Supplementary Material
Supplementary Table S1 QLQ-C30 compliance and completion rates

	Compliance		Completion	
	Pembrolizumab	Chemotherapy	Pembrolizumab	Chemotherapy
	n/N (%)	n/N (%)	n/N (%)	n/N (%)
Baseline	239/252 (94.8)	234/243 (96.3)	239/252 (94.8)	234/243 (96.3)
Week 3	220/240 (91.7)	221/235 (94.0)	220/252 (87.3)	221/243 (90.9)
Week 6	189/210 (90.0)	180/195 (92.3)	189/252 (75.0)	180/243 (74.1)
Week 9	151/174 (86.8)	167/181 (92.3)	151/252 (59.9)	167/243 (68.7)
Week 12	139/155 (89.7)	180/195 (92.3)	139/252 (55.2)	180/243 (74.1)
Week 18	102/116 (87.9)	140/171 (81.9)	102/252 (40.5)	140/243 (57.6)
Week 24	67/82 (81.7)	112/135 (83.0)	67/252 (26.6)	112/243 (46.1)
Week 30	62/77 (80.5)	82/102 (80.4)	62/252 (24.6)	82/243 (33.7)
Week 36	52/61 (85.2)	66/77 (85.7)	52/252 (20.6)	66/243 (27.2)
Week 42	44/52 (84.6)	47/58 (81.0)	44/252 (17.5)	47/243 (19.3)
Week 48	45/49 (91.8)	43/51 (84.3)	45/252 (17.9)	43/243 (17.7)
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QLQ-C30, European Organisation for the Research and Treatment of Cancer core 30 quality-of-life questionnaire.

Compliance rate was defined as the proportion of patients who completed ≥1 HRQOL questionnaire among those expected to complete the questionnaire at each visit (excluding patients missing by design because they discontinued study treatment). Completion rate was defined as the proportion of patients who completed ≥1 HRQOL questionnaire among the total HRQOL analysis population at each visit.

**Supplementary Table S2** QLQ-STO22 compliance and completion rates

	Compliance		Completion	
	Pembrolizumab	Chemotherapy	Pembrolizumab	Chemotherapy
	n/N (%)	n/N (%)	n/N (%)	n/N (%)
Baseline	239/252 (94.8)	233/243 (95.9)	239/252 (94.8)	233/243 (95.9)
Week 3	219/240 (91.3)	221/235 (94.0)	219/252 (86.9)	221/243 (90.9)
Week 6	189/210 (90.0)	180/195 (92.3)	189/252 (75.0)	180/243 (74.1)
Week 9	151/174 (86.8)	167/181 (92.3)	151/252 (59.9)	167/243 (68.7)
Week 12	139/155 (89.7)	180/195 (92.3)	139/252 (55.2)	180/243 (74.1)
Week 18	102/116 (87.9)	139/171 (81.3)	102/252 (40.5)	139/243 (57.2)
Week 24	67/82 (81.7)	113/135 (83.7)	67/252 (26.6)	113/243 (46.5)
Week 30	62/77 (80.5)	81/102 (79.4)	62/252 (24.6)	81/243 (33.3)
Week 36	51/61 (83.6)	66/77 (85.7)	51/252 (20.2)	66/243 (27.2)
Week 42	44/52 (84.6)	47/58 (81.0)	44/252 (17.5)	47/243 (19.3)
Week 48	45/49 (91.8)	43/51 (84.3)	45/252 (17.9)	43/243 (17.7)

QLQ-STO22, European Organisation for Research and Treatment of Cancer 22-question quality-of-life gastric cancer–specific module.

Compliance rate was defined as the proportion of patients who completed ≥1 HRQOL questionnaire among those expected to complete the questionnaires at each visit (excluding patients missing by design because they discontinued study treatment). Completion rate was defined as the proportion of patients who completed ≥1 HRQOL assessment among the total HRQOL analysis population at each visit.

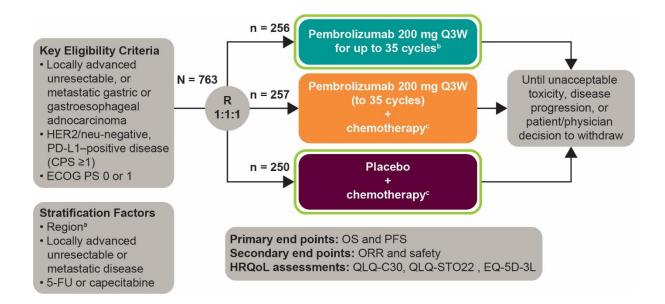
**Supplementary Table S3** EQ-5D-3L compliance and completion rates

	Compliance		Completion	
	Pembrolizumab	Chemotherapy	Pembrolizumab	Chemotherapy
	n/N (%)	n/N (%)	n/N (%)	n/N (%)
Baseline	240/252 (95.2)	235/243 (96.7)	240/252 (95.2)	235/243 (96.7)
Week 3	220/240 (91.7)	221/235 (94.0)	220/252 (87.3)	221/243 (90.9)
Week 6	190/210 (90.5)	180/195 (92.3)	190/252 (75.4)	180/243 (74.1)
Week 9	152/174 (87.4)	167/181 (92.3)	152/252 (60.3)	167/243 (68.7)
Week 12	139/155 (89.7)	180/195 (92.3)	139/252 (55.2)	180/243 (74.1)
Week 18	102/116 (87.9)	141/171 (82.5)	102/252 (40.5)	141/243 (58.0)
Week 24	68/82 (82.9)	112/135 (83.0)	68/252 (27.0)	112/243 (46.1)
Week 30	62/77 (80.5)	82/102 (80.4)	62/252 (24.6)	82/243 (33.7)
Week 36	52/61 (85.2)	66/77 (85.7)	52/252 (20.6)	66/243 (27.2)
Week 42	44/52 (84.6)	47/58 (81.0)	44/252 (17.5)	47/243 (19.3)
Week 48	45/49 (91.8)	43/51 (84.3)	45/252 (17.9)	43/243 (17.7)

EQ-5D-3L, EuroQol five-dimension, three-level questionnaire.

Compliance rate was defined as the proportion of patients who completed ≥1 HRQOL questionnaire among those expected to complete the instruments at each visit (excluding patients missing by design because they discontinued study treatment). Completion rate was defined as the proportion of patients who completed ≥1 HRQOL questionnaire among the total HRQOL analysis population at each visit.

## **Supplementary Figure S1** Study design and patients.



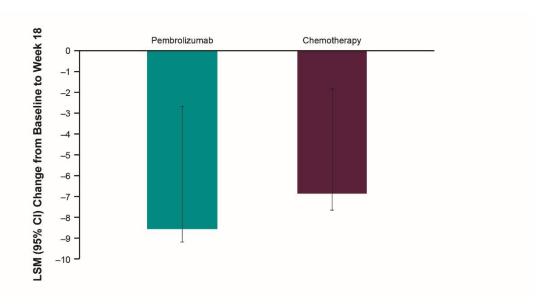
5-FU, 5-fluorouracil; BID, twice daily; ECOG PS, Eastern Cooperative Oncology Group performance status; ORR, objective response rate; OS, overall survival; PD-L1, programmed death ligand 1; Q3W, every 3 weeks

<sup>a</sup>Europe/North America/Australia versus Asia (South Korea, Hong Kong, Taiwan, Japan, Malaysia, Thailand, Singapore) versus rest of world (including South America).

<sup>b</sup>Administration of pembrolizumab 200 mg Q3W monotherapy was not blinded.

<sup>c</sup>Chemotherapy: cisplatin 80 mg/m<sup>2</sup> Q3W + 5-FU 800 mg/m<sup>2</sup>/day for 5 days Q3W or capecitabine 1000 mg/m<sup>2</sup> BID on days 1-14 Q3W (cisplatin may be capped at six cycles as per country guidelines). Treatment duration was 2 years.

**Supplementary Figure S2** LSM (95% CI) change from baseline to week 18 in EQ-5D-3L VAS score.



EQ-5D-3L, EuroQol five-dimension, three-level questionnaire; LSM, least squares mean; VAS, visual analogue scale.