Supplementary Table 1. Summary of *benign* cervical tissue cores with CTLA-4 and CD137 expression, scores, and the interpretation

No.	Age	Pathology	CTLA4+ (%)	Intensity	Score	Expression	Interpretation	LPI	LPI: CD137+ (%)
1	64	Normal	0	0	0	Negative	Negative	Present	0
2	64	Normal	40	1+	1a	LoPos	Negative	Present	100
3	50	Cervicitis	0	0	0	Negative	Negative	Present	0
4	48	Cervicitis	0	0	0	Negative	Negative	Present	0

LPI, Lymphoplasmacytic infiltrate; LoPos, low positive interpreted as "Negative".

Supplementary Table 2. Subgroup IA, summary of the cores with squamous cell carcinoma (Grade I) with CTLA-4 and CD137 expression

No.	Age	Stage	CTLA4+ (%)	Intensity	Score	Expression	Interpretation	LPI	LPI: CD137+ (%)
1	44	T1N0M0	0	0	0	Negative	Negative	Present	50
2	37	T1N1M0	0	0	0	Negative	Negative	Present	0
3	45	T3N0M0	5	1+	1a	LoPos	Negative	Present	50
4	68	T1N1M0	80	1+	2a	Positive	Negative	Present	80
5	51	T1N0M0	10	2+	1b	LoPos	Positive	Present	80
6	63	T1N0M0	50	2+	2b	Positive	Positive	Present	80
7	46	T1N0M0	80	2+	2b	Positive	Positive	Present	80

Positive; interpretation includes "1b", and "2b" scores; LPI, Lymphoplasmacytic infiltrate; LoPos, low positive.

Supplementary Table 3. Subgroup IB, summary of the cores with squamous cell carcinoma (Grade II) with CTLA-4 and CD137 expression

No.	Age	Stage	CTLA4+ (%)	Intensity	Score	Expression	Interpretation	LPI	LPI: CD137+ (%)
1	51	T1N0M0	0	0	0	Negative	Negative	Present	80
2	57	T1N0M0	0	0	0	Negative	Negative	Present	80
3	44	T1N0M0	0	0	0	Negative	Negative	Present	50
4	44	T1N0M0	0	0	0	Negative	Negative	Present	50
5	46	T1N0M0	0	0	0	Negative	Negative	Present	50
6	63	T1N0M0	0	0	0	Negative	Negative	Present	80
7	44	T1N0M0	0	0	0	Negative	Negative	Present	50
8	43	T1N0M0	0	0	0	Negative	Negative	Present	80
9	50	T1N0M0	0	0	0	Negative	Negative	Present	50
10	58	T1N0M0	0	0	0	Negative	Negative	Present	50
11	30	T1N0M0	0	0	0	Negative	Negative	Present	50
12	40	T1N0M0	0	0	0	Negative	Negative	Present	50
13	36	T1N1M0	0	0	0	Negative	Negative	Present	50
14	43	T1N1M0	0	0	0	Negative	Negative	Present	30
15	67	T1N1M0	0	0	0	Negative	Negative	Present	50
16	39	T1N1M0	0	0	0	Negative	Negative	Present	40
17	46	T1N1M0	0	0	0	Negative	Negative	Present	50
18	46	T1N1M0	0	0	0	Negative	Negative	Present	50
19	56	T2N0M0	0	0	0	Negative	Negative	Present	80
20	55	T2N0M0	0	0	0	Negative	Negative	Present	80
21	47	T4N1M0	0	0	0	Negative	Negative	Present	80
22	48	T1N0M0	5	1+	1a	LoPos	Negative	Present	50
23	44	T1N0M0	10	1+	1a	LoPos	Negative	Present	50
24	45	T1N0M0	10	1+	1a	LoPos	Negative	Present	50

No.	Age	Stage	CTLA4+ (%)	Intensity	Score	Expression	Interpretation	LPI	LPI: CD137+ (%)
25	40	T1N0M0	10	1+	1a	LoPos	Negative	Present	50
26	37	T1N1M0	10	1+	1a	LoPos	Negative	Present	50
27	45	T1N0M0	20	1+	1a	LoPos	Negative	Present	80
28	41	T1N1M0	30	1+	1a	LoPos	Negative	Present	80
29	30	T1N0M0	80	1+	2a	Positive	Negative	Present	80
30	54	T1N0M0	80	1+	2a	Positive	Negative	Present	50
31	57	T1N0M0	80	1+	2a	Positive	Negative	Present	0
32	37	T1N1M0	80	1+	2a	Positive	Negative	Present	90
33	41	T1N1M0	80	1+	2a	Positive	Negative	Present	90
34	47	T2N0M0	80	1+	2a	Positive	Negative	Present	80
35	50	T2N0M0	80	1+	2a	Positive	Negative	Present	80
36	49	T2N1M0	80	1+	2a	Positive	Negative	Present	50
37	41	T1N0M0	5	2+	1b	LoPos	Positive	Present	80
38	47	T1N0M0	5	2+	1b	LoPos	Positive	Present	50
39	42	T1N1M0	10	2+	1b	LoPos	Positive	Present	50
40	47	T1N1M0	10	2+	1b	LoPos	Positive	Present	80
41	37	T1N0M0	20	2+	1b	LoPos	Positive	Present	50
42	40	T1N0M0	20	2+	1b	LoPos	Positive	Present	50
43	54	T1N0M0	20	2+	1b	LoPos	Positive	Present	50
44	43	T1N0M0	20	2+	1b	LoPos	Positive	Present	50
45	43	T1N0M0	20	2+	1b	LoPos	Positive	Present	50
46	60	T1N1M0	20	2+	1b	LoPos	Positive	Present	50
47	41	T1N0M0	30	2+	1b	LoPos	Positive	Present	50
48	57	T1N1M0	40	2+	1b	LoPos	Positive	Present	0
49	35	T1N0M0	60	2+	2b	Positive	Positive	Present	80
50	35	T1N0M0	60	2+	2b	Positive	Positive	Present	50
51	30	T1N0M0	80	2+	2b	Positive	Positive	Present	50
52	37	T1N0M0	80	2+	2b	Positive	Positive	Present	10

Positive, interpretation includes "1b", and "2b" scores; LPI, Lymphoplasmacytic infiltrate; LoPos, low positive.

Supplementary Table 4. Subgroup IC, summary of the cores with squamous cell carcinoma (Grade III) with CTLA-4 and CD137 expression

No.	Age	Stage	CTLA4+ (%)	Intensity	Score	Expression	Interpretation	LPI	LPI: CD137+ (%)
1	34	T1N0M0	0	0	0	Negative	Negative	Present	0
2	58	T1N0M0	0	0	0	Negative	Negative	Present	50
3	43	T2N0M0	0	0	0	Negative	Negative	Present	0
4	52	T2N0M0	0	0	0	Negative	Negative	Present	50
5	50	T2N0M0	0	0	0	Negative	Negative	Present	50
6	35	T2N1M0	0	0	0	Negative	Negative	Present	50
7	59	T1N1M0	20	1+	1a	LoPos	Negative	Present	50
8	39	T1N1M0	40	1+	1a	LoPos	Negative	Present	0
9	30	T1N0M0	80	1+	2a	Positive	Negative	Present	80
10	36	T1N0M0	80	1+	2a	Positive	Negative	Present	50
11	45	T2N1M0	80	1+	2a	Positive	Negative	Present	50
12	31	T1N0M0	10	2+	1b	LoPos	Positive	Present	50
13	36	T1N0M0	60	2+	2b	Positive	Positive	Present	0
14	33	T2N0M0	60	2+	2b	Positive	Positive	Present	20
15	58	T1N0M0	70	2+	2b	Positive	Positive	Present	50

Positive, interpretation includes "1b", and "2b" scores; LPI, Lymphoplasmacytic infiltrate; LoPos, low positive.

Supplementary Table 5. Group II, summary of the cores with adenosquamous carcinoma with CTLA-4 and CD137 expression

No.	Age	Stage	CTLA4+ (%)	Intensity	Score	Expression	Interpretation	LPI	LPI: CD137+ (%)
1	27	T2N0M0	0	0	0	Negative	Negative	Present	50
2	48	T1N0M0	20	1+	1a	LoPos	Negative	Present	50
3	36	NA	90	1+	2a	Positive	Negative	Present	90
4	36	T1N0M0	20	2+	1b	LoPos	Positive	Present	50
5	46	T1N0M0	20	2+	1b	LoPos	Positive	Present	90
6	31	T2N0M0	80	2+	2b	Positive	Positive	Present	50
7	44	T2N1M0	80	2+	2b	Positive	Positive	Present	50
8	56	T1N0M0	80	2+	2b	Positive	Positive	Present	0

Positive, interpretation includes "1b", and "2b" scores; LPI, Lymphoplasmacytic infiltrate; LoPos, low positive; NA, not available.

Supplementary Table 6. Group III, summary of the cores with endocervical adenocarcinoma with CTLA-4 and CD137 expression

No.	Age	Stage	CTLA4+ (%)	Intensity	Score	Expression	Interpretation	LPI	LPI: CD137+ (%)
1	42	NA	10	1+	1a	LoPos	Negative	Present	90
2	40	NA	20	1+	1a	LoPos	Negative	Present	5
3	29	NA	30	1+	1a	LoPos	Negative	Present	90
4	48	T1N0M0	20	1+	1a	LoPos	Negative	Present	90
5	33	NA	30	2+	1b	LoPos	Positive	Present	90
6	40	T1N0M0	0	0	0	Negative	Negative	Present	80
7	48	T1N0M0	20	1+	1a	LoPos	Negative	Present	90
8	47	T1N0M0	30	1+	1a	LoPos	Negative	Present	80
9	24	T1N0M0	30	1+	1a	LoPos	Negative	Present	50
10	38	T1N0M0	30	1+	1a	LoPos	Negative	Present	90
11	50	T1N0M0	90	1+	2a	Positive	Negative	Present	90
12	39	T1N1M0	90	1+	2a	Positive	Negative	Present	90
13	39	T2N0M0	80	2+	2b	Positive	Positive	Present	10

Positive, interpretation includes "1b", and "2b" scores; LPI, Lymphoplasmacytic infiltrate; LoPos, low positive; NA, not available.