

Supplementary Table 1. Treatment characteristics of Neoadjuvant Cohort and Adjuvant Cohort.

Treatment factor	Neoadjuvant Cohort				Adjuvant Cohort			
	Total	Colorectal cancer	Gastric cancer	P value	Total	Colorectal cancer	Gastric cancer	P value
	(n = 124)	(n = 68)	(n =56)		(n = 48)	(n = 22)	(n = 26)	
Neoadjuvant therapy								
Anti-PD1 monotherapy	40(32.3%)	25(36.8%)	15(26.8%)	0.145	NA	NA	NA	NA
Anti-PD1 and Anti-CTLA4	16(12.9%)	11(16.2%)	5(8.9%)		NA	NA	NA	
Anti-PD1 combined with chemo- or targeted therapy	68(54.8%)	32(47.1%)	36(64.3%)		NA	NA	NA	
None	NA	NA	NA		48(100.0%)	22(100.0%)	26(100.0%)	
Duration of Neoadjuvant therapy								
≤3 months	59(47.6%)	28(41.2%)	31(55.4%)	0.288	NA	NA	NA	NA
3-6 months	37 (29.8%)	23(33.8%)	14(25.0%)		NA	NA	NA	
> 6 months	28 (22.6%)	17(25.0%)	11(19.6%)		NA	NA	NA	
Radical surgery								
Yes	99(79.8%)	55(80.9%)	44(78.6%)	0.750	48(100.0%)	22(100.0%)	26(100.0%)	NA
No	25(20.2%)	13(19.1%)	12(21.4%)		NA	NA	NA	
Adjuvant therapy for surgical patients								
Anti-PD1 monotherapy	31(31.3%)	20(36.4%)	11(25.0%)	0.003	40(83.3%)	18(81.8%)	22(84.6%)	1.000
Anti-PD1 combined with chemotherapy or targeted therapy	11(11.1%)	1(1.8%)	10(22.7%)		8(16.7%)	4(18.2%)	4(15.4%)	

Chemotherapy ±targeted therapy	4(4.0%)	1(1.8%)	3(6.8%)		NA	NA	NA
Observation	53(53.5%)	33(60.0%)	20(45.5%)		NA	NA	NA
Duration of Adjuvant therapy for surgical patients	(n = 99)	(n = 55)	(n =44)				
≤6 months	32(32.3%)	15(27.3%)	17(38.6%)	0.213	22(45.8%)	11(50.0%)	11(42.3%)
6-12 months	12(12.1%)	5(9.1%)	7(15.9%)		20(41.7%)	7(31.8%)	13(50.0%)
> 12 months	2(2.0%)	2(3.6%)	0		6(12.5%)	4(18.2%)	2(7.7%)
None or unknown	53(53.5%)	33(60.0%)	20(45.5%)		NA	NA	NA

Abbreviations: NA: not applicable.

Supplementary Table 2. Treatment regimen details of neoadjuvant therapy in Neoadjuvant Cohort and adjuvant therapy in Adjuvant Cohort

Treatment regimens	Neoadjuvant Cohort			Adjuvant Cohort		
	Total	Colorectal cancer	Gastric cancer	Total	Colorectal cancer	Gastric cancer
	(n = 124)	(n = 68)	(n = 56)	(n = 48)	(n = 22)	(n = 26)
Anti-PD1 monotherapy	40(32.6%)	25(36.8%)	15(26.8%)	40(83.3%)	18(81.8%)	22(84.6%)
Anti-PD1+ ipilimumab	16(12.9%)	11(16.2%)	5(8.9%)	0	0	0
Anti-PD1+ chemotherapy and/or targeted therapy	68(54.8%)	32(47.1%)	36(64.3%)	8(16.7%)	4(18.2%)	4(15.4%)
XELOX	17(13.7%)	8(11.8%)	9(16.1%)	4(8.3%)	4(18.2%)	0
SOX	17(13.7%)	0	17(30.4%)	4(8.3%)	0	4(15.4%)
FOLFOX	1(0.8%)	0	1(1.8%)	0	0	0
FOLFIRI	2(1.6%)	1(1.5%)	1(1.8%)	0	0	0
FOLFOXIRI	2(1.6%)	1(1.5%)	0	0	0	0
FLOT	4(3.2%)	0	4(7.1%)	0	0	0
S-1	1	0	1			
Nab-PTX	2(1.6%)	0	2(3.6%)	0	0	0
IRI	1(0.8%)	1(1.5%)	0	0	0	0
IRI+Bev/Cet	13(10.5%)	12(17.6%)	0	0	0	0
XELOX+Bev	2(1.6%)	2(2.9%)	0			
Bev/Fruquintinib/Lenvatinib	8(6.5%)	7(10.3%)	1(1.8%)	0	0	0

Abbreviations: XELOX: capecitabine + oxaliplatin; SOX: Tegafur, Gimeracil and Oteracil Potassium + oxaliplatin; FOLFOX: 5-fluorouracil + oxaliplatin; FOLFIRI: 5-fluorouracil + irinotecan; FOLFOXIRI: 5-fluorouracil + oxaliplatin + irinotecan; FLOT: 5-fluorouracil + oxaliplatin + docetaxel; S-1: Tegafur, Gimeracil and Oteracil Potassium; Nab-PTX: Albumin paclitaxel; IRI: irinotecan; Bev: Bevacizumab; Cet: Cetuximab.

Supplementary Table 3. The details of relapsed cases in Neoadjuvant Cohort and Adjuvant Cohort

No.	Age (y)	Sex	Tumor type	Cohort	Initial stage	MMR/MSI/TMB	Neoadjuvant	Surgery sample		Adjuvant	DFS (m)	Relapse site	First-line treatment after relapse			OS (m)
								(y)pTNM	MMR/MSI/TMB				Regimen	Response	PFS(m)	
1	35	F	CRC	NAC	IV	MSH2/MSH6 (-), PCR-MSI-H	Anti-PD1 +TT, 4.0m, PR	ypT3N0M0	MSH2/MSH6 (-) PCR/NGS not performed	Anti-PD1, 2.0m	2.9	Distant lymph node	Anti-PD1 + Anti-CTLA4	PR	*27.8+	37.2*
2	42	F	CRC	NAC	IV	MLH1/PMS2 (-), PCR-MSI-H	Anti-PD1 +CT, 2.0m, PR	pCR	NA	None	22.7	Peritoneum	Not started	NA	NA	25.1*
3	71	M	GC	NAC	IV	pMMR, NGS-MSI-H, NGS-TMB 58Muts/Mb	Anti-PD1 +TT, 6.0m, SD	ypT3N0M0	pMMR NGS-MSS NGS-TMB 8Mubs/Mb	CT+TT, 1.0m	1.8	Lung	CT + TT	SD	23.5	54.1*
4	50	M	GC	NAC	III	MSH2 (-), PCR/NGS not performed	Anti-PD1 +CT, 4.0m, SD	ypT4N0M0	MSH2 (-) PCR/NGS not performed	Anti-PD1 +CT, 4.0m	28.3	Death of unknown reason	NA	NA	NA	32.3
5	70	M	GC	NAC	IVA	MLH1/PMS2 (-), NGS-MSI-H, NGS-TMB 64Muts/Mb	Anti-PD1 +CT, 2.0m, PD	ypT3N2M0	MLH1/PMS2 (-) PCR/NGS not performed	None	1.2	Liver	Unknown	NA	NA	13.3
6	69	F	GC	NAC	III	MLH1/PMS2 (-), PCR/NGS not performed	Anti-PD1 +CT, 5.0m, PR	pCR	NA	Anti-PD1, 12.0m	14.9	Peritoneum	AK104 + AK109+PTX	PR	*10.7+	31.8*
7	71	M	GC	NAC	III	MLH1/PMS2 (-), PCR-MSI-H	Anti-PD1 +CT, 4.0m, SD	ypT4N3M0	MLH1 (-), PCR/NGS not performed	None	13.0	Distant lymph node	None	NA	NA	22.9*

8	58	M	CRC	AC	IV	NA	None	pT3N1M1a, synchronou s liver metastasis	MLH1/PMS2 (-), NGS-MSI-H, NGS-TMB 65Muts/Mb	Anti-PD1 +CT, 6.0m	17.8	Second colon cancer, cT3N0M0	Anti-PD1 followed by radical surgery, ypT3N0M0	CR	*29.3+	48.2*
9	64	M	GC	AC	III	NA	None	pT4N2M0	MLH1/PMS2 (-), NGS-MSI-H, NGS-TMB 48Muts/Mb	Anti-PD1, 15.0m	16.1	Liver	AK104 + AK109+PTX	PR	*21.7+	40.8*
10	69	F	GC	AC	III	NA	None	pT3N3M0	MLH1/PMS2 (-), PCR-MSI-H	Anti-PD1 +CT, 6.0m	8.9	Liver and distant lymph node	Anti-PD1 + Anti-CTLA4	PD	1.5	12.5
11	78	M	GC	NAC	III	MLH1/PMS2 (-), PCR-MSI-H	Anti-PD1, 5.0m, PR	Refusal of surgery	NA	NA	PFS 50.7m	Peri-gastric lymph node	Anti-PDL1	SD	8.3	63.9

Abbreviations: CT: chemotherapy, TT: targeted therapy, NA: not applicable, PTX: paclitaxel, pCR: pathological complete response, CR: complete response, SD: stable disease, PD: progressive disease, PR: partial response, DFS: disease-free survival, PFS: progressive-free survival, OS: overall survival, AK104: an immune checkpoint inhibitor both anti-PD1 and anti CTLA4, AK109: a monoclonal antibody inhibits vascular endothelial growth factor receptor-2 (VEGFR2). Index: * patients without disease progression, + still in first-line treatment, * alive.