

Table S1. Metastases in Analysis Population with advanced disease and no prior therapy (N=877)

Metastases, N (%)	
Bone	188 (21.4%)
Brain	162 (18.5%)
None	79 (9.0%)
Other	448 (51.1%)

Table S2. Patient characteristics by ICI treatment group (N=278).

	ICI + Chemotherapy (N=161)	ICI Monotherapy (N=117)	Total (N=278)	p value
Age				0.120
Mean (SD)	65.6 (9.8)	67.8 (10.8)	66.5 (10.3)	
Median (Q1, Q3)	65.9 (58.9, 73.2)	66.5 (60.1, 76.9)	66.1 (59.5, 74.8)	
Min - Max	36.5 - 87.7	35.1 - 90.2	35.1 - 90.2	
Age Category, n (%)				0.043
>75	31 (19.3%)	37 (31.6%)	68 (24.5%)	
65 to 75	53 (32.9%)	28 (23.9%)	81 (29.1%)	
<65	77 (47.8%)	52 (44.4%)	129 (46.4%)	
HIC, n (%)				0.746
HIC-Hot	113 (70.2%)	80 (68.4%)	193 (69.4%)	
HIC-Cold	48 (29.8%)	37 (31.6%)	85 (30.6%)	
Gender, n (%)				0.296
Female	71 (44.1%)	59 (50.4%)	130 (46.8%)	
Male	90 (55.9%)	58 (49.6%)	148 (53.2%)	
Disease Stage at Study Entry, n (%)				0.937
Stage IIIB	10 (6.2%)	7 (6.0%)	17 (6.1%)	
Stage IV	151 (93.8%)	110 (94.0%)	261 (93.9%)	
Histology, n (%)				0.012
Adenocarcinoma	131 (81.4%)	77 (65.8%)	208 (74.8%)	
NSCLC Other	13 (8.1%)	19 (16.2%)	32 (11.5%)	

Squamous	17 (10.6%)	21 (17.9%)	38 (13.7%)	
Smoking Status, n (%)				0.680
Currently Smokes	62 (38.5%)	43 (36.8%)	105 (37.8%)	
Ex-Smoker	81 (50.3%)	64 (54.7%)	145 (52.2%)	
Never smoked	18 (11.2%)	10 (8.5%)	28 (10.1%)	
ECOG Performance Status at Study Entry, n (%)				0.093
Zero	40 (24.8%)	26 (22.2%)	66 (23.7%)	
One	92 (57.1%)	55 (47.0%)	147 (52.9%)	
Two	26 (16.1%)	31 (26.5%)	57 (20.5%)	
Three	3 (1.9%)	5 (4.3%)	8 (2.9%)	
PD-L1 Expression, n (%)				< 0.001
≥50	39 (24.2%)	83 (70.9%)	122 (43.9%)	
1 to 50	36 (22.4%)	9 (7.7%)	45 (16.2%)	
<1	25 (15.5%)	6 (5.1%)	31 (11.2%)	
NA	61 (37.9%)	19 (16.2%)	80 (28.8%)	

Table S3. Patient characteristics by ICI treatment group for PS0-1, PD-L1 High subgroup (N=91).

	ICI + Chemotherapy (N=33)	ICI Monotherapy (N=58)	Total (N=91)	p value
Age				0.811
Mean (SD)	65.4 (11.1)	66.0 (10.6)	65.8 (10.7)	
Median (Q1, Q3)	66.7 (56.9, 74.9)	65.1 (58.0, 75.7)	65.3 (57.7, 75.6)	
Min - Max	36.5 - 81.3	44.9 - 85.7	36.5 - 85.7	
Age Category, n (%)				0.859
>75	8 (24.2%)	16 (27.6%)	24 (26.4%)	
65 to 75	9 (27.3%)	13 (22.4%)	22 (24.2%)	
<65	16 (48.5%)	29 (50.0%)	45 (49.5%)	
HIC, n (%)				0.821

HIC-Hot	22 (66.7%)	40 (69.0%)	62 (68.1%)	
HIC-Cold	11 (33.3%)	18 (31.0%)	29 (31.9%)	
Gender, n (%)				0.539
Female	16 (48.5%)	32 (55.2%)	48 (52.7%)	
Male	17 (51.5%)	26 (44.8%)	43 (47.3%)	
Disease Stage at Study Entry, n (%)				0.469
Stage IIIB	3 (9.1%)	3 (5.2%)	6 (6.6%)	
Stage IV	30 (90.9%)	55 (94.8%)	85 (93.4%)	
Histology, n (%)				0.213
Adenocarcinoma	28 (84.8%)	40 (69.0%)	68 (74.7%)	
NSCLC Other	2 (6.1%)	10 (17.2%)	12 (13.2%)	
Squamous	3 (9.1%)	8 (13.8%)	11 (12.1%)	
Smoking Status, n (%)				0.119
Currently Smokes	12 (36.4%)	22 (37.9%)	34 (37.4%)	
Ex-Smoker	14 (42.4%)	32 (55.2%)	46 (50.5%)	
Never smoked	7 (21.2%)	4 (6.9%)	11 (12.1%)	
ECOG Performance Status at Study Entry, n (%)				0.756
Zero	12 (36.4%)	23 (39.7%)	35 (38.5%)	
One	21 (63.6%)	35 (60.3%)	56 (61.5%)	

Table S4. Multivariate analysis of PD-L1 High, PS 0-1 subgroup.

Covariate		HR (95% CI for HR)	p.value
HIC (vs HIC-C)	HIC-H	0.31 (0.16-0.61)	8.00E-04
Treatment (vs ICI monotherapy)	ICI + Chemotherapy	0.637 (0.32-1.26)	0.1969
Age vs ≥65	<65	0.762 (0.4-1.46)	0.4137
ECOG (vs 0)	1	1.216 (0.61-2.41)	0.5758