

**Figure S1** Representative staining patterns for TTF-1 in TTF-1-positive (A) and TTF-1-negative (B) lung adenocarcinoma. Alveolar epithelial cells show a low level of staining for TTF-1 in (B). Scale bars, 100 µm. Staining method is provided in Methods section. TTF-1, thyroid transcription factor 1.

**Table S1** Breakdown of histology other than adenocarcinoma

Histology	TTF-1 positive (n=1)	TTF-1 negative (n=11)
NSCC, NOS	0	6
NSCC, favors adenocarcinoma	1	3
Large cell carcinoma, null type	0	1
Adenosquamous carcinoma	0	1

NSCC, non-small cell carcinoma; NOS, not otherwise specified; TTF-1, thyroid transcription factor 1.

**Table S2** Treatment regimens for first-line therapy

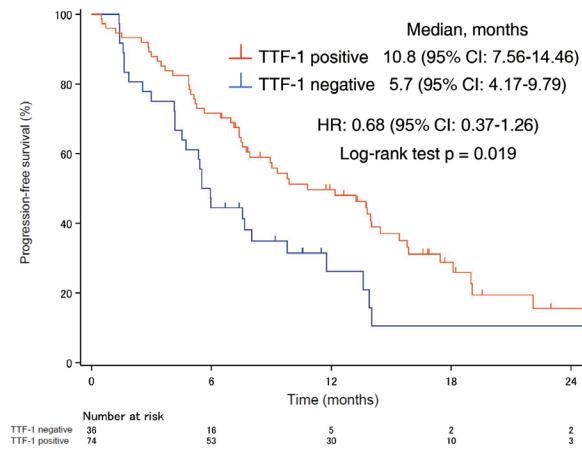
Treatment regimen	TTF-1 positive (n=75)	TTF-1 negative (n=47)
Pembrolizumab + pemetrexed + carboplatin	32 (42.7)	20 (42.6)
Pembrolizumab + pemetrexed + cisplatin	18 (24.0)	11 (23.4)
Atezolizumab + pemetrexed + carboplatin	12 (16.0)	8 (17.0)
Atezolizumab + pemetrexed + carboplatin + bevacizumab	13 (17.3)	8 (17.0)

Data are number (percent).

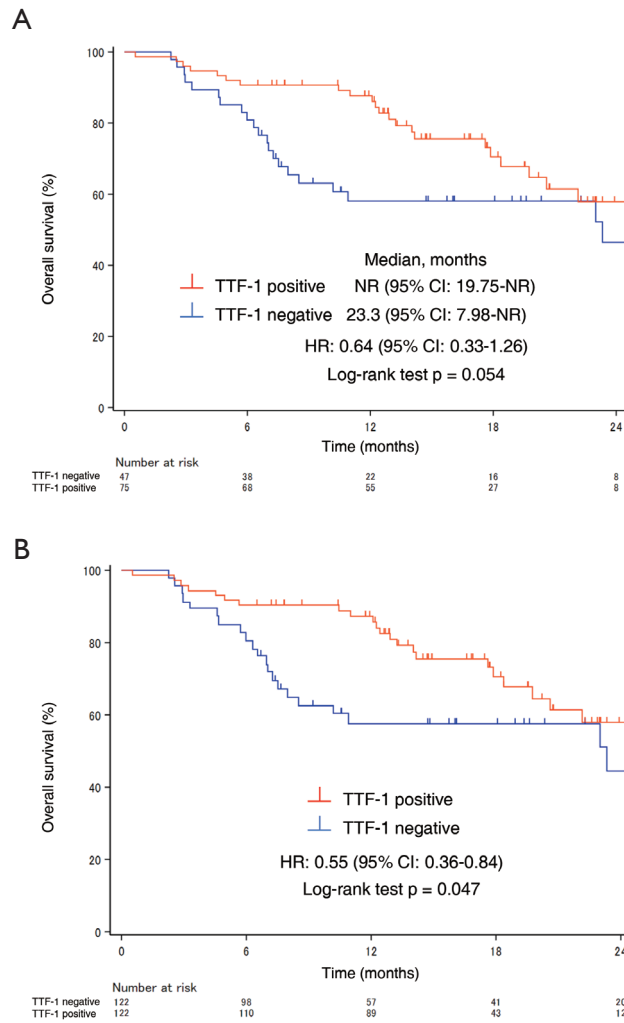
**Table S3** Characteristics of study patients for the IPTW model both before and after weighting

Characteristic	TTF-1 positive (n=75)	TTF-1 negative (n=47)	Unweighted SMD	TTF-1 positive	TTF-1 negative	Weighted SMD
Age						
<75 years	66 (88.0)	40 (85.1)	-0.0849	87.0	87.1	0.0010
≥75 years	9 (12.0)	7 (14.9)		13.0	12.9	
Sex						
Female	21 (28.0)	13 (27.7)	0.0076	27.7	27.2	-0.0099
Male	54 (72.0)	34 (72.3)		72.3	72.8	
Smoking history						
Never-smoker	12 (16.0)	10 (21.3)	0.1358	17.8	17.7	-0.0026
Smoker	63 (84.0)	37 (78.7)		82.2	82.3	
PD-L1 TPS						
≥50%	21 (28.0)	11 (23.4)	-0.1053	26.3	26.2	-0.0015
<50%	46 (61.3)	31 (66.0)	0.0962	63.1	63.0	-0.0018
Unknown	8 (10.7)	5 (10.6)		10.6	10.8	
Angiogenesis inhibitor added						
None	62 (82.7)	39 (83.0)	-0.0083	82.5	82.2	-0.0090
Bevacizumab	13 (17.3)	8 (17.0)		17.5	17.8	

Data are number (percent) for the unweighted population, and percent for the weighted population.



**Figure S2** Kaplan-Meier plots for PFS according to TTF-1 expression status for patients with adenocarcinoma. PFS, progression-free survival; TTF-1, thyroid transcription factor 1; HR, hazard ratio; CI, confidence interval.



**Figure S3** Kaplan-Meier plots for OS (A) and IPTW-adjusted OS (B) according to TTF-1 expression status for the study population. OS, overall survival; IPTW, inverse probability of treatment weighting; TTF-1, thyroid transcription factor 1; HR, hazard ratio; CI, confidence interval; NR, not reached.