		ISTMEscore		ESTIMATE			MCPCounter									
Dataset	Term	immune score	stromal score	immune score	stromal score	ESTIMATE score	Tcell	CD8+Tcell	Cytotoxic lymphocytes	NKcell	B lineage	Monocytic lineage	Myeloid dendritic cells	Neutrophils	Endothelial cells	Fibroblasts
TCGA LUAD	C-index (se)	0.578 (se = 0.022)	0.624 (se = 0.024)	0.578 (se = 0.023)	0.541 (se = 0.024)	0.568 (se = 0.023)	0.595 (se = 0.023)	0.549 (se = 0.024)	0.512 (se = 0.025)	0.533 (se = 0.026)	0.598 (se = 0.024)	0.508 (se = 0.025)	0.594 (se = 0.023)	0.538 (se = 0.025)	0.53 (se = 0.024)	0.535 (se = 0.024)
	Rank of C-index	5	1	5	9	7	3	8	14	12	2	15	4	10	13	11
TCGA SKCM	C-index (se)	0.61 (se = 0.024)	0.578 (se = 0.023)	0.601 (se = 0.024)	0.544 (se = 0.024)	0.585 (se = 0.024)	0.572 (se = 0.024)	0.611 (se = 0.024)	0.59 (se = 0.023)	0.62 (se = 0.023)	0.556 (se = 0.024)	0.592 (se = 0.025)	0.602 (se = 0.023)	0.568 (se = 0.023)	0.527 (se = 0.024)	0.54 (se = 0.024)
	Rank of C-index	3	9	5	13	8	10	2	7	1	12	6	4	11	15	14
TCAG HNSC	C-index (se)	0.542 (se = 0.021)	0.542 (se = 0.022)	0.542 (se = 0.021)	0.504 (se = 0.022)	0.528 (se = 0.022)	0.591 (se = 0.021)	0.551 (se = 0.021)	0.558 (se = 0.02)	0.555 (se = 0.022)	0.598 (se = 0.021)	0.502 (se = 0.022)	0.553 (se = 0.021)	0.521 (se = 0.023)	0.521 (se = 0.022)	0.517 (se = 0.022)
	Rank of C-index	7	7	7	14	10	2	6	3	4	1	15	5	11	11	13
Overall survival																
GSE11969	C-index (se)	0.594 (se = 0.033)	0.613 (se = 0.033)	0.573 (se = 0.035)	0.545 (se = 0.035)	0.565 (se = 0.034)	0.561 (se = 0.034)	NA	0.561 (se = 0.034)	0.538 (se = 0.035)	0.574 (se = 0.035)	0.505 (se = 0.037)	0.56 (se = 0.033)	0.562 (se = 0.033)	0.57 (se = 0.034)	0.516 (se = 0.034)
	Rank of C-index	2	1	4	11	6	8		8	12	3	14	10	7	5	13
GSE68465	C-index (se)	0.532 (se = 0.021)	0.578 (se = 0.019)	0.522 (se = 0.021)	0.524 (se = 0.021)	0.524 (se = 0.021)	0.528 (se = 0.021)	0.518 (se = 0.021)	0.561 (se = 0.02)	0.55 (se = 0.02)	0.543 (se = 0.02)	0.564 (se = 0.021)	0.538 (se = 0.021)	0.51 (se = 0.021)	0.506 (se = 0.021)	0.518 (se = 0.02)
	Rank of C-index	7	1	11	9	9	8	12	3	4	5	2	6	14	15	12
GSE68571	C-index (se)	0.69 (se = 0.055)	0.667 (se = 0.059)	0.642 (se = 0.055)	0.599 (se = 0.058)	0.625 (se = 0.058)	0.539 (se = 0.07)	0.545 (se = 0.07)	0.506 (se = 0.068)	0.502 (se = 0.07)	0.577 (se = 0.071)	0.613 (se = 0.068)	0.523 (se = 0.072)	0.532 (se = 0.068)	0.501 (se = 0.066)	0.523 (se = 0.056)
	Rank of C-index	1	2	3	6	4	9	8	13	14	7	5	11	10	15	11
GSE37745	C-index (se)	0.531 (se = 0.027)	0.505 (se = 0.026)	0.511 (se = 0.027)	0.52 (se = 0.027)	0.513 (se = 0.028)	0.543 (se = 0.026)	0.561 (se = 0.027)	0.505 (se = 0.026)	0.536 (se = 0.026)	0.573 (se = 0.027)	0.53 (se = 0.026)	0.561 (se = 0.025)	0.524 (se = 0.024)	0.534 (se = 0.026)	0.505 (se = 0.025)
	Rank of C-index	7	13	12	10	11	4	2	13	5	1	8	2	9	6	13
GSE5008	C-index (se)	0.535 (se =	0.645 (se =	0.509 (se =	0.508 (se =	0.512 (se =	0.516 (se =	0.541 (se =	0.514 (se =	0.532 (se =	0.561 (se =	0.553 (se =	0.567 (se =	0.523 (se =	0.577 (se =	0.542 (se =

	1	0.038)	0.033)	0.039)	0.036)	0.039)	0.037)	0.036)	0.035)	0.036)	0.038)	0.038)	0.035)	0.037)	0.036)	0.037)
	Rank of C-index	8	1	14	15	13	11	7	12	9	4	5	3	10	2	6
GSE 6590 4	C-index (se)	0.612 (se = 0.031)	0.532 (se = 0.03)	0.614 (se = 0.03)	0.506 (se = 0.034)	0.561 (se = 0.032)	0.6 (se = 0.032)	0.578 (se = 0.028)	0.598 (se = 0.03)	0.611 (se = 0.029)	0.622 (se = 0.029)	0.559 (se = 0.035)	0.603 (se = 0.03)	0.54 (se = 0.031)	0.548 (se = 0.031)	0.553 (se = 0.032)
	Rank of C-index	3	14	2	15	9	6	8	7	4	1	10	5	13	12	11
Prog nosi s	Mean C-index	0.580 44444 4	0.587 11111 1	0.565 7777 78	0.532 3333 33	0.553 4444 44	0.560 5555 56	0.556 75	0.545	0.553	0.578	0.547 3333 33	0.5667 77778	0.535 3333 33	0.534 8888 89	0.527 6666 67
	Rank of mean C-index	2	1	5	14	8	6	7	11	9	3	10	4	13	12	15
Imm unot hera py Data Set 1	Response pre-treat ment AUC	0.546 9	0.558 6	0.546 9	0.640 6	0.570 3	0.531 2	0.476 6	0.5391	0.494 1	0.511 7	0.503 9	0.707	0.570 3	0.605 5	
	Response on-treat ment AUC	0.981 5	0.907 4	0.981 5	0.963	1	0.963	0.944 4	0.963	0.666 7	0.888 9	1	0.8704	0.703 7	0.907 4	NA
	Rank of on-treat ment AUC	3	9	3	5	1	5	8	5	14	11	1	12	13	9	
Imm unot hera py Data Set 2 (GS E91 061)	Response pre-treat ment AUC	0.602	0.526 8	0.546 8	0.538 5	0.571 5	0.655 1	0.571	0.5167	0.469 9	0.541 8	0.496 7	0.5585	0.543 5	0.617 1	0.538 5
	Response on-treat ment AUC	0.700 6	0.589 7	0.691 6	0.656 8	0.696 8	0.757 4	0.683 9	0.6968	0.663 2	0.754 8	0.668 4	0.7239	0.579 4	0.587 1	0.578 1
	Rank of on-treat ment AUC	4	12	7	11	5	2	8	5	10	1	9	3	14	13	15
Imm unot hera py Data	Response pre-treat ment AUC	0.543 3	0.746 7	0.563 3	0.553 3	0.53	0.593 3	0.596 7	0.7467	0.576 7	0.526 7	0.54	0.57	0.593 3	0.656 7	0.523 3

(Leftmost spanning label for the lower section: **Res pon se to imm unot hera py**)

Set 3 (GSE93157)	Rank of AUC	11	1	9	10	13	5	4	1	7	15	12	8	5	3	14
Immunotherapy Data Set 4 (GSE67501)	Response pre-treatment AUC	0.75	0.75	0.5357	0.6071	0.5	0.5714	0.6429	0.6429	0.6071	0.5714	0.6786	0.8214	0.6786	0.6071	0.6786
	Rank of AUC	2	2	14	9	15	12	7	7	9	12	4	1	4	9	4
Immunotherapy Data Set 5 (GSE35640)	Response pre-treatment AUC	0.6564	0.5989	0.635	0.6457	0.6337	0.7166	0.5388	0.5281	0.6925	0.5922	0.7861	0.643	0.5227	0.516	0.512
	Rank of AUC	4	9	7	5	8	2	11	12	3	10	1	6	13	14	15
Immunotherapy response	Mean AUC	0.72636	0.71854	0.68142	0.68518	0.6721	0.72034	0.68134	0.7155	0.64124	0.6668	0.73462	0.72574	0.61554	0.65486	0.573
	Rank of mean AUC	2	5	8	7	10	4	9	6	13	11	1	3	14	12	15

Supplementary table8 Comparison with ESTIMATE and MCPcounter algorithms for prognosis and immunotherapy response prediction.