Table SI. The characteristics of the included studies in part one.

Author (year of publication)	Study region	stage	Histology	Median age(range)	cCRT or sCRT	Time from CRT to ICI	The name of ICI	PD-L1 status (number of patients)	EGFR mutation positive (n or %)	PD-L1 diagnostic antibodies (statistical standard)
Faehling, 2020 (5)	Germany	PD-L1≥1% group: III:97%; IV:3% PD-L1<1% group: III:99%; IV:1%	PD-L1≥1% group: AD:59%; SCC:39% PD-L1<1% group: AD:39%; SCC:55%	62.4 (33.5-81.6)	cCRT: 96.8%; sCRT: 3.2%	≤42days	Durvalumab	PD-L1 ≥1%:79 PD-L1 <1%:32	NR	SP263:58% 22c3:18% 28-8:15% other:9% (TPS)
Durm, 2020 (7)	United States	III	Overall: Non-SCC:55%; SCC:45%	66 (45-84)	cCRT	28 to 56 days	Pembrolizumab	PD-L1 ≥1%:42 PD-L1 <1%:11	NR	22C3 (MPS)
Jabbour, 2020 (8)	United States	III	Overall: AD:52%; SCC:48%	69.5 (53-85)	cCRT	12 patients at the start of CRT; 7 patients at the 2 weeks before end of CRT; 4 patients at the 2-6 weeks after CRT	Pembrolizumab	PD-L1 ≥1%:15 PD-L1 <1%:4	NR	22C3 (MPS)
Offin, 2020 (15)	United States	III	Overall: AD:58%; SCC:31%	66	cCRT	median 1.5 months (range 0.3-7.7 months)	Durvalumab	PD-L1 ≥1%:33 PD-L1 <1%:17	Overall:2%	E1L3N (TPS)
Liu, 2022 (11)	United States	IIb-III	Overall: AD:55%; SCC:35%	67 (50-83)	cCRT	At the Start of CRT or three weeks after CRT	Atezolizumab	PD-L1 ≥1%:20 PD-L1 <1%:16	PD-L1≥1% group: 1 PD-L1<1% group: 2	22C3 (TPS)
Paz-Ares, 2021 (2)	PACIFIC trial Multi-countries	III	PD-L1≥1% group: Non-SCC:48.6%; SCC:51.4% PD-L1<1% group: Non-SCC:41.1%; SCC:58.9%	PD-L1≥1% group: 64.0 (36-83) PD-L1<1% group: 64.0 (42-84)	cCRT	≤42days	Durvalumab	PD-L1 ≥1%:212 PD-L1 <1%:90	PD-L1≥1% group:8% PD-L1<1% group:7.8%	SP263 (TPS)
Desilets, 2021(10)	Canada and Japan	III	Overall: AD:66%; SCC:32%	67	NR	Median 33 days <14 days: 15%; 14-42 days: 57.8%; >42 days: 27.2%	Durvalumab	PD-L1 ≥1%:72 PD-L1 <1%:53	NR	22C3 (TPS)
Girard, 2022 (28)	Europe	PD-L1≥1% group: IA-IIB:5.2%; III:94.9% PD-L1<1% group: IA-IIB:4.6%; III:95.4%	PD-L1≥1% group: Non-SCC:66.4%; SCC:33.6% PD-L1<1% group: Non-SCC:57.5%; SCC:42.5%	PD-L1≥1% group: 65.0 (26-86) PD-L1<1% group: 66.0 (36-86)	cCRT or sCRT	≤42days	Durvalumab	PD-L1 ≥1%:700 PD-L1 <1%:174	Overall:7.9%	NR
Nindra, 2023 (29)	Australia	III	Overall: AD:57%; SCC:31%	66 (46-84)	NR	NR	Durvalumab	PD-L1 ≥1%:70 PD-L1 <1%:36	PD-L1≥1% group:6.5% PD-L1<1% group:10.6%	antibodies: N/A (TPS)
McCall, 2023 (16)	United States	II-III	Overall: AD:47.6%; SCC:41%	65.6	cCRT	Median 29 days (range:7-125 days)	Durvalumab	PD-L1 ≥1%:20 PD-L1 <1%:40	NR	NR
Kartolo, 2021(17)	Canada	III	Overall: AD:70%; SCC:29%	≥65:26 patients <65:25 patients	cCRT	Mean 1.6 months (SD:3.9 months)	Durvalumab	PD-L1 ≥1%:43 PD-L1 <1:8	none	22C3 (TPS)
Park, 2023(18)	Korean	III	Overall: AD:40.8%; SCC:52.2%	65 (36-82)	cCRT or sCRT	Median 32 days (range:0-86 days)	Durvalumab	PD-L1 ≥1%:124 PD-L1 <1%:19	Overall:13.4%	SP263 (TPS)
Jazieh, 2021 (19)	United States	I-III	PD-L1≥1% group: AD:56%; SCC:36% PD-L1<1% group: AD:42%; SCC:51.5%	NR	NR	NR	Durvalumab	PD-L1 ≥1%:66 PD-L1 <1%:33	PD-L1≥1% group:1 PD-L1<1% group:1	22C3 (TPS)
Landman, 2021 (20)	Israel	III	Overall: Non-SCC:72%; SCC:28%	66.5 (48.8-85.1)	cCRT	Median 2.2 (range 0.6-5.3) months	Durvalumab	PD-L1 ≥1%:18 PD-L1 <1%:11	Overall:3	Antibody:NR (TPS)
Vrankar, 2021 (25)	Slovenia	III	Overall: AD:36.5%; SCC:58.8%	63 (36-73)	cCRT: 63.5%; sCRT: 36.5%	within 3 months	Durvalumab	PD-L1 ≥1%:65 PD-L1 <1%:13	NR	SP263 (TPS)
Denault, 2023 (23)	Canada	III-IV	PD-L1≥1% group: Non-SCC:72%; SCC:26% PD-L1<1% group: Non-SCC:64.7%; SCC:32.4%	PD-L1≥1% group: 66±8 (Mean ±SD) PD-L1<1% group: 66±8 (Mean ± SD)	NR	Median 40 days (range:13-186 days)	Durvalumab	PD-L1 ≥1%:100 PD-L1 <1%:34	PD-L1≥1% group:8 PD-L1<1% group:5	Antibody:NR (TPS)

TPS, tumor proportion score; MPS, modified proportion score; AD, adenocarcinoma; SCC, squamous cell carcinoma; NR, not reported; cCRT, concurrent chemoradiotherapy; sCRT, sequential chemoradiotherapy; ICI, immune checkpoint inhibitors.