Table S1. Demographic and clinicopathologic characteristics of non-squamous non-small cell lung cancer in three cohorts treated with anti-PD-(L1) based therapy.

Characteristics	MSK cohort		External Validation
	Training	Internal Validation	
No. of patients	123	82	111
Age			
Mean, years	64.0	66.0	63.0
Range	31 – 92	22 – 88	41 – 87
Gender			
Male	56 (45.5)	36 (43.9)	42 (37.8)
Female	67 (54.5)	46 (56.1)	69 (62.2)
Smoking			
Never	26 (21.1)	15 (18.3)	16 (14.4)
Current/Former	97 (78.9)	67 (81.7)	85 (76.6)
Clinicopathology*			
Adenocarcinoma	112(91.06%)	74 (90.24%)	50 (45.05%)
LCNE	4 (3.25%)	3 (3.66%)	-
NSCLC (NOS)	7 (5.69%)	5 (6.10%)	2 (1.8%)
Treatment line			
1st	22 (17.9)	22 (26.8)	67 (60.4)
≥ 2nd	101 (82.1)	60 (73.2)	44 (39.6)
Treatment type			
Monotherapy	109 (88.6)	65 (79.3)	52 (46.8%)
Combination	14 (11.4)	17 (20.7)	59 (53.2%)
Clinical trial			
Yes	24 (19.5)	22 (26.8)	111 (100%)
No	99 (80.5)	60 (73.2)	0
PD-L1 expression			
≥ 50%	6 (4.9)	11 (13.4)	17 (15.3)
1%-49%	13 (10.6)	6 (7.3)	40 (36.1)
<1%	23 (18.7)	15 (12.3)	25 (22.5)
Unknown	81 (65.8)	50 (61.0)	29 (26.1)
Clinical benefit			
Durable clinical benefit	31 (25.2)	29 (35.4)	50 (45.0)
No clinical benefit	87 (70.7)	48 (58.5)	59 (53.2)
Unknown	5 (4.1)	5 (6.1)	24 (1.8)
GMS status			
High (>0.565)	37 (30.1)	24 (29.3)	34 (30.6)
Low (≤0.565)	86 (69.9)	58 (70.7)	77 (69.4)

Abbreviations: GMS, genomic mutation signature; PD-L1, Programmed cell death ligand 1; MSK, Memorial Sloan Kettering; LCNE, large-cell neuroendocrine carcinoma; NSCLC, non–small-cell lung cancer; NOS, nototherwise specified.

*Patients in the checkmate 012 cohort were registered as "non-squamous", data of detailed pathological types were not available.