

Table SI. Demographics of the patients.

No.	LS/ VS	Age, years	Sex	BMI	CEA, ng/ml	CA19-9, U/ml	RAS/ BRAF status	MSS/ MSI	Location	pT	pN	Pathological tumor regression grade	Clinical response to NAC
1	LS	60	F	22.3	9	3480	wild	N/A	Rb	T3	N0	Grade 2	GR
2	LS	69	M	26	24	13	N/A	N/A	Rb	T2	N0	Grade 3	GR
3	LS	45	M	21.6	3	11	N/A	N/A	Rb	T2	N0	Grade 3	GR
4	LS	64	F	24.5	1	5	N/A	N/A	Rb	T1b	N0	Grade 3	GR
5	LS	56	M	26	9	29	N/A	N/A	Ra	T3	N1	Grade 3	PR
6	LS	60	M	23.1	5	18	N/A	N/A	Ra	T3	N0	Grade 3	PR
7	LS	40	F	21.5	4	7	N/A	N/A	Rb	T2	N0	Grade 3	GR
8	LS	55	F	18.9	12	37	wild	N/A	Rb	T2	N1	Grade 3	GR
9	LS	56	F	24.6	1	6	wild	MSS	Rb	T3	N1	Grade 3	PR
10	LS	61	M	24	7	64	N/A	N/A	Rb	T3	N2	Grade 3	PR
11	LS	72	M	21.4	3	26	N/A	N/A	Rb	T2	N0	Grade 3	PR
12	LS	68	M	26.7	8	119	KRAS K117N mutant	N/A	Rb	T3	N1	Grade 3	PR
13	LS	49	M	22.9	3	5	N/A	N/A	Rb	T1b	N0	Grade 2	GR
14	LS	50	M	21.5	9	90	wild	N/A	Rb	T3	N1	Grade 2	GR
15	LS	69	M	18.4	3	6	N/A	N/A	Rb	T2	N0	Grade 3	GR
16	LS	64	M	24.3	2	7	N/A	N/A	Rb	T2	N0	Grade 3	GR
17	LS	71	M	18	1	14	wild	N/A	Rb	T2	N2	Grade 3	PR

18	LS	51	F	21.4	2	5.5	N/A	N/A	Rb	T4b	N2	Grade 3	PR
19	LS	49	F	23.3	49	39	N/A	N/A	Rb	T2	N0	Grade 3	GR
20	LS	68	M	24.7	9	157	KRAS G13D mutant	N/A	Rb	T3	N0	Grade 3	PR
21	LS	66	M	21.8	1	5	N/A	N/A	Rb	T2	N0	Grade 3	GR
22	LS	62	F	20.4	3	5	N/A	N/A	Rb	T4a	N0	Grade 3	PR
23	LS	52	M	21.5	6	22	N/A	N/A	Rb	T3	N0	Grade 3	PR
24	LS	60	M	18	6	2	N/A	N/A	Rb	T2	N0	Grade 3	PR
25	LS	73	F	22.6	3	43	KRAS G13D mutant	N/A	Rb	T3	N2	Grade 3	GR
26	LS	71	F	22.8	2	18	N/A	N/A	Rb	T2	N0	Grade 3	PR
27	LS	76	F	28.8	6	4	N/A	N/A	Rb	T2	N0	Grade 3	GR
28	LS	65	M	20.3	1	6	N/A	N/A	Rb	T3	N0	Grade 2	GR
29	LS	73	F	20.4	33	322	wild	N/A	Rb	T3	N2	Grade 3	PR
30	LS	66	M	20.7	3	2	N/A	N/A	Rb	T2	N0	Grade 3	PR
31	LS	73	F	22	24	38	N/A	N/A	Rb	T2	N0	Grade 3	GR
32	LS	55	M	23.1	29	17	N/A	N/A	Rb	T3	N2	Grade 3	PR
33	LS	75	F	18.6	1	11	N/A	N/A	Rb	T1b	N0	Grade 3	GR
34	LS	77	M	25.2	13	2	N/A	N/A	Rb	T3	N0	Grade 3	PR
35	LS	19	M	20.4	13	21	N/A	N/A	Rb	T3	N2	Grade 3	PR
36	LS	61	F	18.1	32	49	N/A	N/A	Rb	T2	N1	Grade 3	GR

37	LS	61	M	16.7	11	102	KRAS A146V mutant	N/A	Rb	T4b	N3	Grade 2	PR
38	LS	67	M	19.6	8	45	N/A	N/A	Rb	T3	N0	Grade 3	GR
39	LS	75	M	24.9	4	12	N/A	N/A	Ra	T2	N0	Grade 3	PR
40	LS	66	M	24.9	2	9	N/A	N/A	Rb	T1b	N0	Grade 2	GR
41	LS	74	M	22.2	2	31	KRAS G12D G13D mutant	N/A	Rb	T3	N0	Grade 3	GR
42	LS	63	M	25.9	9	22	KRAS G12V mutant	N/A	Ra	T3	N1	Grade 3	PR
43	LS	63	M	21.2	3	26	N/A	N/A	Rb	T2	N0	Grade 3	GR
44	VS	40	F	16.2	29	7	KRAS G13D mutant	N/A	Ra	T3	N0	Grade 3	PR
45	VS	27	F	27.6	1	9	N/A	N/A	Rb	T2	N0	Grade 3	PR
46	VS	28	F	17	55	9	KRAS G12D mutant	MSS	Rb	T3	N0	Grade 3	PR
47	VS	62	F	23.6	3	51.7	N/A	N/A	Rb	T0	N0	Grade 0	GR
48	VS	66	M	23.5	5	31.1	N/A	N/A	Rb	T1b	N0	Grade 2	GR
49	VS	71	M	25	3	99.1	N/A	N/A	Rb	Tis	N0	Grade 2	GR

50	VS	61	M	24.6	4	31	N/A	N/A	Rb	T2	N0	Grade 3	GR
51	VS	65	M	24.8	5	56.4	N/A	N/A	Rb	T3	N0	Grade 3	PR
52	VS	42	M	26.9	3	7.3	wild	MSS	Rb	T4a	N3	Grade 3	PR
53	VS	57	F	23.6	14	24	N/A	N/A	Rb	T3	N2	Grade 3	GR

LS, learning set; VS, validation set; M, Male; F, female; BMI, body mass index; CEA, carcinoembryonic antigen; CA19-9, carbohydrate antigen 19-9; MSI, microsatellite instable; MSS, microsatellite stable; Ra, upper rectum; Rb, lower rectum; GR, good response; PR, poor response. N/A, not assessed.

Table SII. Diagnostic accuracy in the validation set of post-treatment deep learning model using colonoscopy images after neoadjuvant chemotherapy

Clinical response	AI prediction		Total
	Poor responder	Good responder	
Poor responder (n=42)	17 images	25 images	42 images
Good responder (n=41)	18 images	23 images	41 images

Sensitivity, 40.5% (17/42); positive predictive value, 48.6% (17/35); accuracy, 48.2% (30/83). AI, artificial intelligence. Clinical response was determined according to Response Evaluation Criteria in Solid Tumors version 1.1. Progressive disease and stable disease were defined as poor response, and partial response and complete response were defined as good response.