203)(n.high = 204, n.low = 205)(n.high = 138, n.low = 138)(n.high = 22, n.low = 21)1.00 Survival probability Survival probability Survival probability Survival probability HR = 0.91(0.6796-1.2249) HR = 1.02(0.7458-1.3999)HR = 0.73(0.5445-0.9786 HR = 0.51(0.2196-1.1864) 0.00 - logrankP = 0.542 $0.00 - \log \text{logrankP} = 0.893$ $0.00 \cdot logrankP = 0.0346$ 0.00 - logrankP = 0.11220 120 25 10 80 120 160 60 15 15 20 Time in months Time in months Time in months Time in months Strata + TIS_sigscore=low + TIS_sigscore=low Strata + TIS_sigscore=low