

Supplementary Material

Text S1. Definition of autoimmune disease (AID).

Figure S1. Flow diagram of patient cohorts.

Table S1. Baseline characteristics for the entire NSCLC cohort.

Table S2. Univariate analysis of immune-related adverse events (irAEs) in the entire cohort.

Table S3. Univariate analysis of immune-related adverse events (irAEs) in the entire NSCLC cohort.

Table S4. Multivariate analysis of immune-related adverse events (irAEs) in the entire NSCLC cohort.

Table S5. Univariate analysis of immune-related adverse events (irAEs) in PD-L1 monotherapy NSCLC patients.

Table S6. Multivariate analysis of immune-related adverse events (irAEs) in White patients in the anti-PD-(L)1 monotherapy NSCLC cohort.

Table S7. Multivariate analysis of immune-related adverse events (irAEs) in Black patients in the anti-PD-(L)1 monotherapy NSCLC cohort.

Figure S2. Overall survival probability by ECOG PS and lines of therapy in the entire NSCLC cohort.

Figure S3. Overall survival probability in all patients treated with ICIs by unique cohorts.

Figure S4. Overall survival probability in NSCLC patients treated with ICIs by unique cohorts.

Figure S5. Overall survival probability in NSCLC patients treated with PD-(L)1 monotherapy by unique cohorts.

Figure S6. Overall survival hazard ratio by unique patient groups of interest in White patients in the anti-PD-(L)1 monotherapy NSCLC cohort.

Figure S7. Overall survival hazard ratio by unique patient groups of interest in Black patients in the anti-PD-(L)1 monotherapy NSCLC cohort.

Figure S8. Time to treatment failure (TTF) probability by ECOG performance status and lines of therapy in the entire cohort, entire NSCLC cohort, and PD-(L)1 monotherapy cohort.

Figure S9. Time to treatment failure (TTF) probability in patients treated with ICIs by unique cohorts.

Figure S10. Time to treatment failure (TTF) probability in NSCLC patients treated with ICIs by unique cohorts.

Figure S11. Time to treatment failure (TTF) probability in NSCLC patients treated with PD-L1 monotherapy by unique cohorts.

Figure S12. Time to treatment failure hazard ratio by unique patient groups of interest in White patients in the anti-PD-(L)1 monotherapy NSCLC cohort.

Figure S13. Time to treatment failure hazard ratio by unique patient groups of interest in Black patients in the anti-PD-(L)1 monotherapy NSCLC cohort.

Figure S14. Overall survival hazard ratio in the entire NSCLC cohort treated with ICIs by unique cohorts.

Text S1. Definition of autoimmune disease (AID).

Autoimmune disease (AID) was defined as a diagnosis of any of the following conditions: Addison's disease, alopecia areata, ankylosing spondylitis, antiphospholipid, autoimmune hemolytic anemia, autoimmune hepatitis, autoimmune not otherwise specified, celiac disease, Crohn's disease, dermatopolymyositis, eczema, giant cell arteritis, Guillain-Barre syndrome, Hashimoto's disease, hypothyroidism, hyperthyroidism, idiopathic thrombocytopenic purpura, iridocyclitis, Meniere disease, multiple sclerosis, myasthenia gravis, pernicious anemia, pemphigus, polyarteritis nodosa, polymyalgia rheumatica, primary biliary cirrhosis, psoriasis, pyoderma gangrenosum, rheumatoid arthritis, sarcoidosis, scleroderma, sicca syndrome, sweet's syndrome, Sjogren's syndrome, systemic lupus erythematosus, systemic sclerosis, thyrotoxicosis, type 1 diabetes mellitus, ulcerative colitis, vitiligo, Wegener granulomatosis. Patients with a history of any of the aforementioned conditions were included in the AID subgroup, but it is unknown if AID was active, or if patients were actively receiving immunomodulators, at the time of ICI treatment. For hypothyroidism, we were unable to differentiate if this condition was surgically-induced.

Figure S1. Flow diagram of patient cohorts.

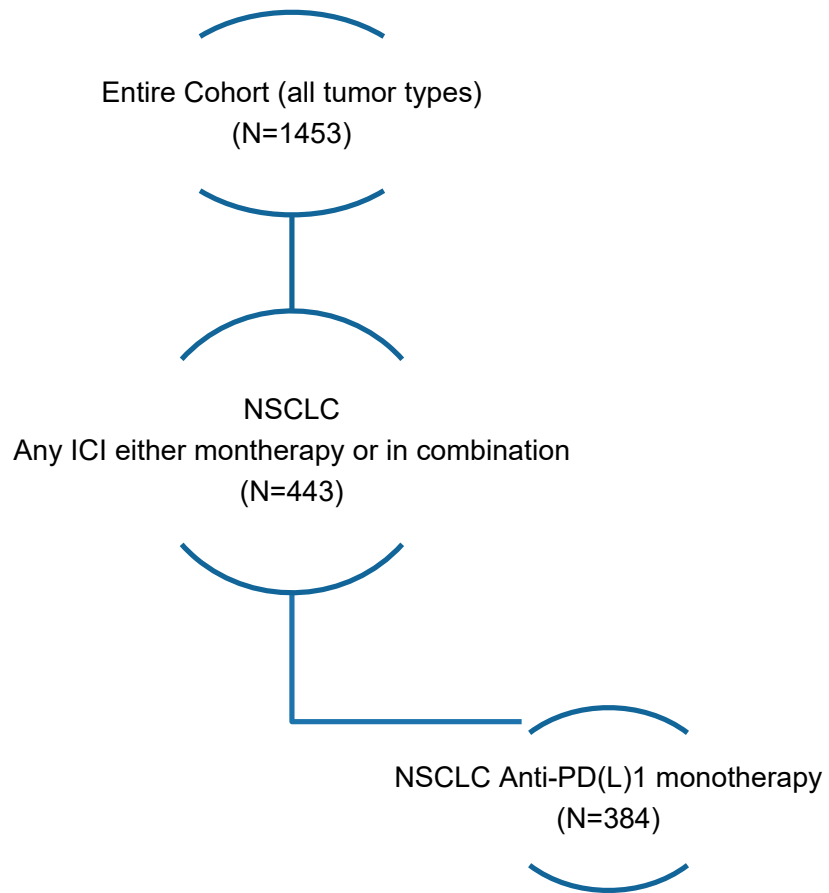


Table S1. Baseline characteristics for the entire NSCLC cohort.

Characteristics	Entire NSCLC cohort N=443 n (%)
Age - Median (IQR), years 18 – 75 > 75	68.83 (60.84,75.72) 316 (71.5) 126 (28.5)
Race Asian Black White Others	 14 (3.2) 126 (28.4) 267 (60.3) 36 (8.1)
Gender Male Female	 224 (50.6) 219 (49.4)
Race by gender (male) Asian Black White Others	 8 (2.1) 73 (19.0) 122 (31.8) 21 (5.5)
BMI, kg/m² 12≤BMI<30 BMI≥30	 370 (85.1) 65 (14.9)
Smoking Status Ever Smoker ^a Never Smoker	 369 (83.3) 74 (16.7)
Chronic Viral Infections (CVI) Combined CVI ^b Hepatitis B (HBV) Hepatitis C (HCV) HIV	 20 (4.5) 4 (0.9) 9 (2) 9 (2)
History of AID^c	62 (14)
Pre-treatment ECOG PS 0 1 ≥2	 101 (23) 235 (53.5) 103 (23.5)
ICIs Atezolizumab Avelumab Durvalumab Ipilimumab Nivolumab Nivolumab + Ipilimumab	 26 (5.9) 1 (0.2) 9 (2) 1 (0.2) 245 (55.3) 2 (0.5)

Pembrolizumab	103 (23.3)
Pembrolizumab + Ipilimumab	1 (0.2)
IO plus chemo	37 (8.4)
Others ^d	18 (4.1)
Cancer types	
Lung Cancer	443 (100) ^e
Adenocarcinoma	306 (69.1)
Squamous	112 (25.3)
Others	-
Melanoma	-
Cutaneous	-
Others	-
GI Cancers	-
Kidney Cancers	-
Others	-
NSCLC=non-small cell lung cancer; BMI=body mass index; HIV=human immunodeficiency virus; AID=autoimmune disease; ECOG=Eastern Cooperative Oncology Group; PS=performance status; ICI=immune checkpoint inhibitors ^a Ever smoker=patients with active or previous/occasional smoking history ^b Combined CVI=history of any of the following: human immunodeficiency virus (HIV), hepatitis B virus (HBV), or hepatitis C virus (HCV) infection ^c AID=included a diagnosis of a variety of autoimmune conditions, such as Hashimoto's disease, primary biliary cirrhosis, hypothyroidism, pyoderma gangrenosum, and thyrotoxicosis (see Supplement for complete definition of AID) ^d Others=included interleukin 2, pembrolizumab plus axitinib, and undefined (n=132) ^e Total patients with NSCLC. Sum of subtypes of NSCLC exceeds the total number of patients with NSCLC as some patients had both adenocarcinoma and squamous cell histology.	

Safety analysis.

Table S2. Univariate analysis of immune-related adverse events (irAEs) in the entire cohort.

Characteristic	Entire cohort					
	Any grade irAEs N=569 n (%)	No irAEs N=879 n (%)	p-value	Grade ≥3 irAEs N=183 n (%)	No Grade ≥3 irAEs N=1,265 n (%)	p-value
Age, years 18 – 75 > 75	429 (39) 138 (42)	684 (61) 192 (58)	0.315	146 (13) 37 (11)	967 (87) 293 (89)	0.413
Race Asian Black White Others	10 (26) 65 (28) 432 (43) 62 (38)	29 (74) 171 (72) 577 (57) 102 (62)	<0.001	3 (7.7) 17 (7.2) 143 (14) 20 (12)	36 (92) 219 (93) 866 (86) 144 (88)	0.021
Gender Male Female	323 (39) 246 (40)	512 (61) 364 (60)	0.564	112 (13) 71 (12)	723 (87) 539 (88)	0.357
BMI, kg/m² 12≤BMI<30 BMI ≥30	415 (38) 147 (47)	691 (62) 167 (53)	0.004	126 (11) 56 (18)	980 (89) 258 (82)	0.004
Smoking Status Ever Smoker ^a Never Smoker	317 (39) 249 (40)	498 (61) 376 (60)	0.757	101 (12) 82 (13)	714 (88) 543 (87)	0.741
Combined CVI^b Yes No	30 (45) 539 (39)	36 (55) 843 (61)	0.358	11 (17) 172 (12)	55 (83) 1,210 (88)	0.413
History of AID^c Yes No	98 (43) 471 (39)	129 (57) 750 (61)	0.219	30 (13) 153 (13)	197 (87) 1,068 (87)	0.860
ECOG PS 0-1 ≥2	489 (43) 78 (26)	651 (57) 222 (74)	<0.001	162 (14) 20 (6.7)	978 (86) 280 (93)	0.001

irAE=immune-related adverse event; BMI=body mass index; CVI=chronic viral infections; AID=autoimmune disease; ECOG=Eastern Cooperative Oncology Group; PS=performance status;

^aEver smoker=patients with active or previous/occasional smoking history
^bCombined CVI=history of any of the following: human immunodeficiency virus (HIV), hepatitis B virus (HBV), or hepatitis C virus (HCV) infection
^cAID=included a diagnosis of a variety of autoimmune conditions, such as Hashimoto's disease, primary biliary cirrhosis, hypothyroidism, pyoderma gangrenosum, and thyrotoxicosis (see Supplement for complete definition of AID)

Table S3. Univariate analysis of immune-related adverse events (irAEs) in the entire NSCLC cohort.

Characteristic	Entire NSCLC cohort					
	Any grade irAEs N=142 n (%)	No irAEs N=300 n (%)	<i>p</i> -value	Grade ≥3 irAEs N=40 n (%)	No Grade ≥3 irAEs N=402 n (%)	<i>p</i> -value
Age, years 18 – 75 > 75	91 (29) 50 (40)	224 (71) 76 (60)	0.037	23 (7.3) 17 (13)	292 (93) 109 (87)	0.063
Race Black White Others	31 (25) 97 (36) 14 (28)	95 (75) 169 (64) 36 (72)	0.051	8 (6.3) 27 (10) 5 (10)	118 (94) 239 (90) 45 (90)	0.474
Gender Male Female	58 (26) 84 (39)	166 (74) 134 (61)	0.006	15 (6.7) 25 (11)	209 (93) 193 (89)	0.114
BMI, kg/m² 12≤BMI<30 BMI ≥30	116 (31) 24 (38)	254 (69) 40 (62)	0.408	32 (8.6) 8 (12)	338 (91) 56 (88)	0.454
Smoking Status Ever Smoker ^a Never Smoker	121 (33) 21 (29)	248 (67) 52 (71)	0.592	35 (9.5) 5 (6.8)	334 (91) 68 (93)	0.621
Combined CVI^b Yes No	11 (55) 131 (31)	9 (45) 291 (69)	0.046	4 (20) 36 (8.5)	16 (80) 386 (91)	0.096
History of AID^c Yes No	28 (45) 114 (30)	34 (55) 266 (70)	0.026	8 (13) 32 (8.4)	54 (87) 348 (92)	0.367
ECOG PS 0-1 ≥2	119 (36) 22 (21)	216 (64) 81 (79)	0.010	34 (10) 5 (4.9)	301 (90) 98 (95)	0.146

irAE=immune-related adverse event; BMI=body mass index; CVI=chronic viral infections; AID=autoimmune disease; ECOG=Eastern Cooperative Oncology Group; PS=performance status

^aEver smoker=patients with active or previous/occasional smoking history

^bCombined CVI=history of any of the following: human immunodeficiency virus (HIV), hepatitis B virus (HBV), or hepatitis C virus (HCV) infection

^cAID=included a diagnosis of a variety of autoimmune conditions, such as Hashimoto's disease, primary biliary cirrhosis, hypothyroidism, pyoderma gangrenosum, and thyrotoxicosis (see Supplement for complete definition of AID)

Table S4. Multivariate analysis of immune-related adverse events (irAEs) in the entire NSCLC cohort.

Characteristic	Entire NSCLC cohort			
	Any grade irAEs OR (95% CI)	<i>p</i> -value	Grade ≥3 irAEs OR (95% CI)	<i>p</i> -value
Age, years 18 – 75 > 75	<i>ref</i> 1.53 (0.96, 2.42)	0.073	<i>ref</i> 2.09 (1.02, 4.24)	0.041
Race Black White Others	0.58 (0.35, 0.96) <i>ref</i> 0.61 (0.29, 1.22)	0.036 - 0.174	0.65 (0.26, 1.46) <i>ref</i> 0.76 (0.21, 2.12)	0.318 - 0.636
Gender Male Female	<i>ref</i> 1.60 (1.05, 2.46)	0.031	<i>ref</i> 1.75 (0.88, 3.60)	0.119
Combined CVI^a Yes No	<i>ref</i> 0.26 (0.10, 0.69)	0.007	<i>ref</i> 0.27 (0.09, 1.04)	0.036
History of AID^b Yes No	1.81 (1.01, 3.23) <i>ref</i>	0.044	-	-
ECOG PS 0-1 ≥2	<i>ref</i> 0.48 (0.28, 0.82)	0.008	<i>ref</i> 0.44 (0.15, 1.07)	0.099
irAE=immune-related adverse event; CVI=chronic viral infections; AID=autoimmune disease; ECOG=Eastern Cooperative Oncology Group; PS=performance status ^aCombined CVI=history of any of the following: human immunodeficiency virus (HIV), hepatitis B virus (HBV), or hepatitis C virus (HCV) infection ^bAID=included a diagnosis of a variety of autoimmune conditions, such as Hashimoto's disease, primary biliary cirrhosis, hypothyroidism, pyoderma gangrenosum, and thyrotoxicosis (see Supplement for complete definition of AID) Omnibus goodness-of-fit test <i>p</i> = 0.665 for any grade irAEs. Omnibus goodness-of-fit test <i>p</i> = 0.106 for grade ≥3 irAEs.				

Table S5. Univariate analysis of immune-related adverse events (irAEs) in PD-L1 monotherapy NSCLC patients.

Characteristic	PD-L1 monotherapy NSCLC cohort					
	Any grade irAEs N=117 n (%)	No irAEs N=266 n (%)	<i>p</i> -value	Grade ≥3 irAEs N=31 n (%)	No Grade ≥3 irAEs N=352 n (%)	<i>p</i> -value
Age, years 18 – 75 > 75	71 (27) 45 (38)	192 (73) 74 (62)	0.045	16 (6.1) 15 (13)	247 (94) 104 (87)	0.050
Race Black White Others	25 (23) 81 (36) 11 (24)	86 (77) 145 (64) 35 (76)	0.026	5 (4.5) 23 (10) 3 (6.5)	106 (95) 203 (90) 43 (93)	0.186
Gender Male Female	49 (25) 68 (36)	146 (75) 120 (64)	0.026	11 (5.6) 20 (11)	184 (94) 168 (89)	0.109
BMI, kg/m² 12≤BMI<30 BMI ≥30	96 (30) 20 (36)	226 (70) 36 (64)	0.467	24 (7.5) 7 (12)	298 (93) 49 (88)	0.195
Smoking Status Ever Smoker ^a Never Smoker	99 (31) 18 (28)	220 (69) 46 (72)	0.755	26 (8.2) 5 (7.8)	293 (92) 59 (92)	>0.999
Combined CVI^b Yes No	9 (56) 108 (29)	7 (44) 259 (71)	0.048	3 (19) 28 (7.6)	13 (81) 339 (92)	0.131
History of AID^c Yes No	24 (44) 93 (28)	30 (56) 236 (72)	0.026	7 (13) 24 (7.3)	47 (87) 305 (93)	0.176
ECOG PS 0-1 ≥2	95 (34) 22 (22)	187 (66) 77 (78)	0.045	26 (9.2) 5 (5.1)	256 (91) 94 (95)	0.275

irAE=immune-related adverse event; BMI=body mass index; CVI=chronic viral infections; AID=autoimmune disease; ECOG=Eastern Cooperative Oncology Group; PS=performance status;

^aEver smoker=patients with active or previous/occasional smoking history

^bCombined CVI=history of any of the following: human immunodeficiency virus (HIV), hepatitis B virus (HBV), or hepatitis C virus (HCV) infection

^cAID=included a diagnosis of a variety of autoimmune conditions, such as Hashimoto's disease, primary biliary cirrhosis, hypothyroidism, pyoderma gangrenosum, and thyrotoxicosis (see Supplement for complete definition of AID)

Table S6. Multivariate analysis of immune-related adverse events (irAEs) in White patients in the anti-PD-(L)1 monotherapy NSCLC cohort.

Characteristic	White patients in anti-PD-(L)1 monotherapy NSCLC cohort			
	Any grade irAEs OR (95% CI)	<i>p</i> -value	Grade ≥3 irAEs OR (95% CI)	<i>p</i> -value
Age, years 18 – 75 > 75	<i>ref</i> 1.59 (0.88, 2.87)	0.124	<i>ref</i> 1.83 (0.74, 4.55)	0.190
Gender Male Female	<i>ref</i> 1.44 (0.81, 2.57)	0.215	<i>ref</i> 1.96 (0.77, 5.48)	0.172
BMI, kg/m² 12≤BMI<30 BMI ≥30	-	-	<i>ref</i> 2.63 (0.93, 6.94)	0.056
ECOG PS 0-1 ≥2	<i>ref</i> 0.35 (0.16, 0.70)	0.008	-	-
irAE=immune-related adverse event; BMI=body mass index; ECOG=Eastern Cooperative Oncology Group; PS=performance status Omnibus goodness-of-fit test <i>p</i> = 0.756 for any grade irAEs. Omnibus goodness-of-fit test <i>p</i> = 0.981 for grade ≥3 irAEs.				

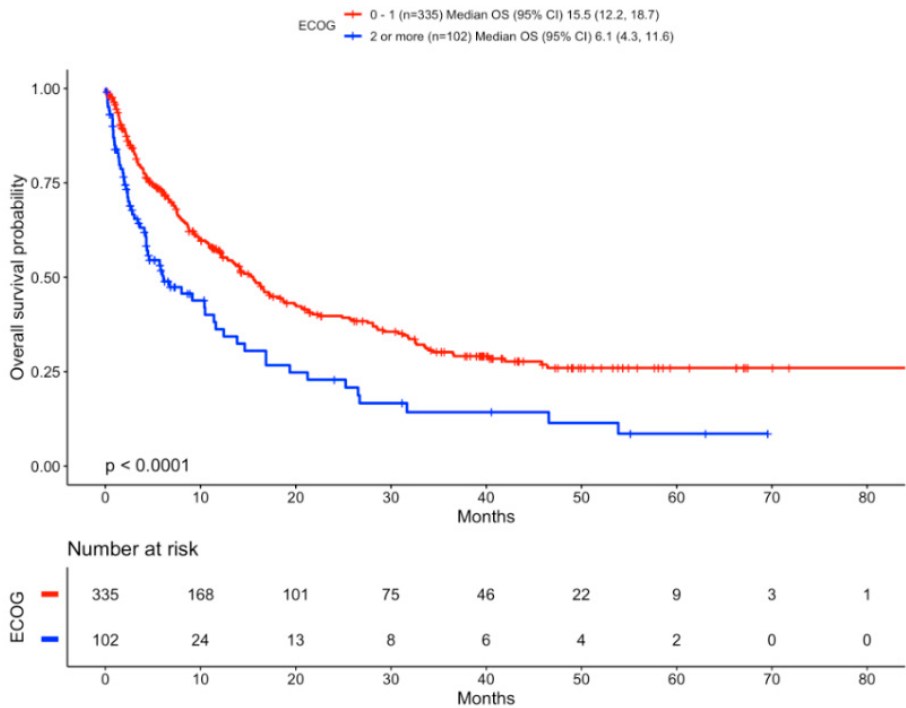
Table S7. Multivariate analysis of immune-related adverse events (irAEs) in Black patients in the anti-PD-(L)1 monotherapy NSCLC cohort.

Characteristic	Black patients in anti-PD-(L)1 monotherapy NSCLC cohort			
	Any grade irAEs OR (95% CI)	<i>p</i> -value	Grade ≥3 irAEs OR (95% CI)	<i>p</i> -value
Age, years 18 – 75 > 75	<i>ref</i> 2.79 (0.94, 8.07)	0.059	<i>ref</i> 1.40 (0.06, 17.4)	0.800
Gender Male Female	<i>ref</i> 2.29 (0.90, 6.02)	0.085	<i>ref</i> 1.40 (0.15, 14.4)	0.759
Combined CVI^a Yes No	<i>ref</i> 0.18 (0.04, 0.86)	0.028	<i>ref</i> 0.03 (0.00, 0.40)	0.010
History of AID^b Yes No	-	-	<i>ref</i> 12.4 (0.97, 31.0)	0.060
irAE=immune-related adverse event; CVI=chronic viral infections; AID=autoimmune disease; ECOG=Eastern Cooperative Oncology Group; PS=performance status ^aCombined CVI=history of any of the following: human immunodeficiency virus (HIV), hepatitis B virus (HBV), or hepatitis C virus (HCV) infection ^bAID=included a diagnosis of a variety of autoimmune conditions, such as Hashimoto's disease, primary biliary cirrhosis, hypothyroidism, pyoderma gangrenosum, and thyrotoxicosis (see Supplement for complete definition of AID) Omnibus goodness-of-fit test <i>p</i> = 0.575 for any grade irAEs. Omnibus goodness-of-fit test <i>p</i> = 0.228 for grade ≥3 irAEs.				

Efficacy analysis.

Figure S2. Overall survival probability by ECOG PS and lines of therapy in the entire NSCLC cohort.

2A. ECOG PS 0-1 vs. ECOG PS ≥2 in the entire NSCLC cohort.



2B. Lines of therapy in the entire NSCLC cohort.

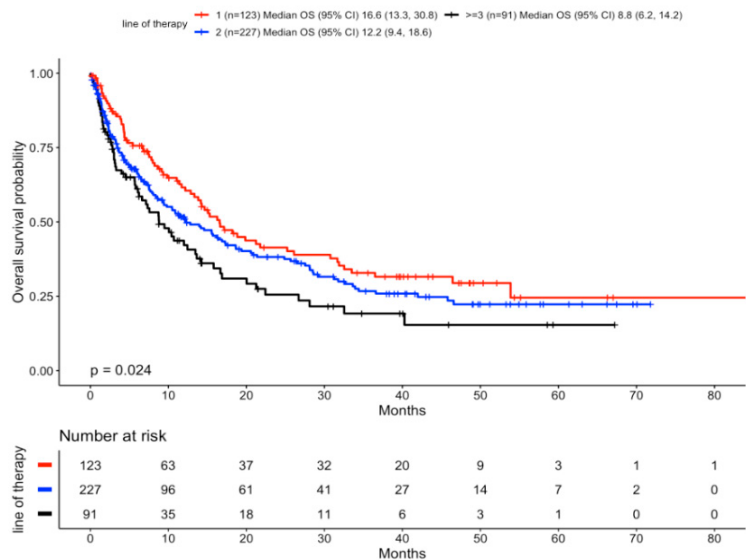
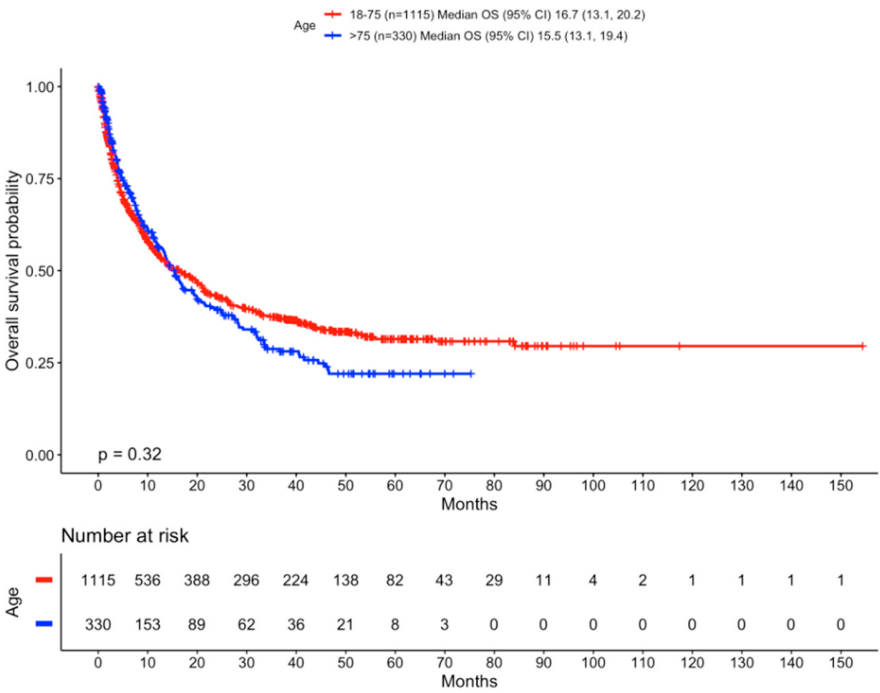
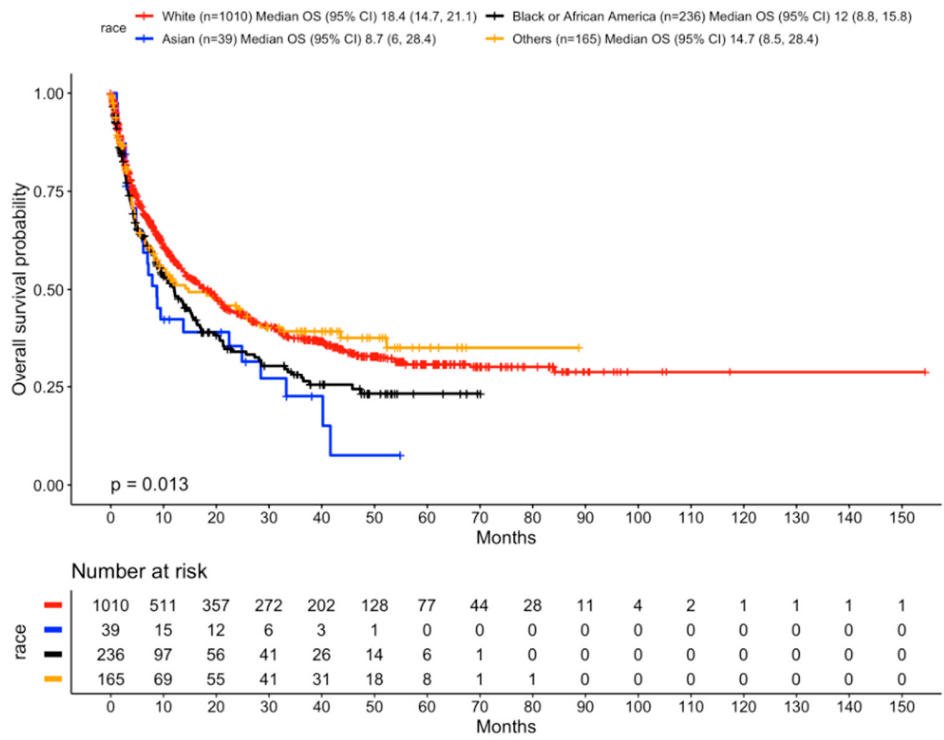


Figure S3. Overall survival probability in all patients treated with ICIs by unique cohorts.

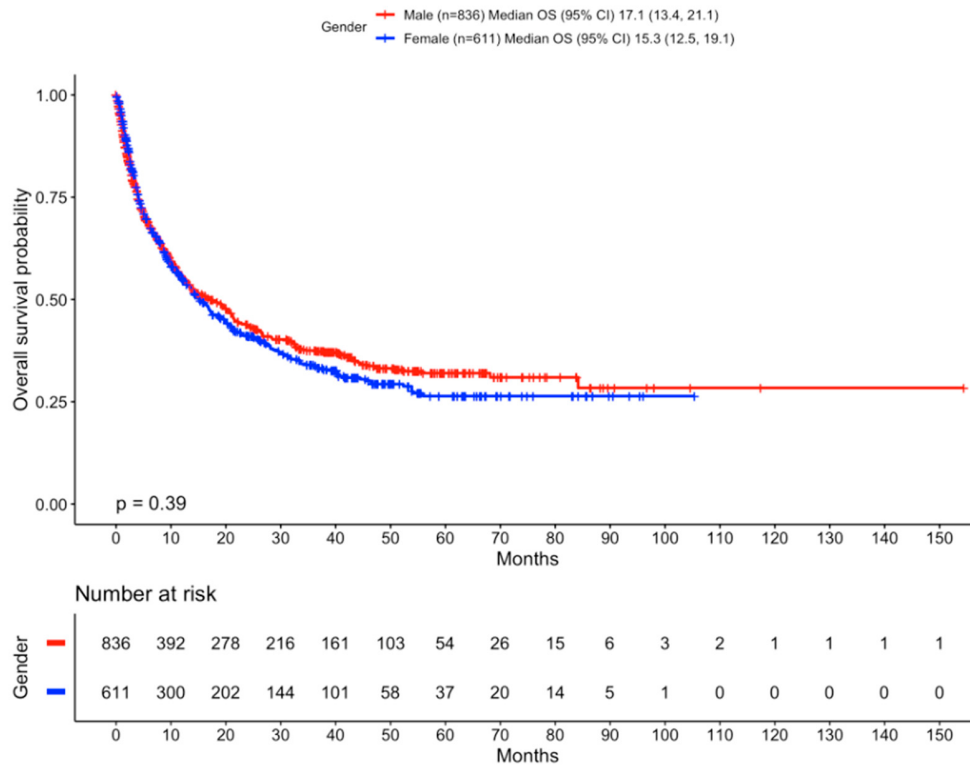
A. Age ≤ 75 years vs. Age >75 years



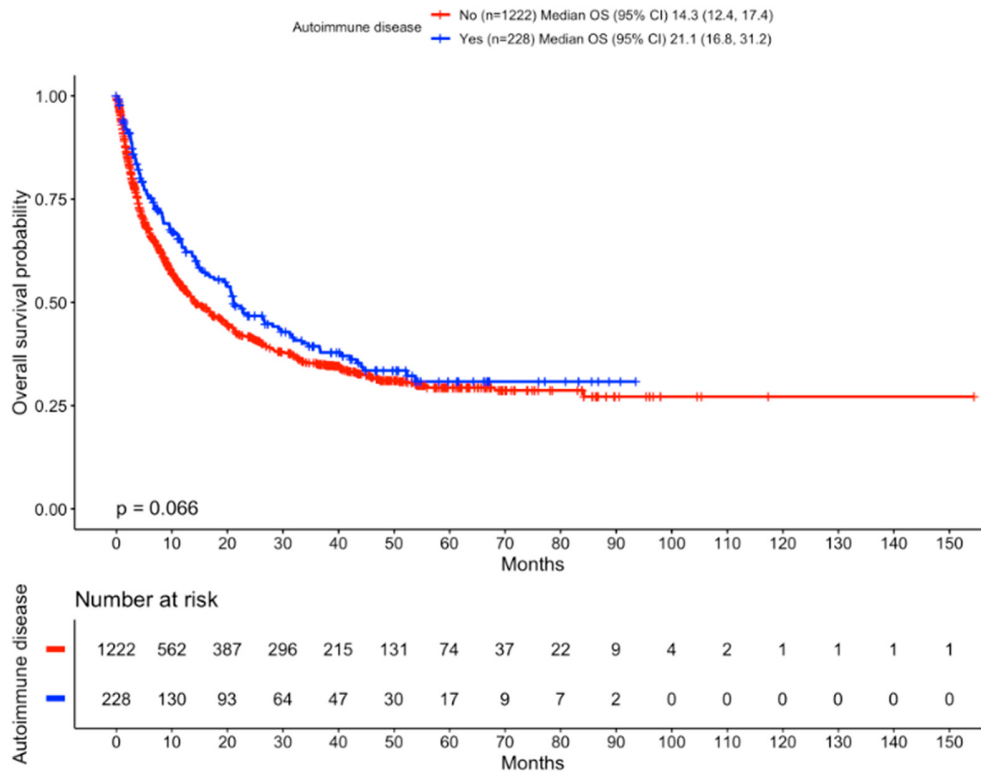
B. Race



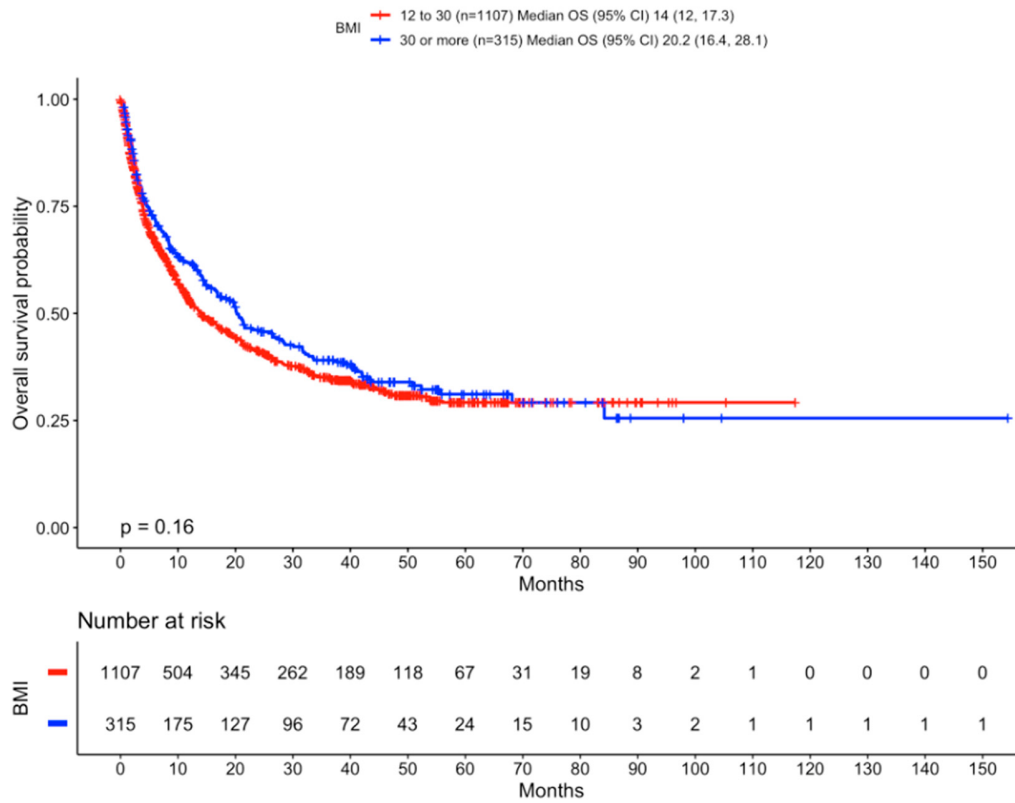
C. Gender



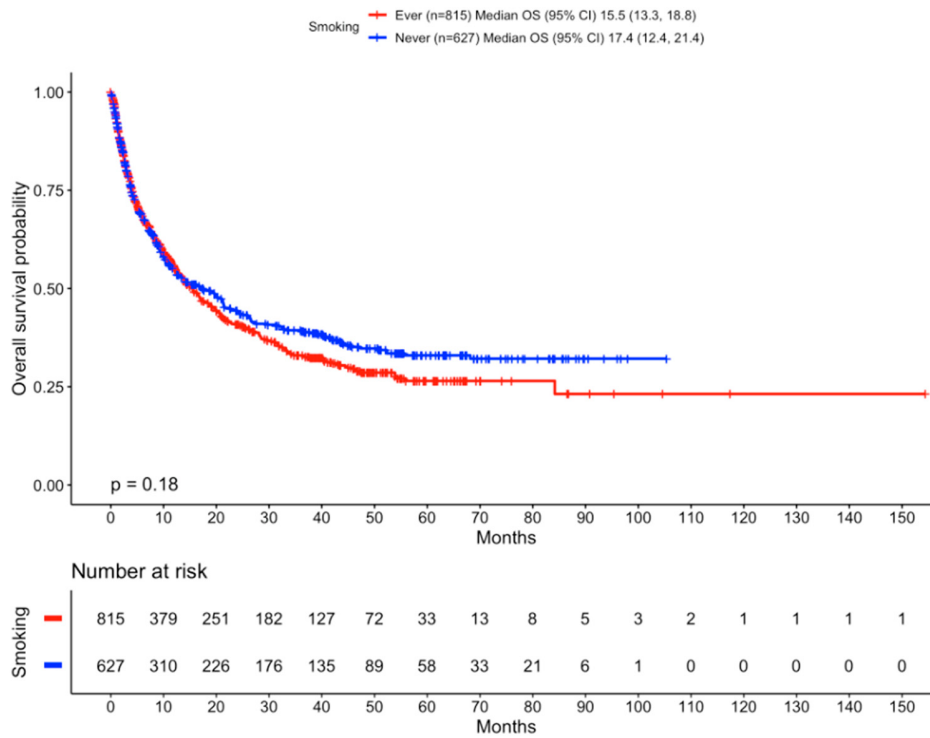
D. History of AID



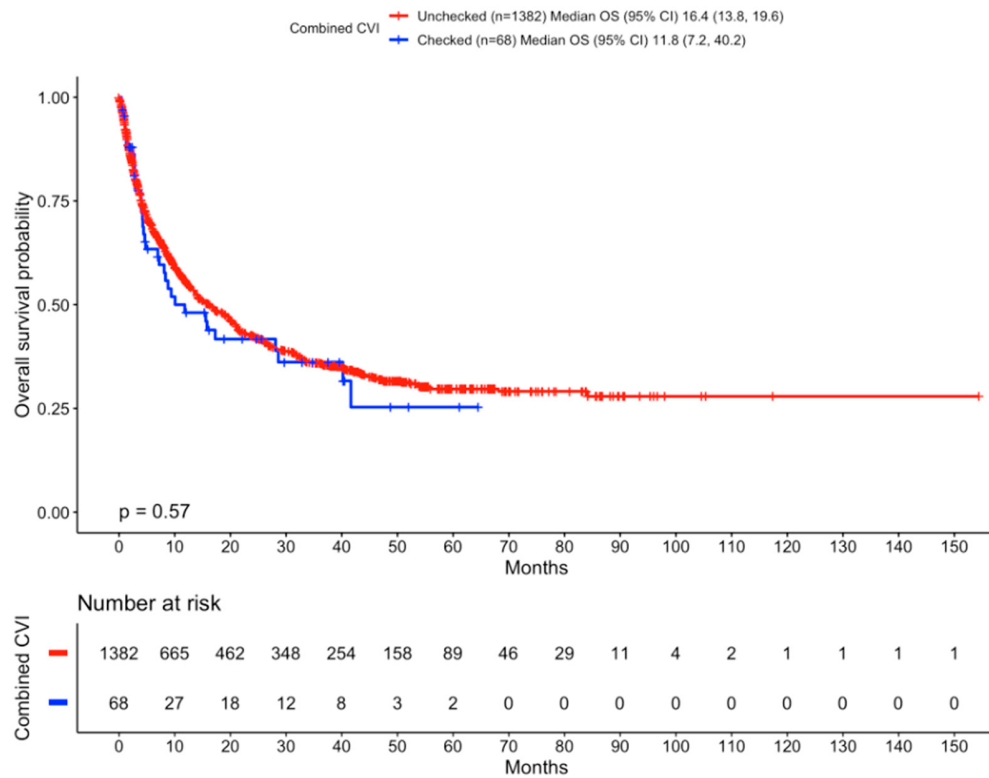
E. BMI <30 kg/m² vs. BMI ≥30 kg/m²



F. Smoking



G. Combined CVI



H. Number of metastatic sites

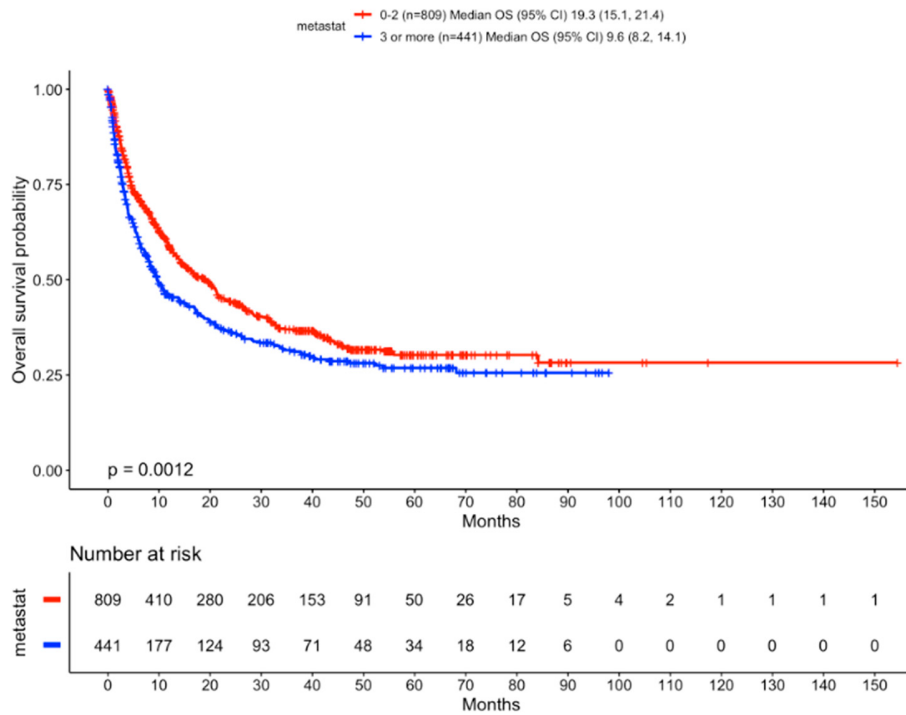
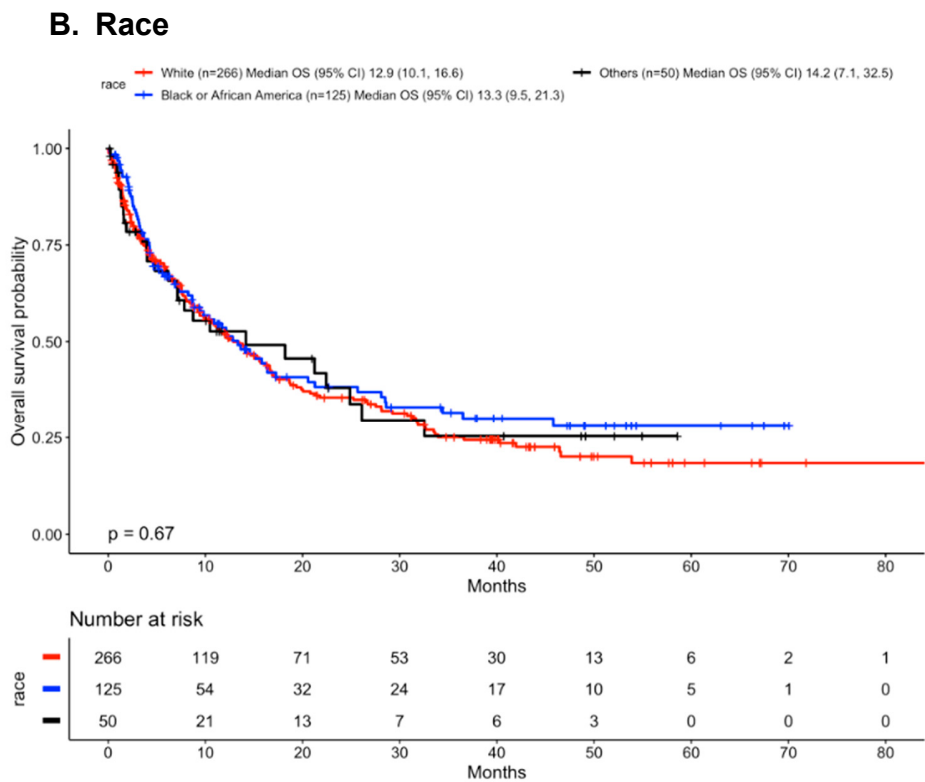
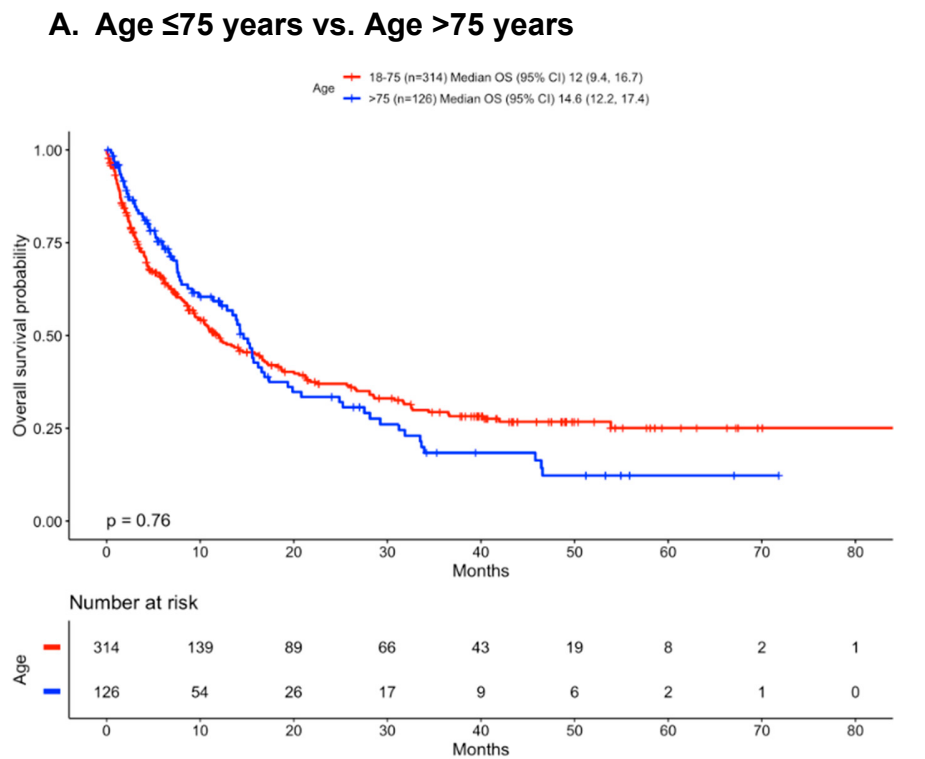
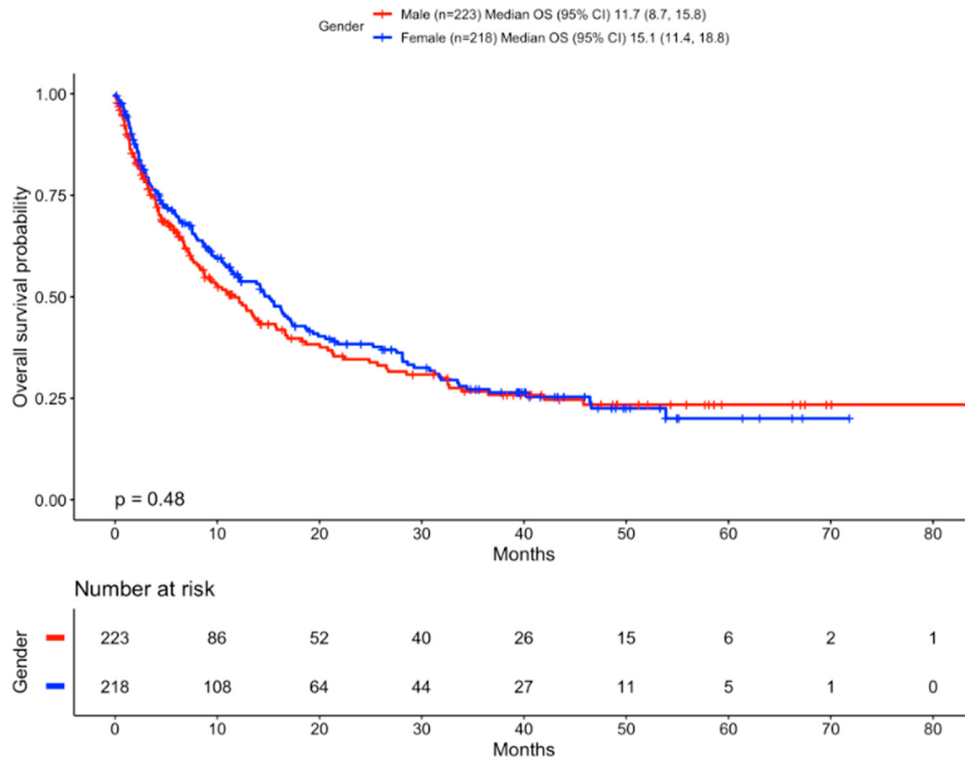


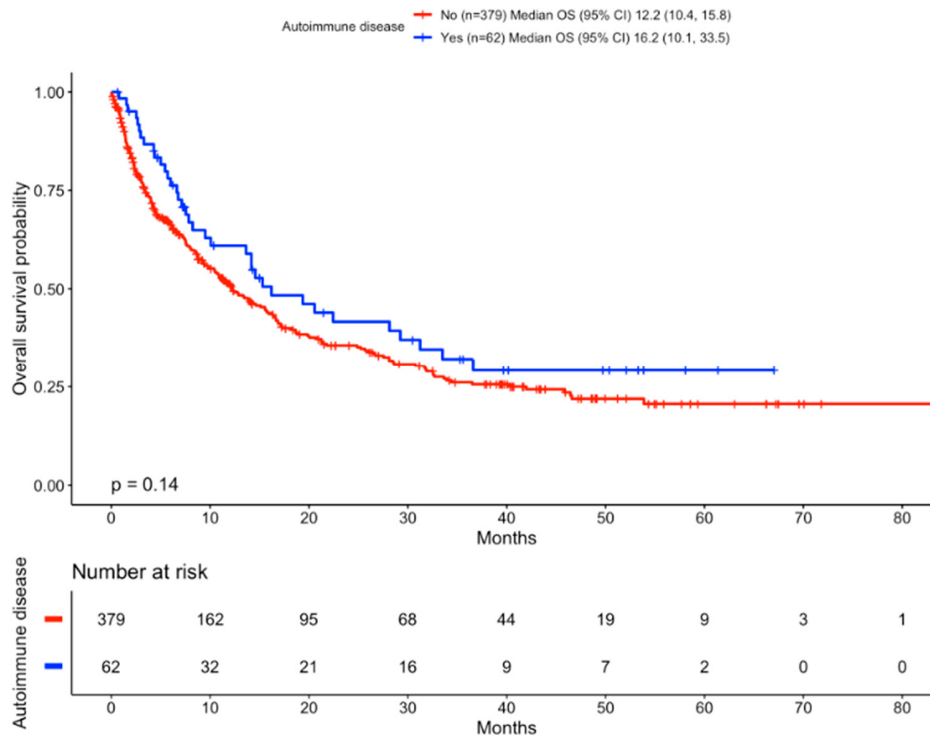
Figure S4. Overall survival probability in NSCLC patients treated with ICIs by unique cohorts.



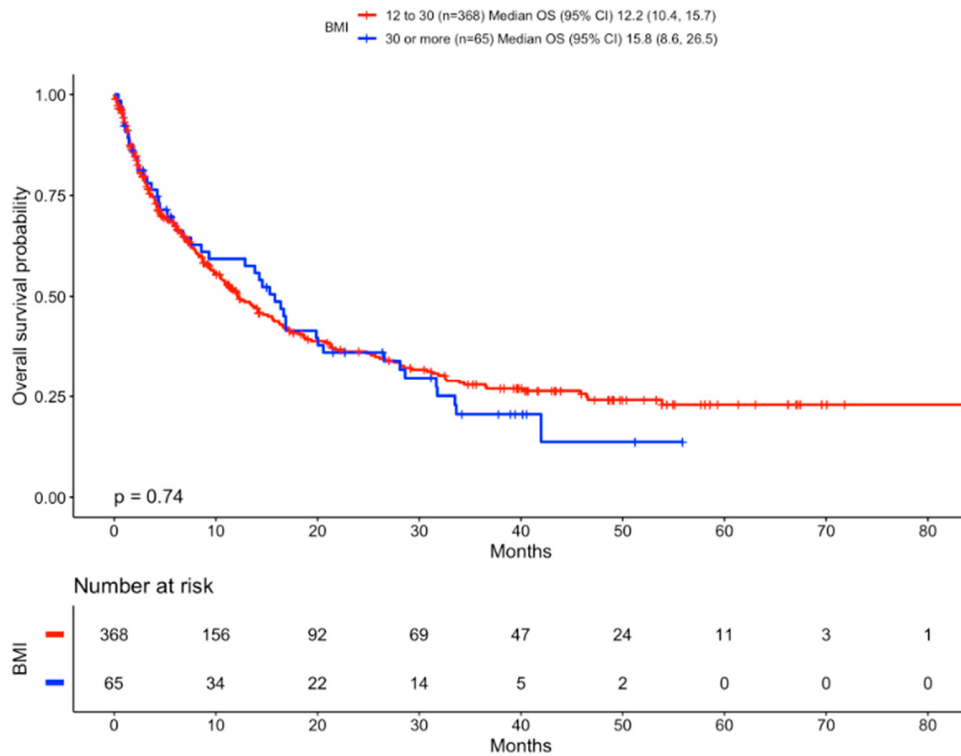
C. Gender



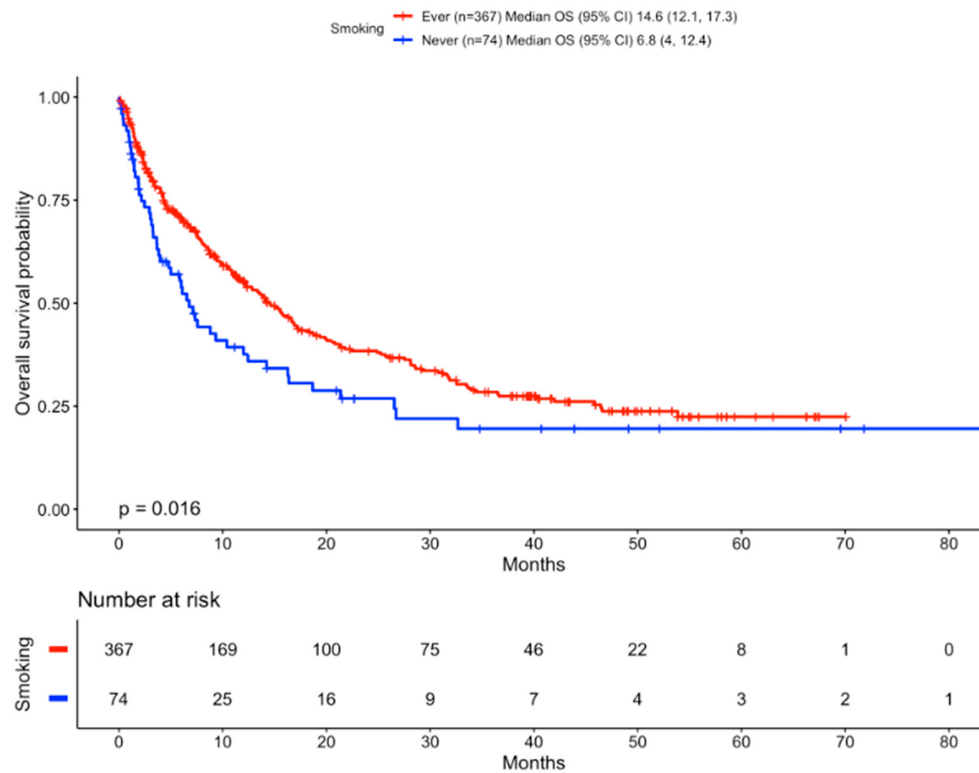
D. History of AID



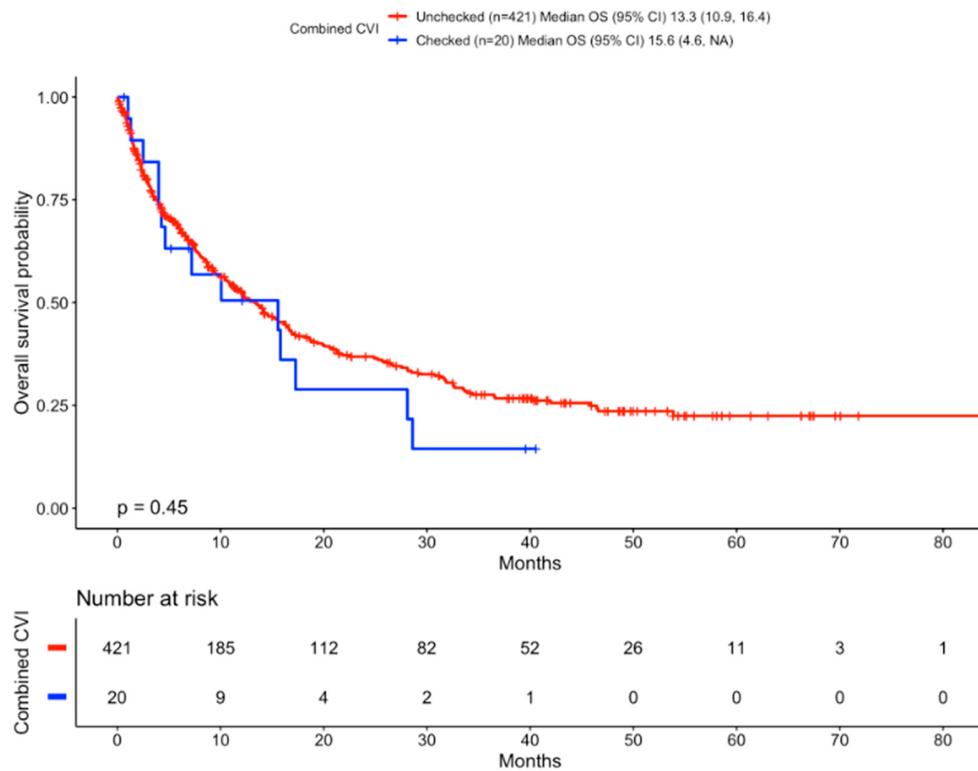
E. BMI <30 kg/m² vs. BMI ≥30 kg/m²



F. Smoking



G. Combined CVI



H. Number of metastatic sites

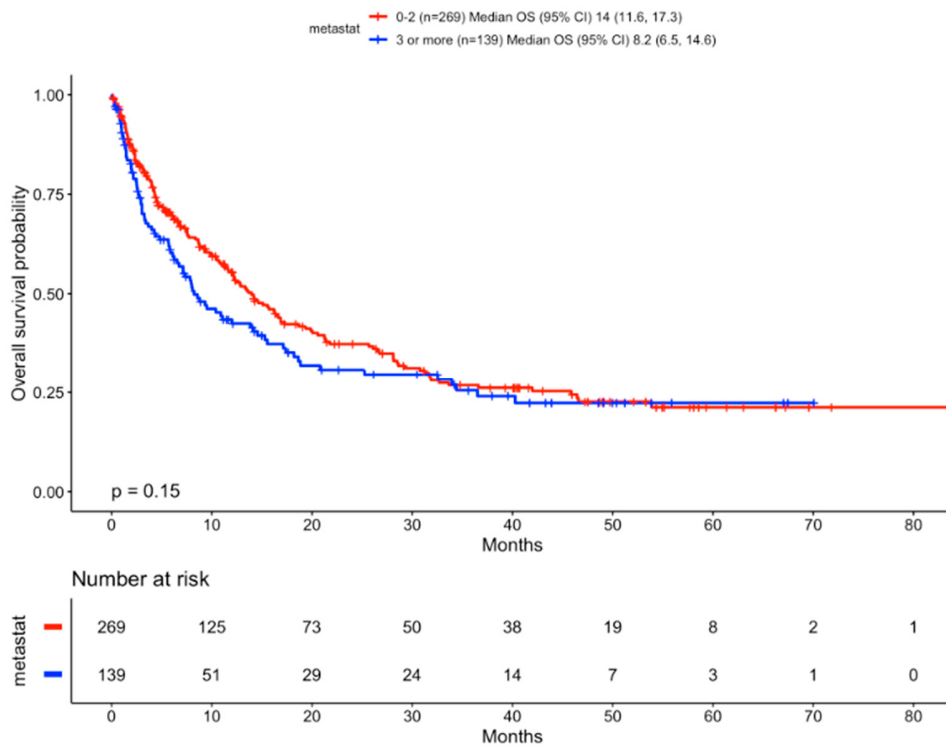
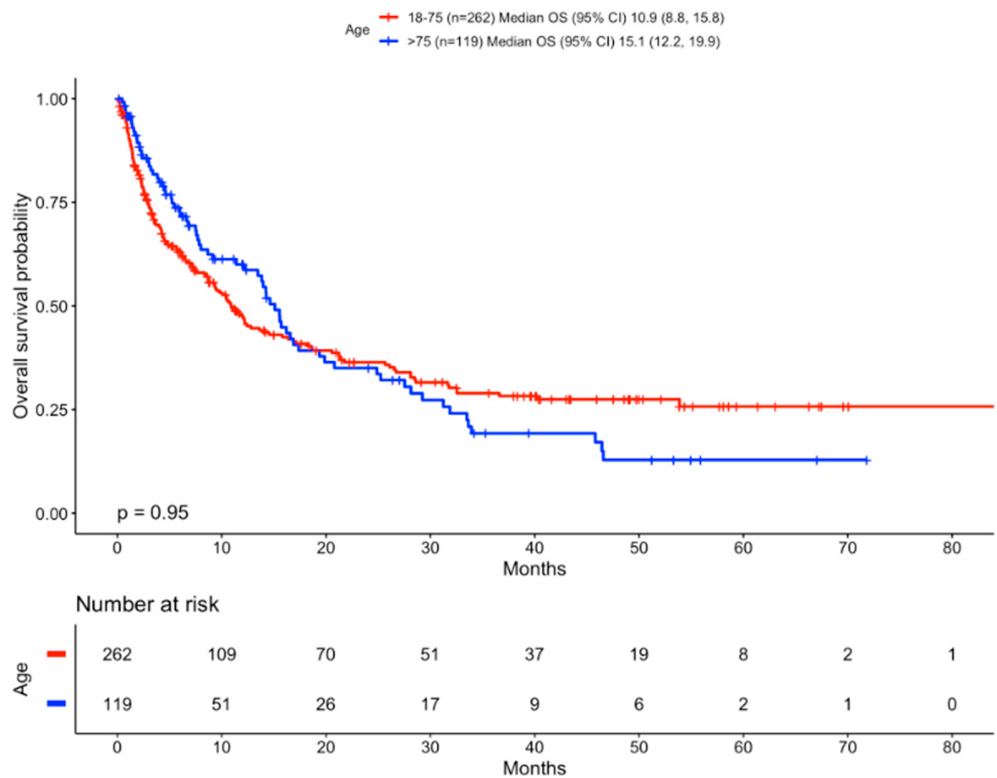
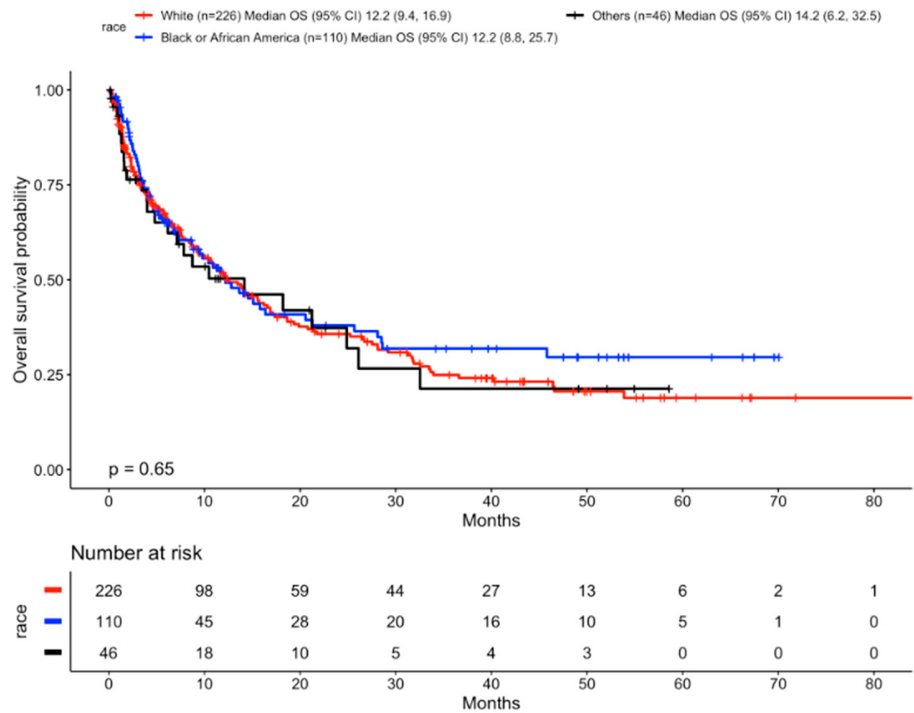


Figure S5. Overall survival probability in NSCLC patients treated with PD-(L)1 monotherapy by unique cohorts.

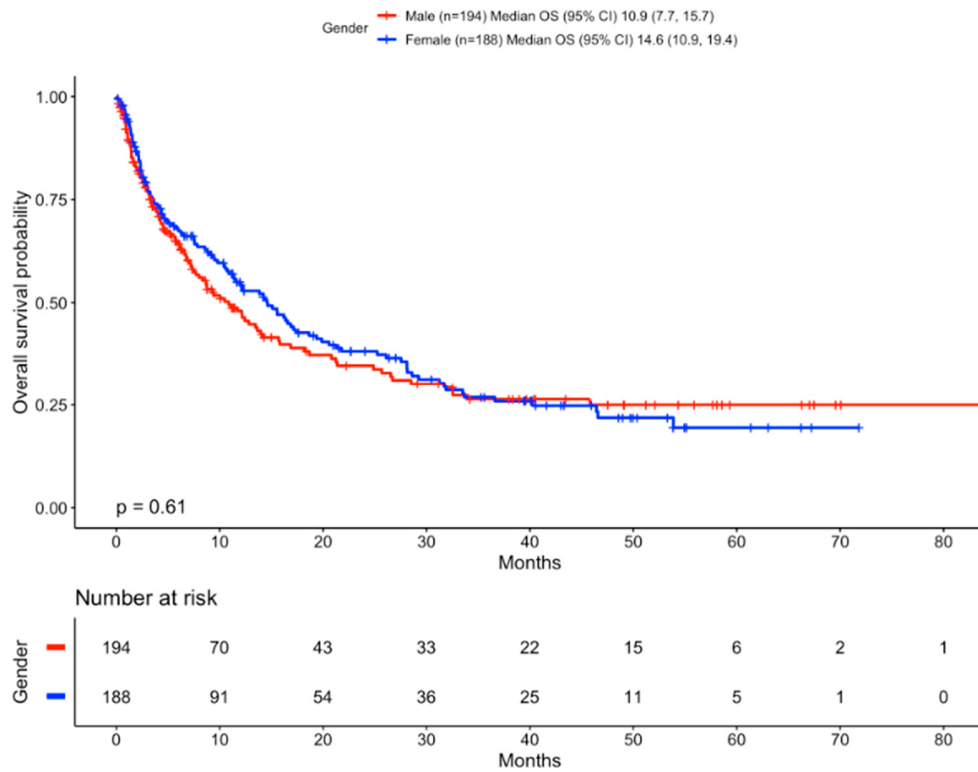
A. Age ≤75 years vs. Age >75 years



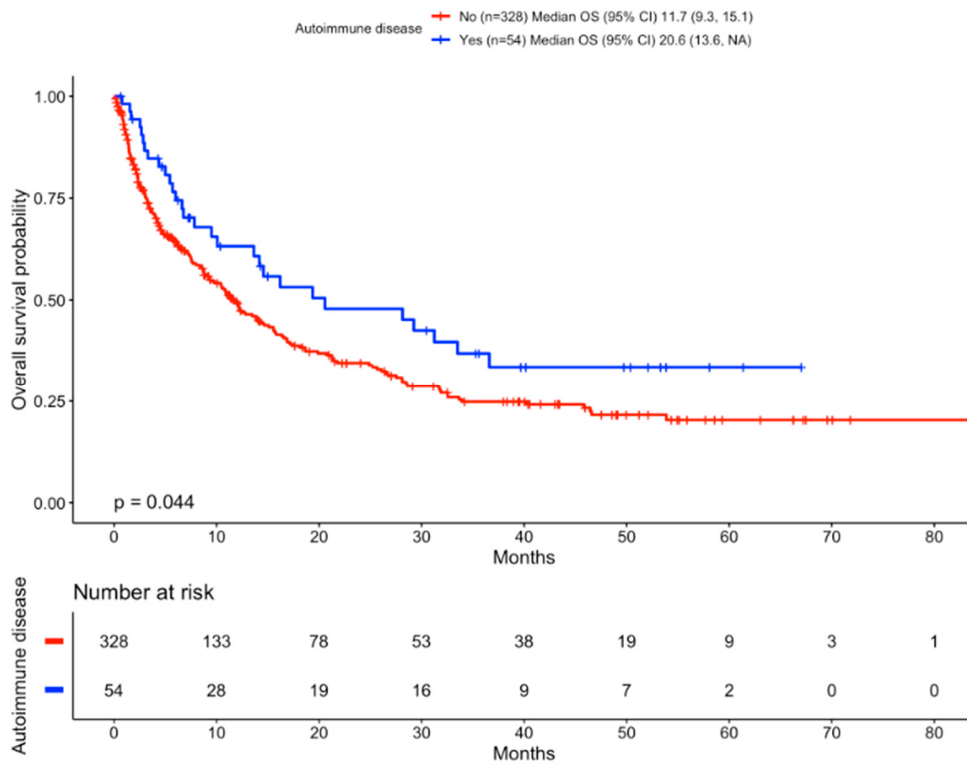
B. Race



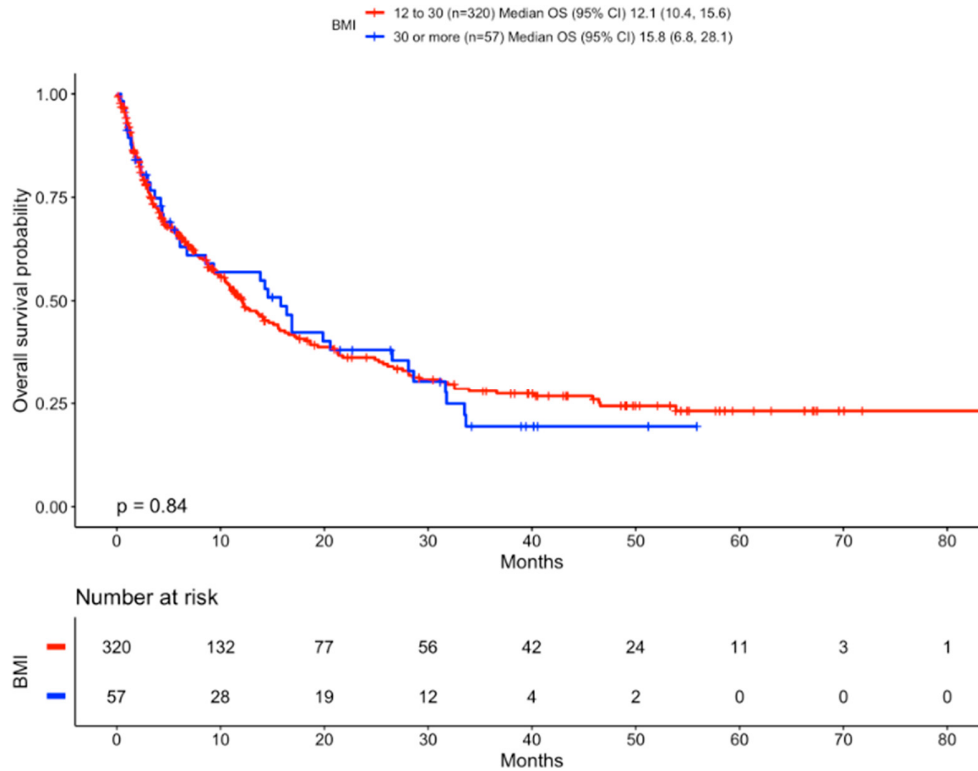
C. Gender



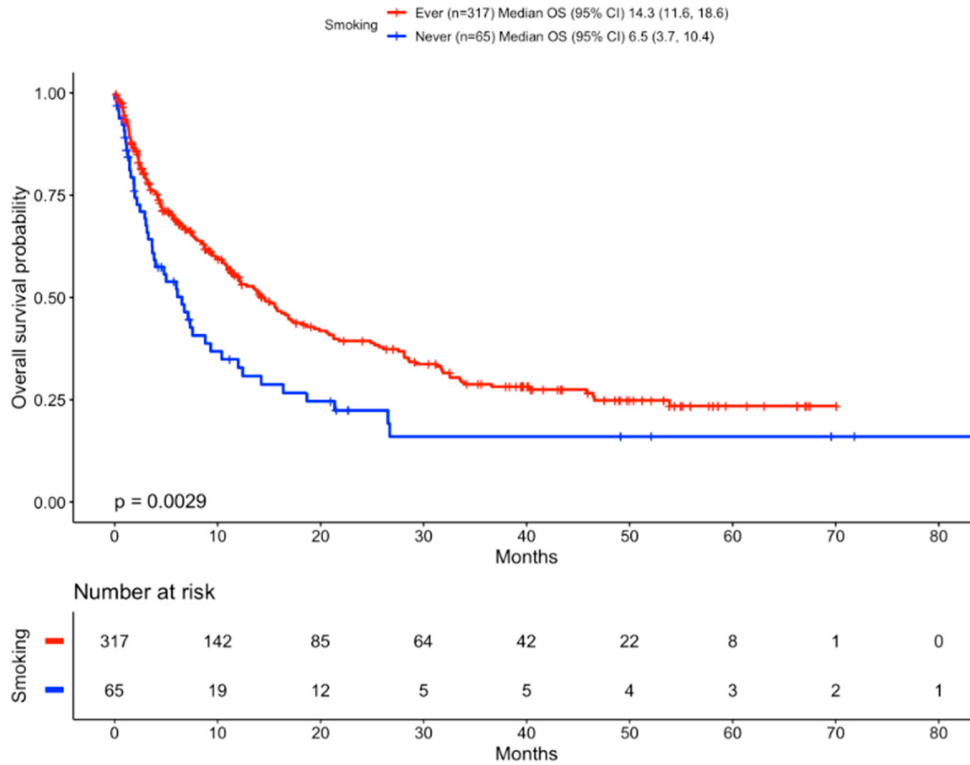
D. History of AID



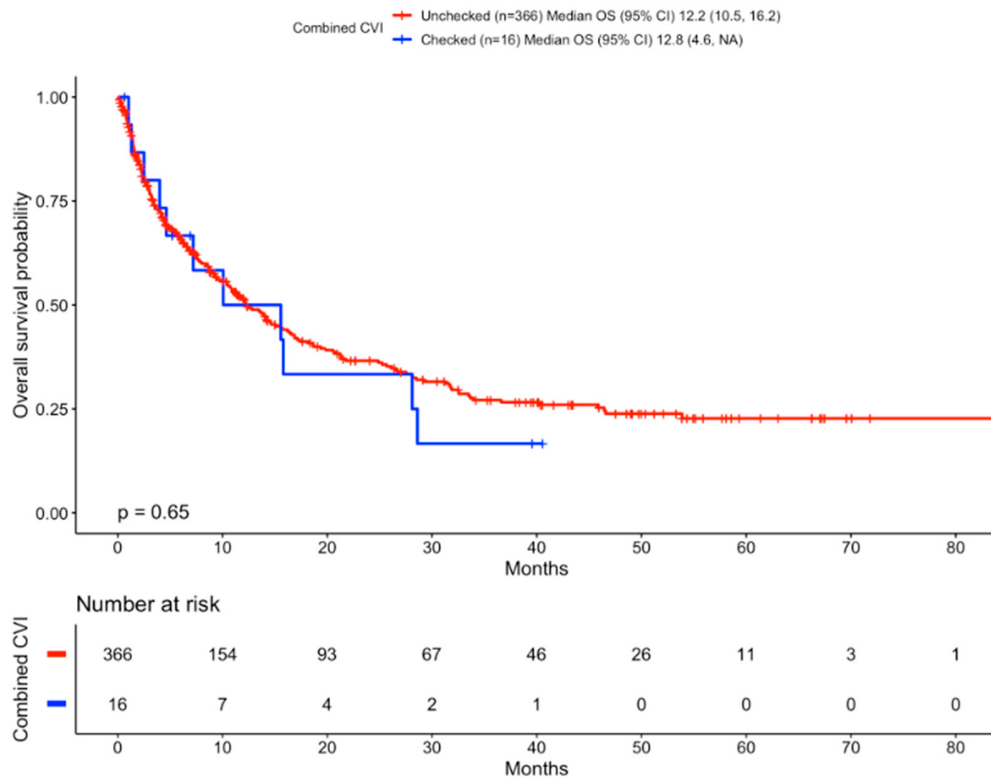
E. BMI <30 kg/m² vs. BMI ≥30 kg/m²



F. Smoking



G. Combined CVI



H. Number of metastatic sites

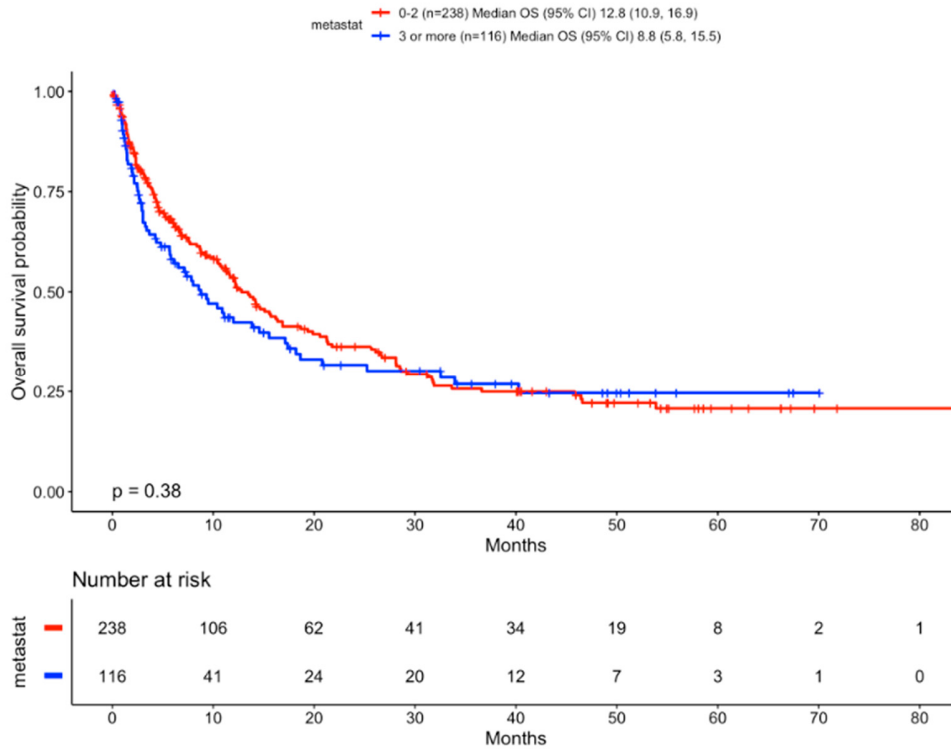
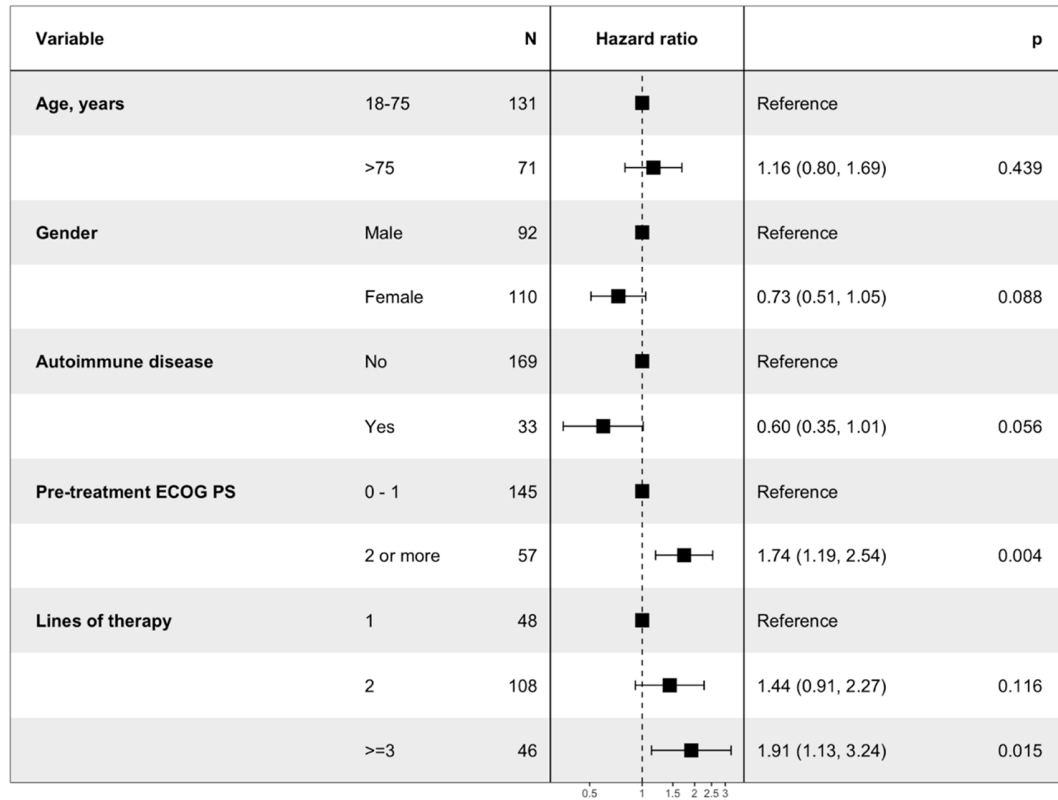
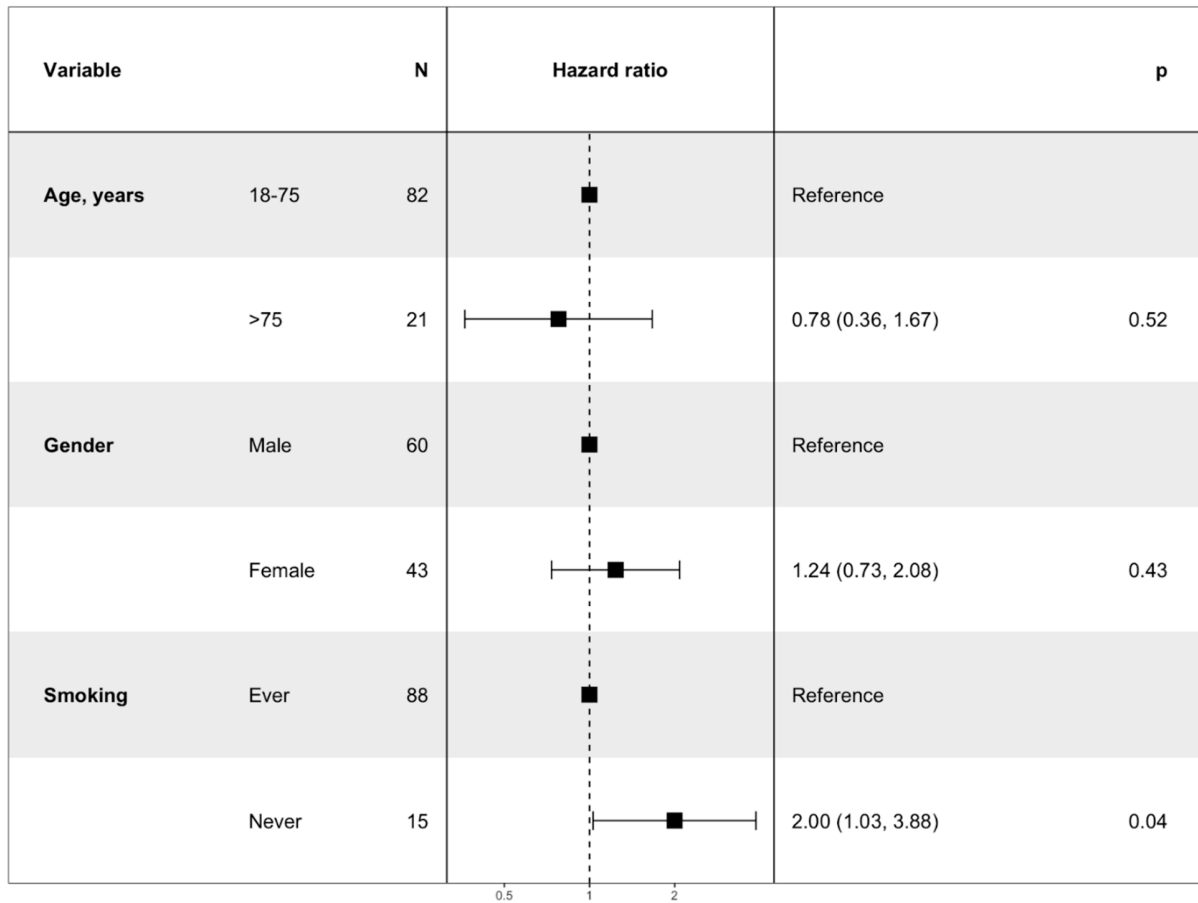


Figure S6. Overall survival hazard ratio by unique patient groups of interest in White patients in the anti-PD-(L)1 monotherapy NSCLC cohort.



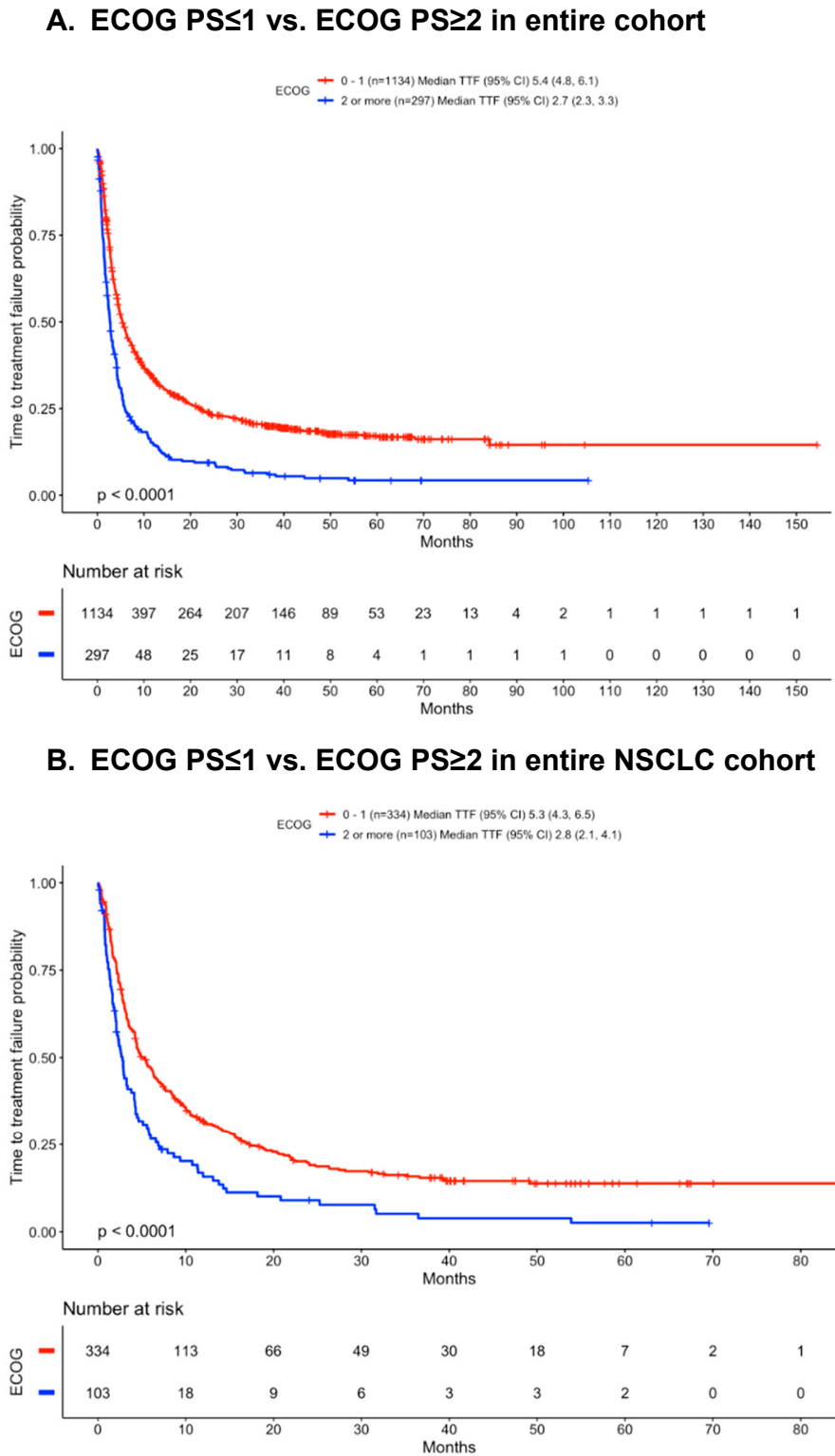
May and Hosmer goodness-of-fit test $p=0.457$.

Figure S7. Overall survival hazard ratio by unique patient groups of interest in Black patients in the anti-PD-(L)1 monotherapy NSCLC cohort.

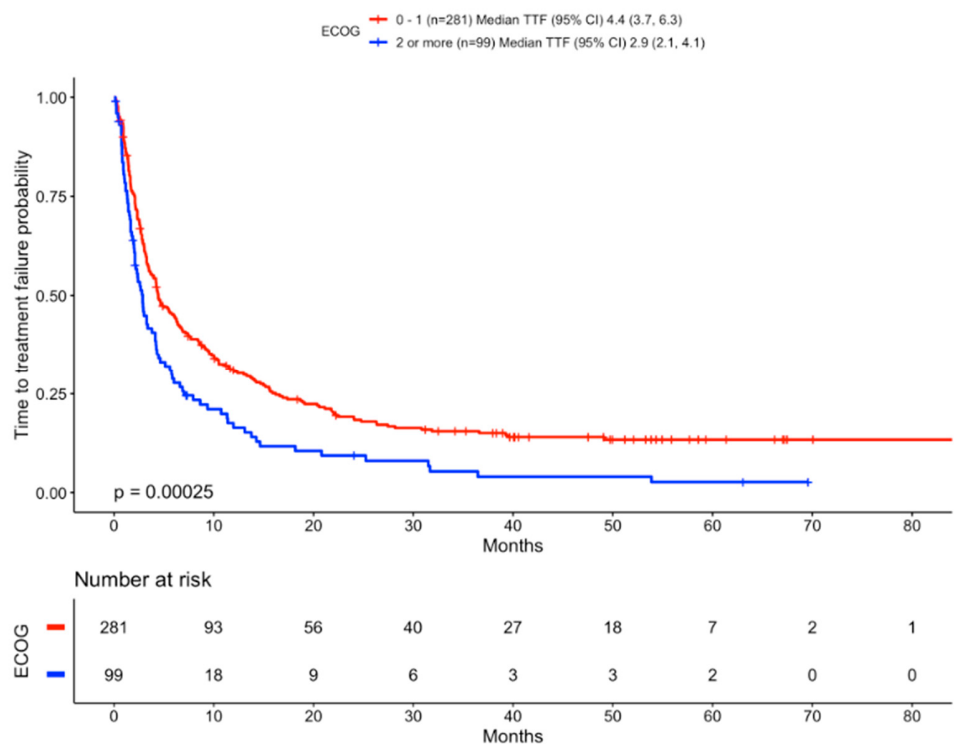


May and Hosmer goodness-of-fit test $p = 0.77$.

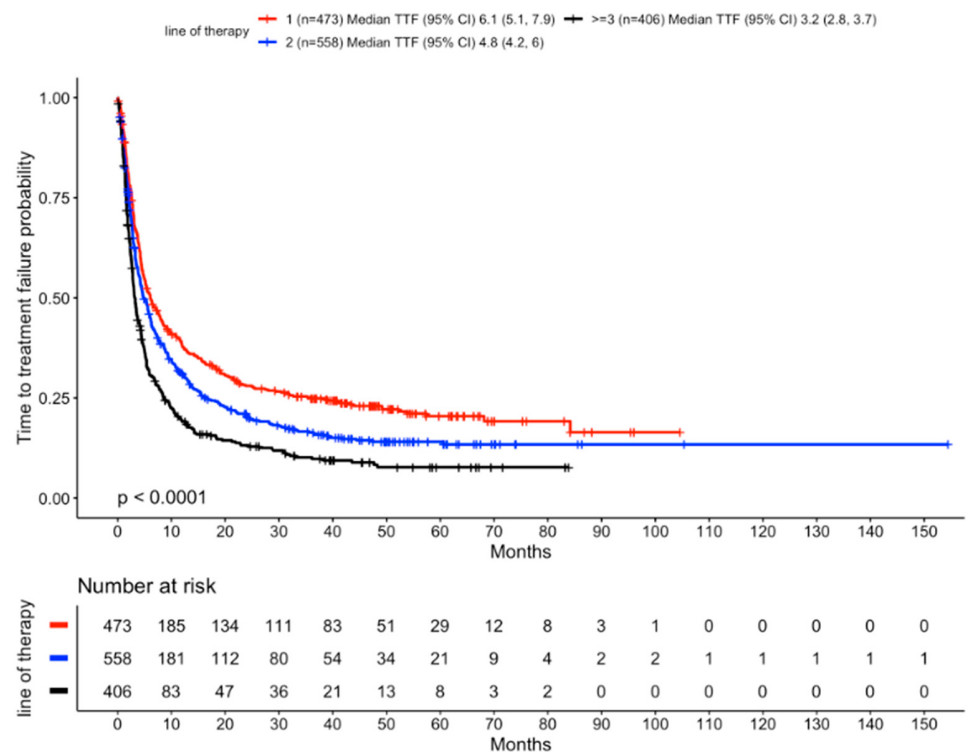
Figure S8. Time to treatment failure (TTF) probability by ECOG performance status and lines of therapy in the entire cohort, entire NSCLC cohort, and PD-(L)1 monotherapy cohort.



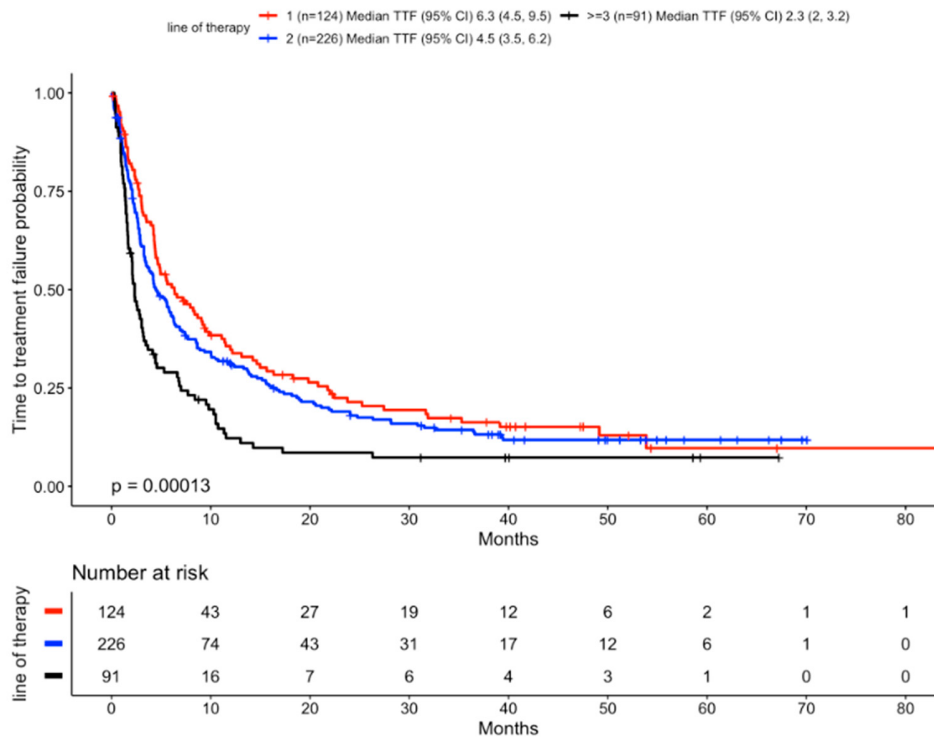
C. ECOG PS≤1 vs. ECOG PS≥2 in NSCLC PD-L1 monotherapy cohort



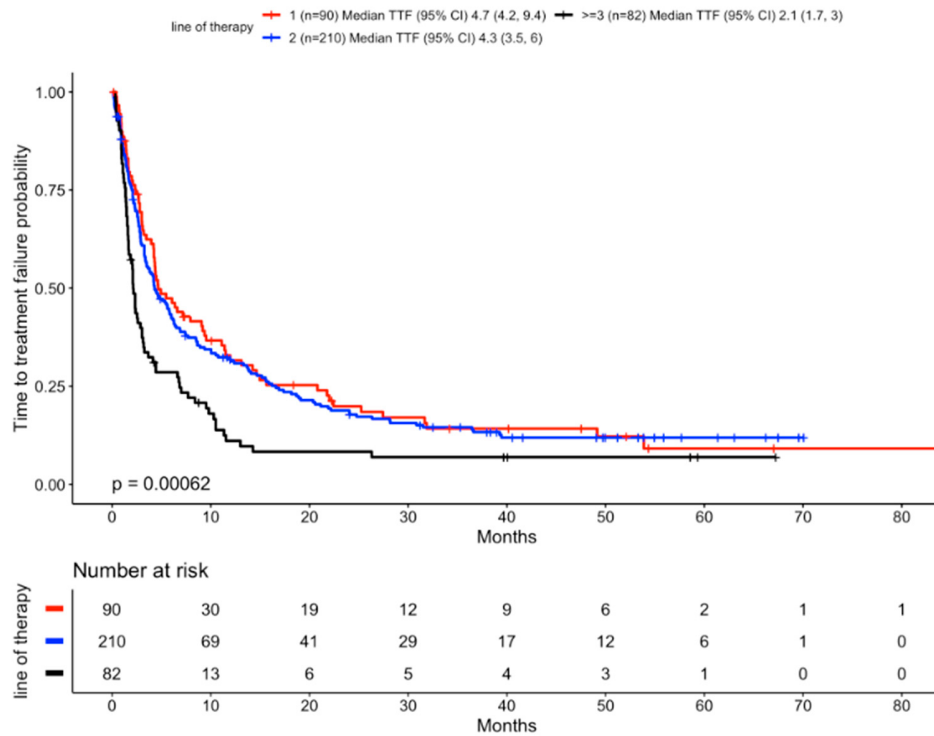
D. Lines of therapy in entire cohort



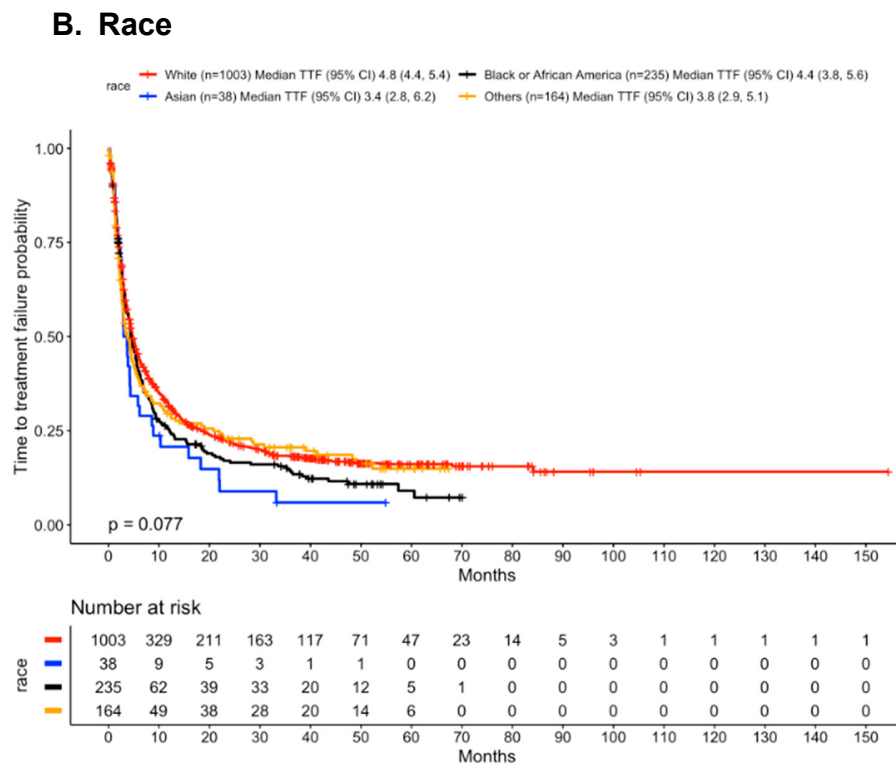
E. Lines of therapy in entire NSCLC cohort



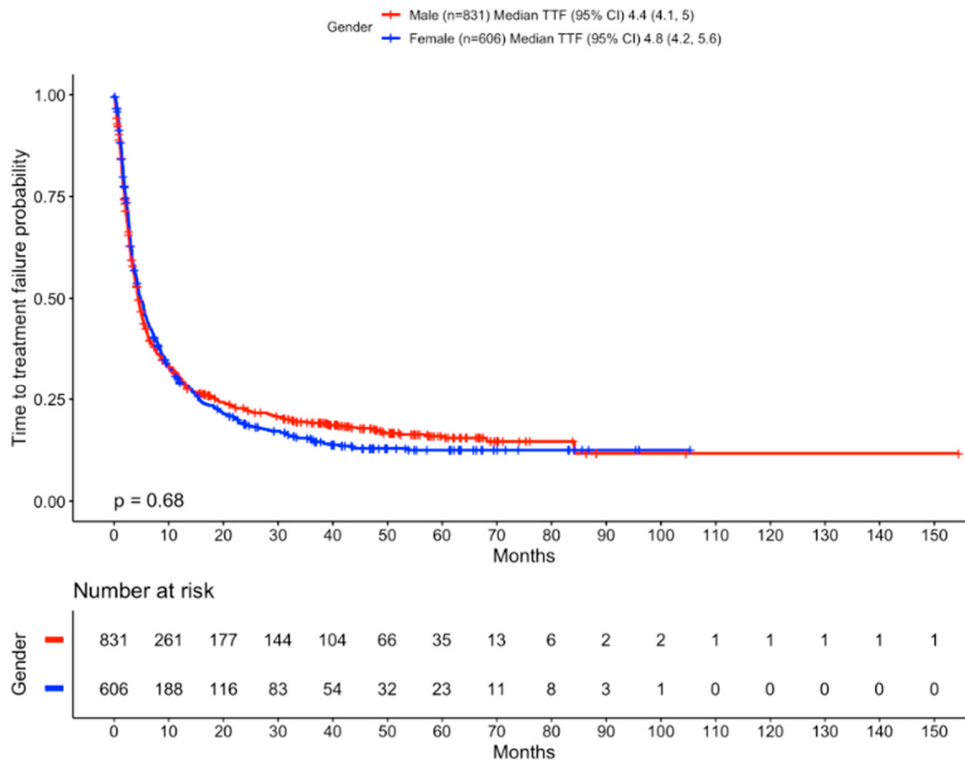
F. Lines of therapy in NSCLC PD-L1 monotherapy cohort



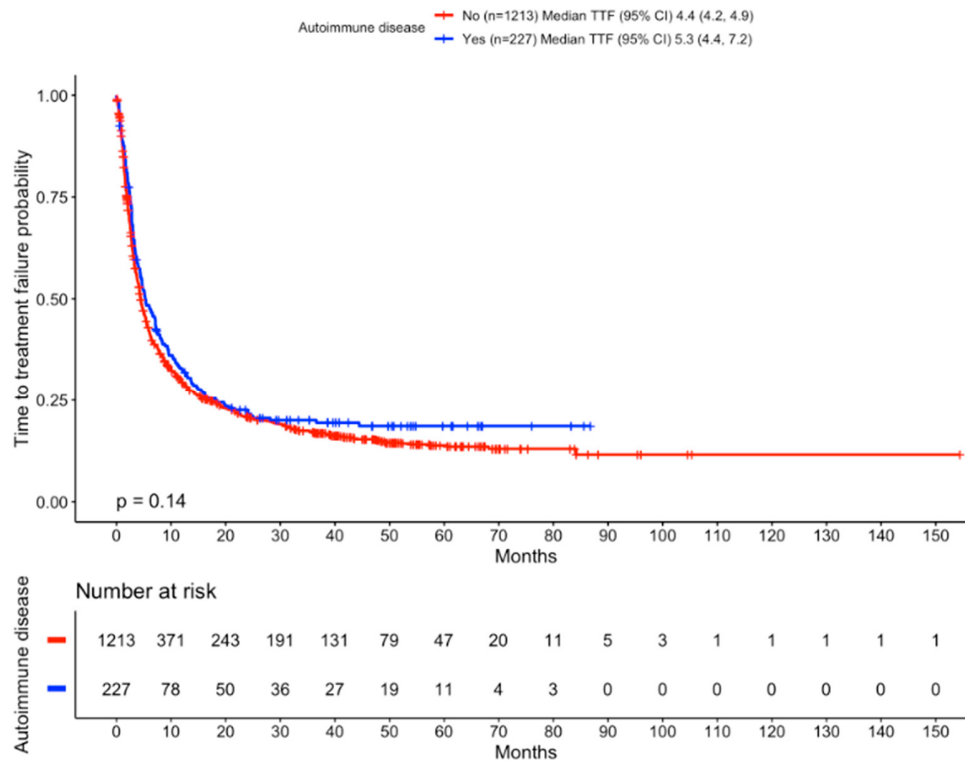
A. Age ≤ 75 years vs. Age >75 years



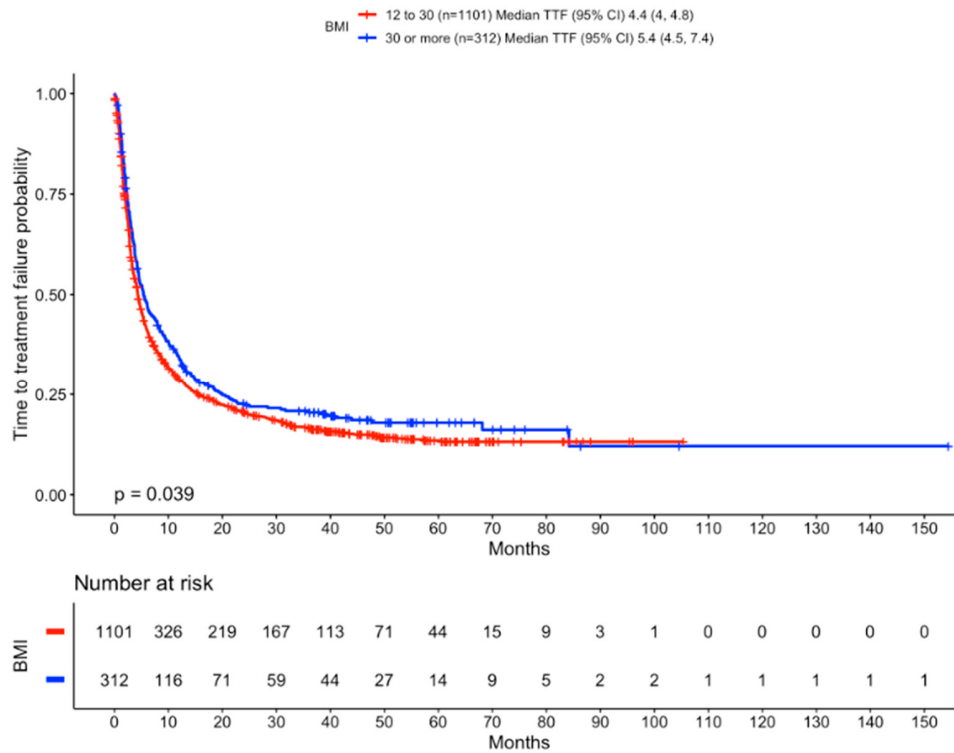
C. Gender



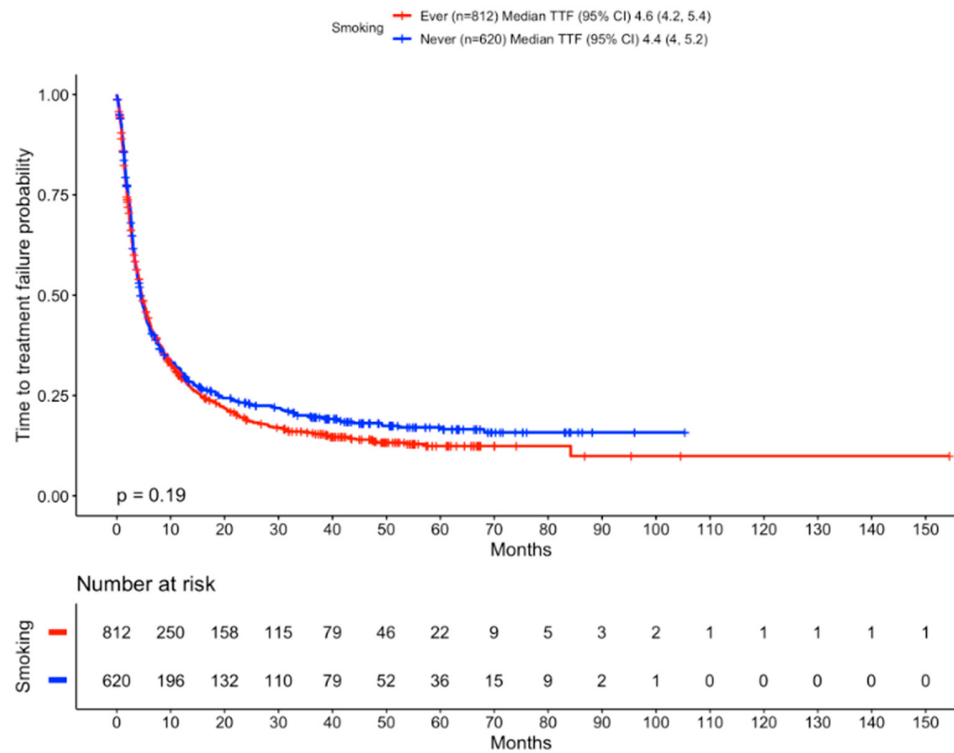
D. History of AID



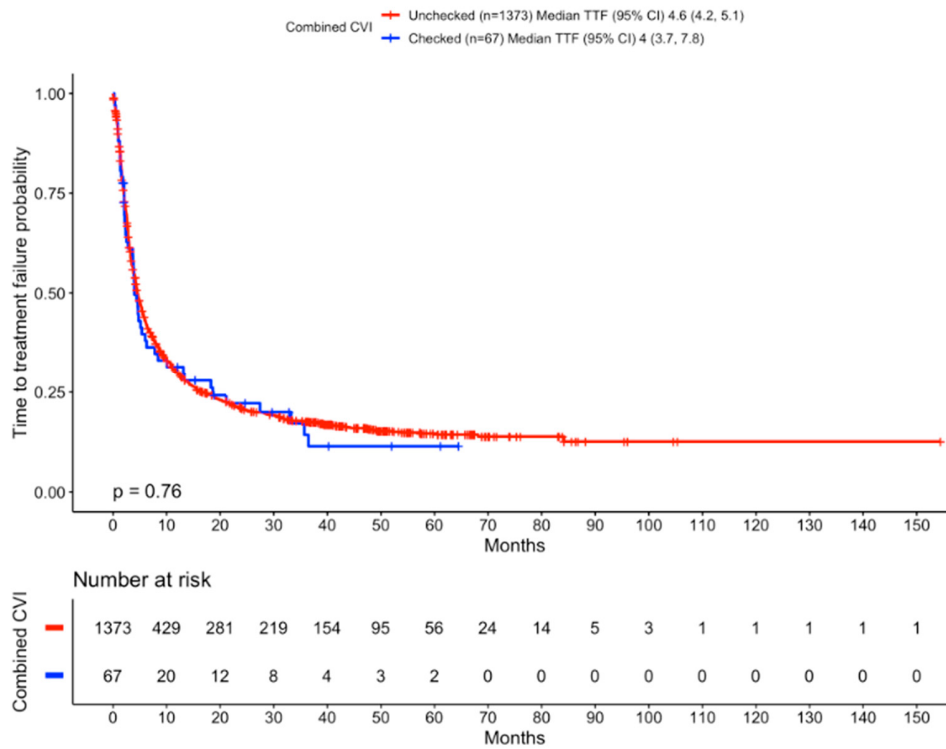
E. BMI <30 kg/m² vs. BMI ≥30 kg/m²



F. Smoking



G. Combined CVI



H. Number of metastatic sites

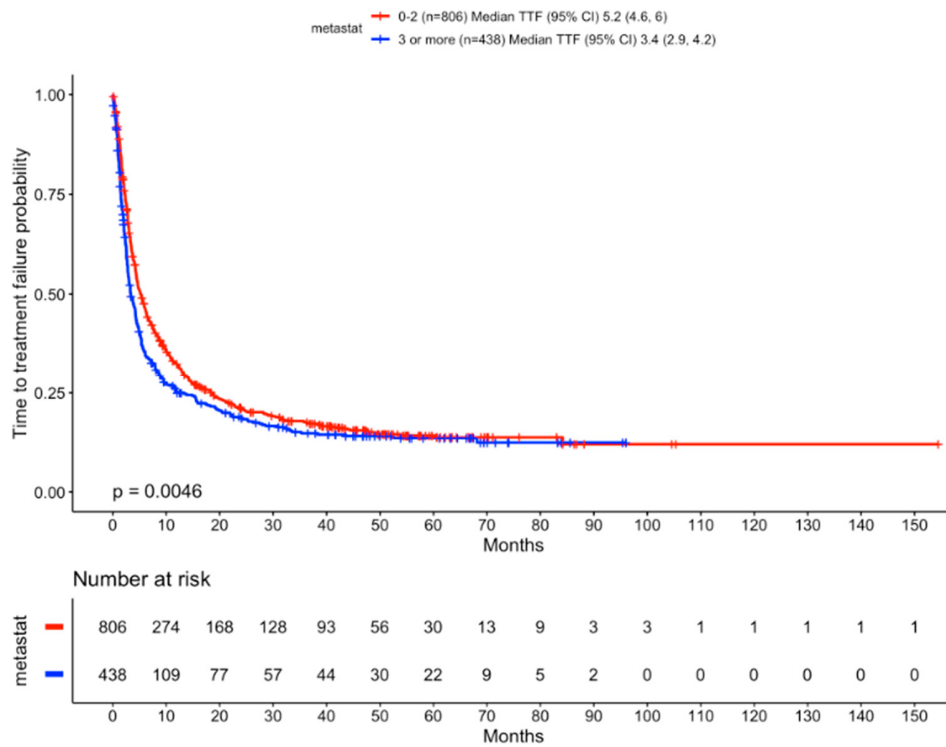
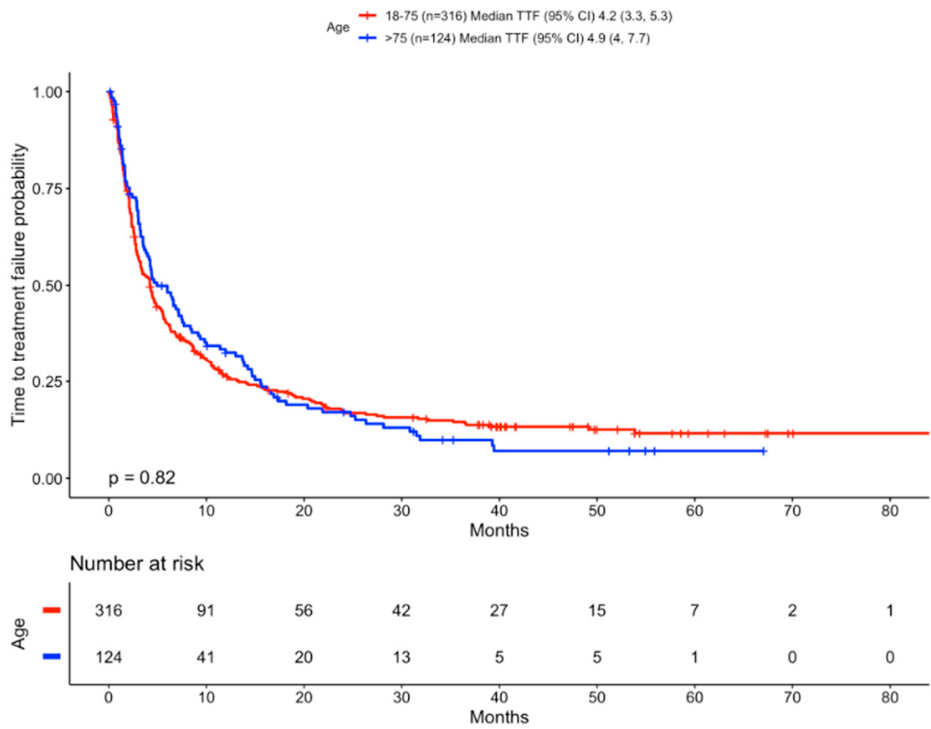
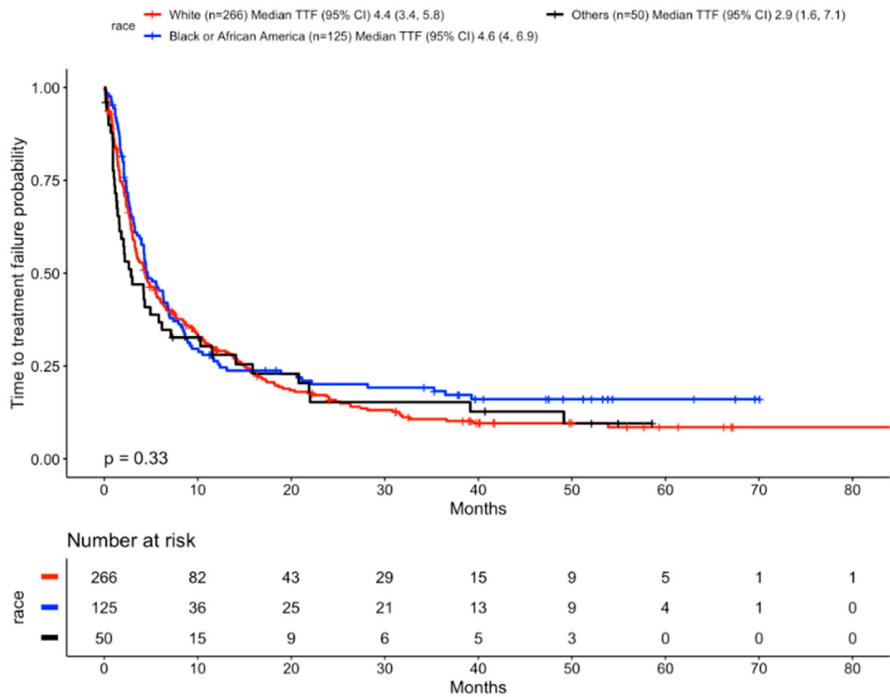


Figure S10. Time to treatment failure (TTF) probability in NSCLC patients treated with ICIs by unique cohorts.

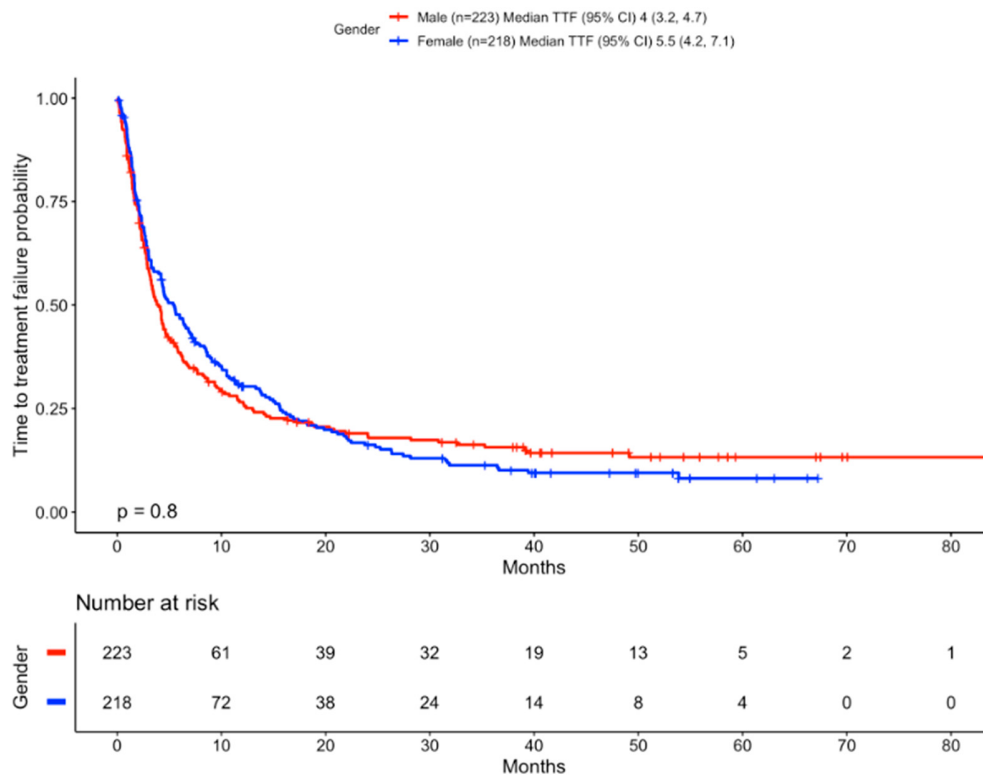
A. Age ≤75 years vs. Age >75 years



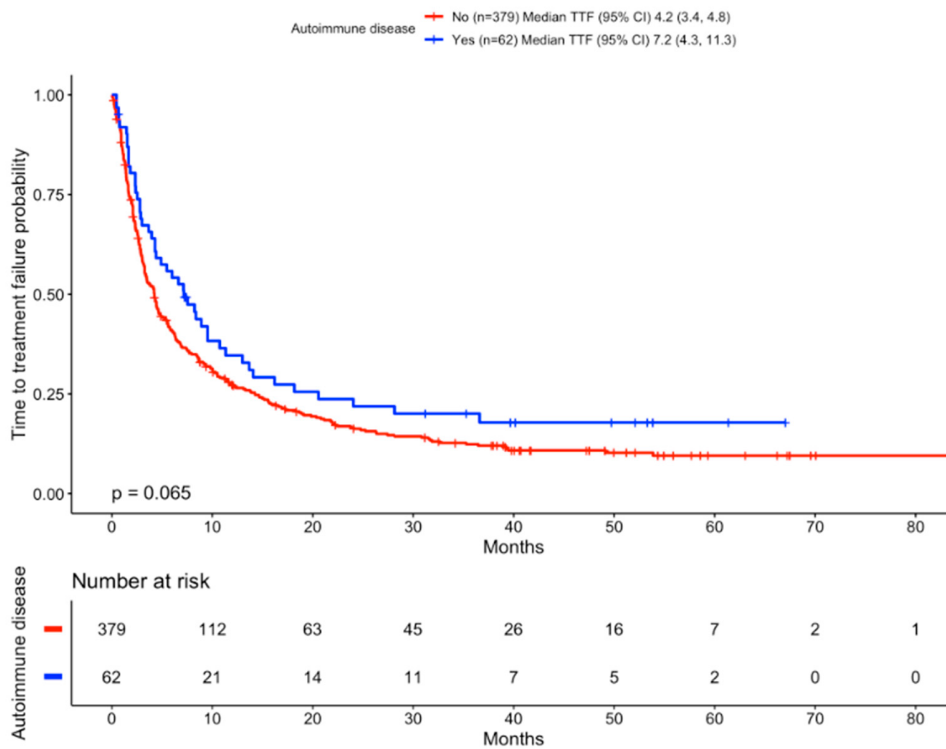
B. Race



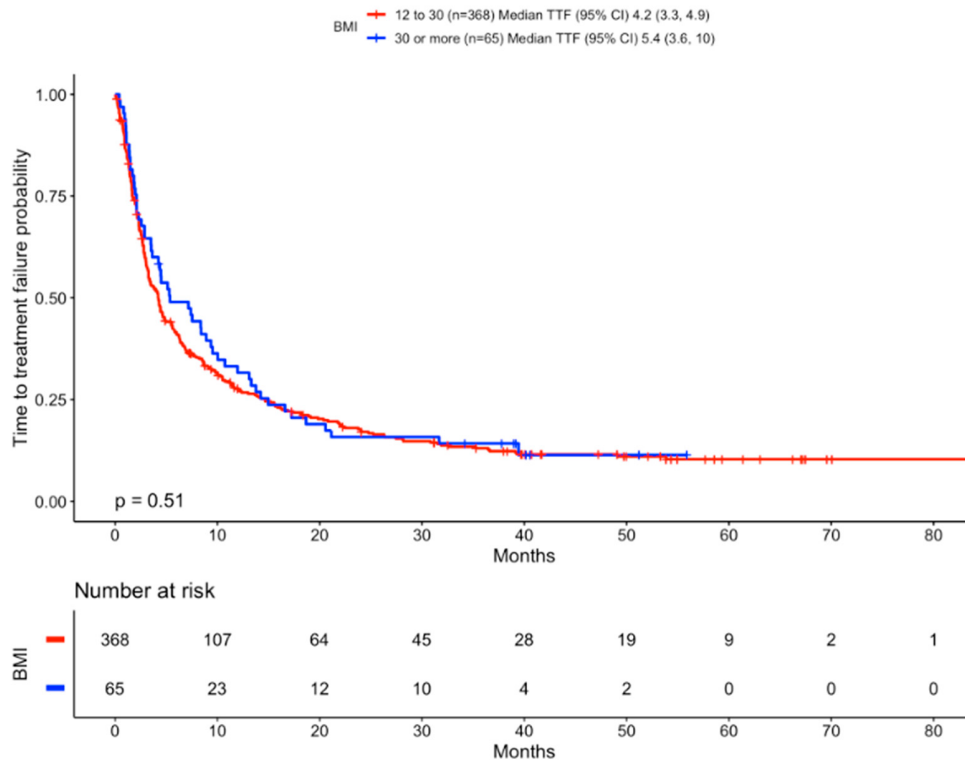
C. Gender



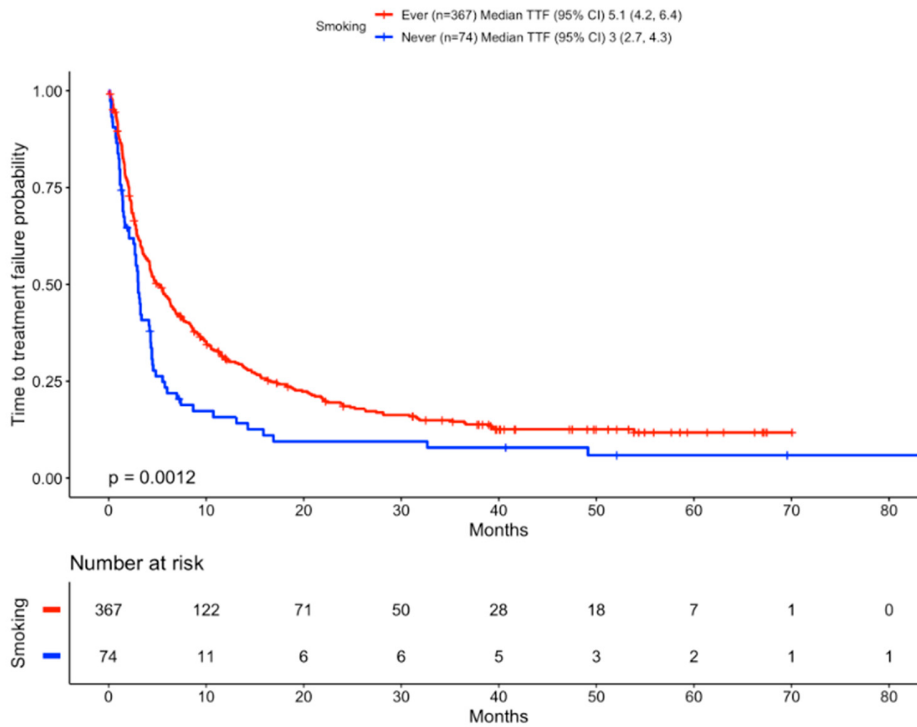
D. History of AID



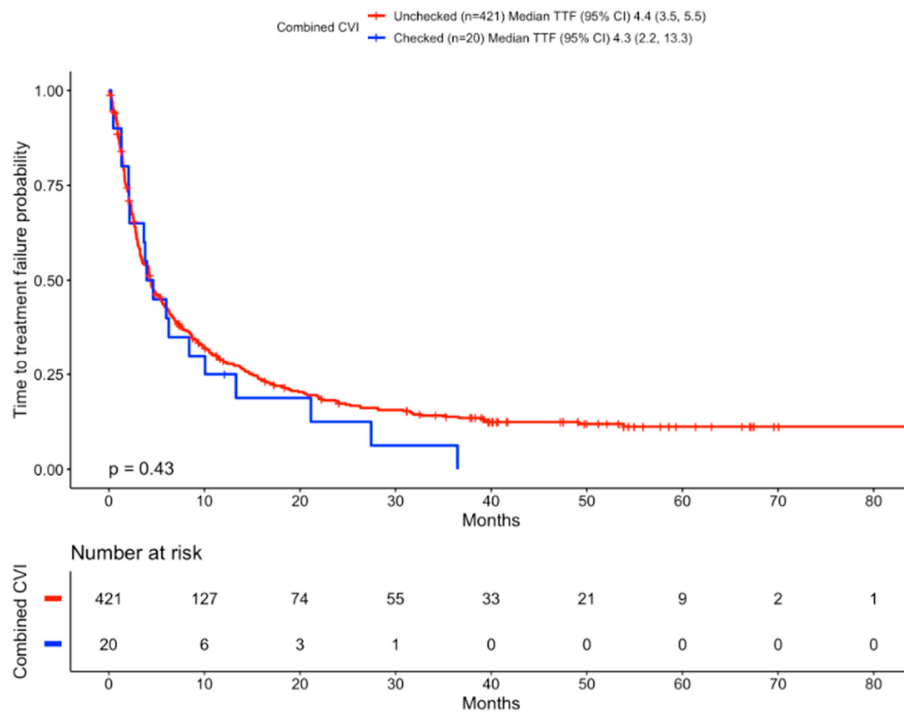
E. BMI <30 kg/m² vs. BMI ≥30 kg/m²



F. Smoking



G. Combined CVI



H. Number of metastatic sites

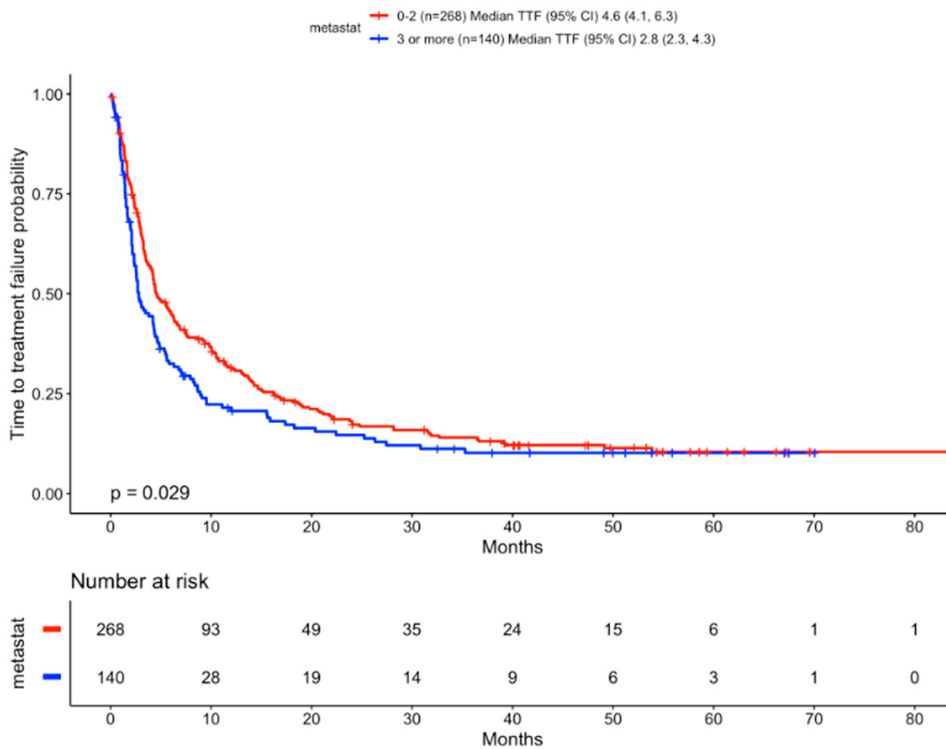
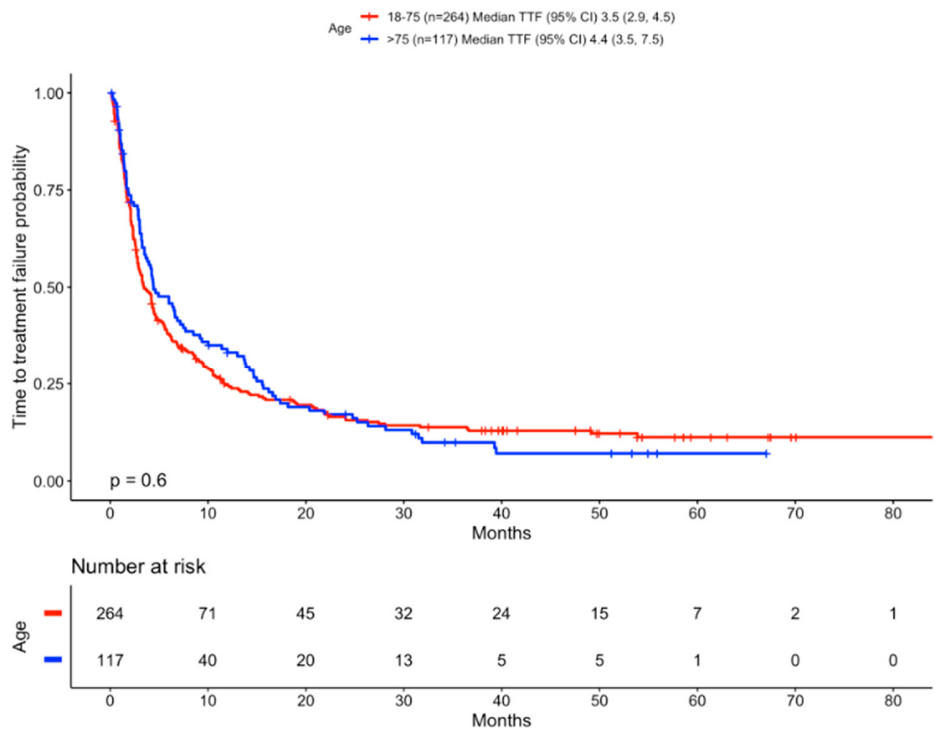
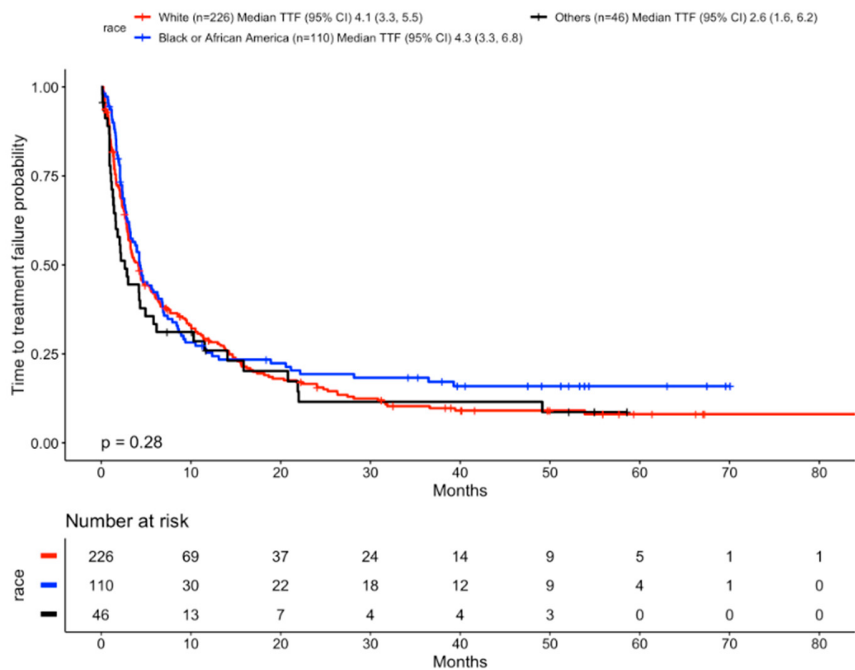


Figure S11. Time to treatment failure (TTF) probability in NSCLC patients treated with PD-L1 monotherapy by unique cohorts.

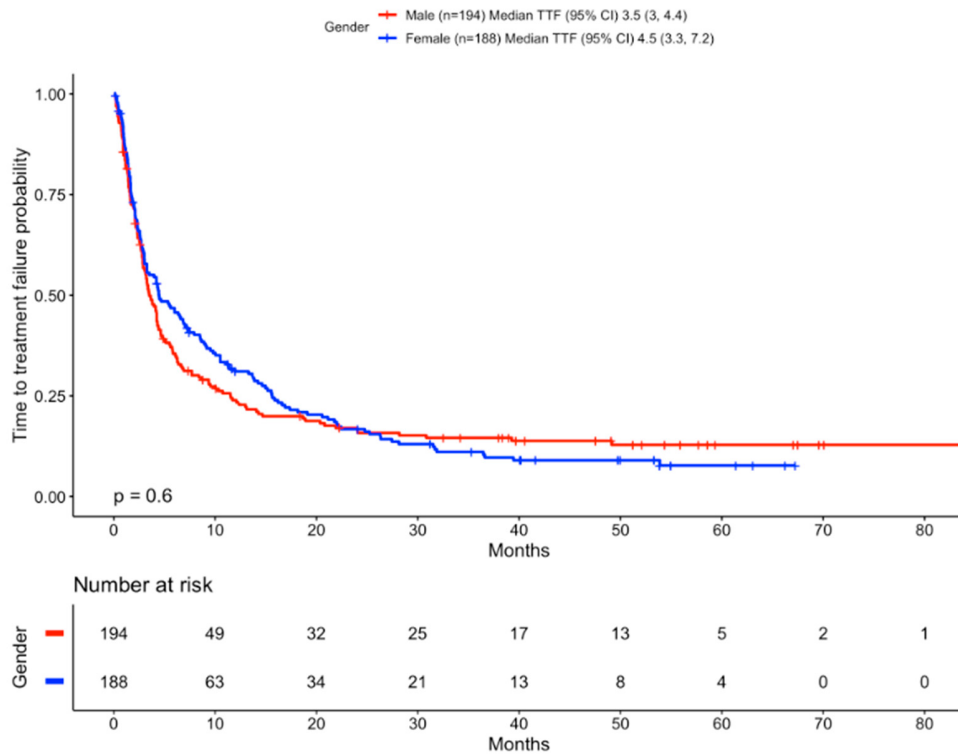
A. Age ≤75 years vs. Age >75 years



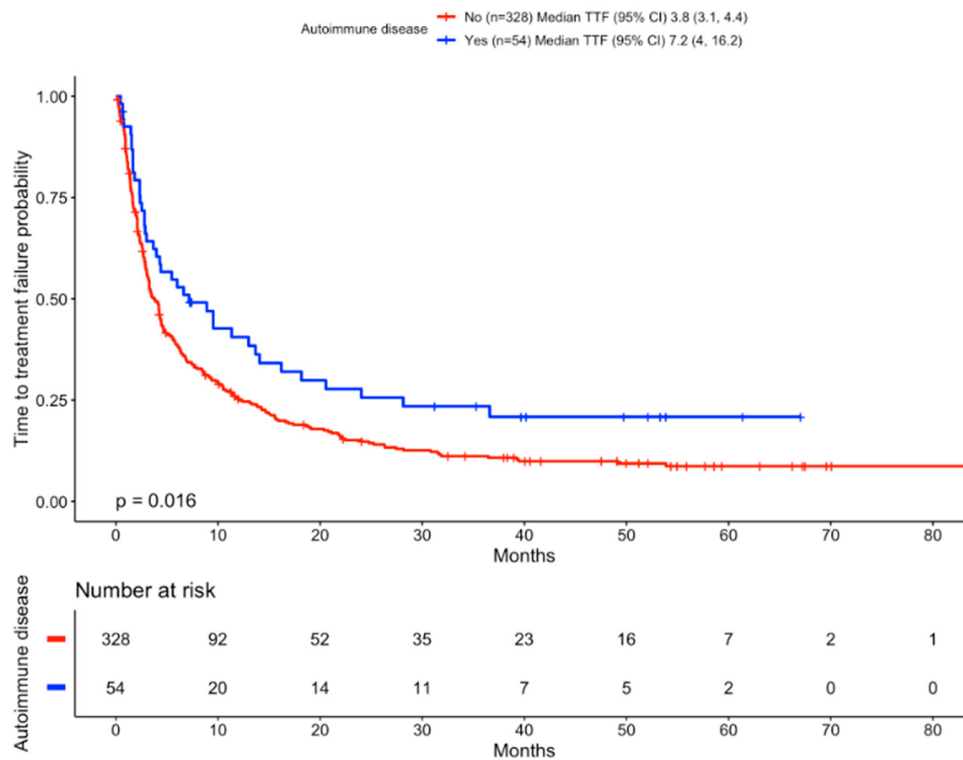
B. Race



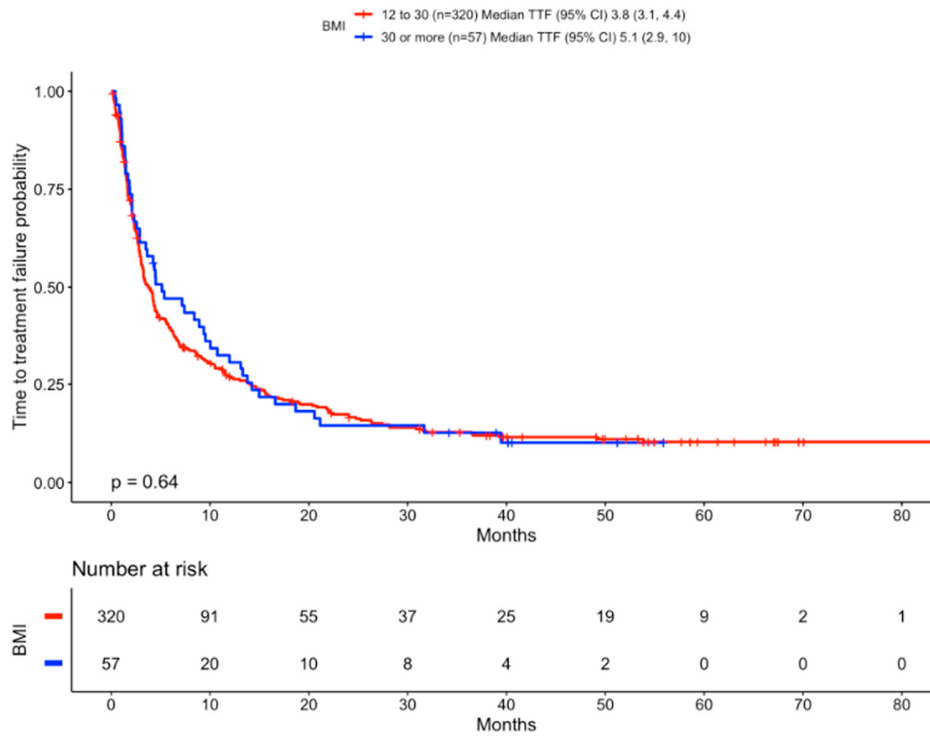
C. Gender



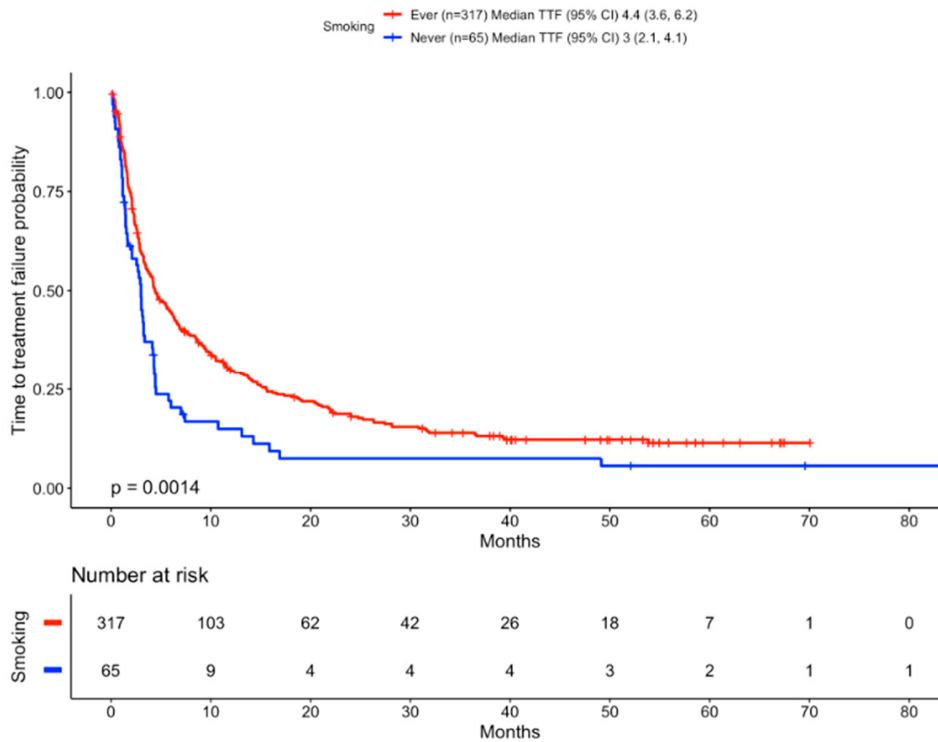
D. History of AID



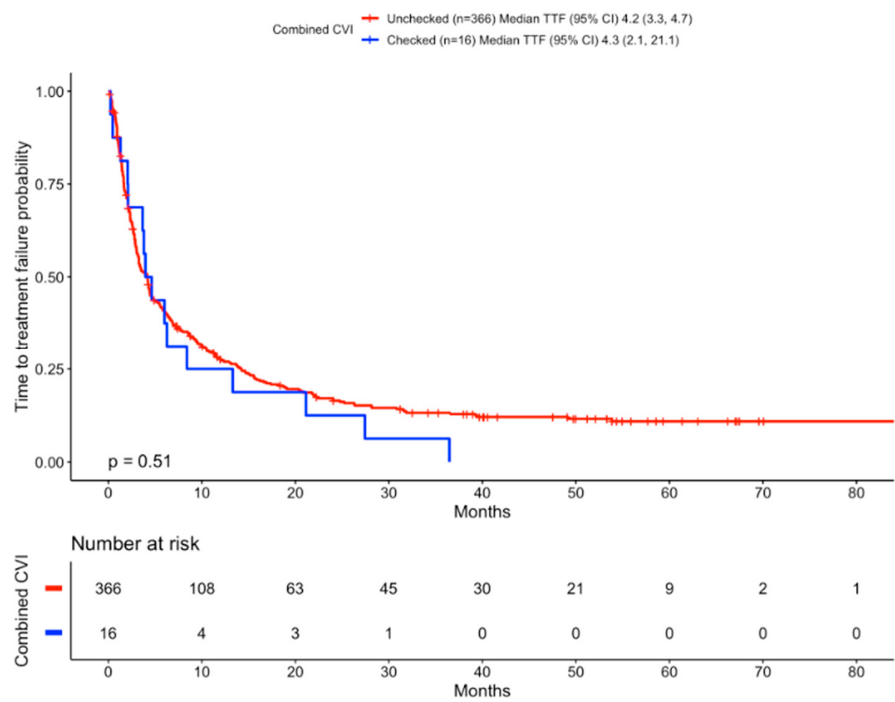
E. BMI<30 kg/m² vs. BMI ≥30 kg/m²



F. Smoking



G. Combined CVI



H. Number of metastatic sites

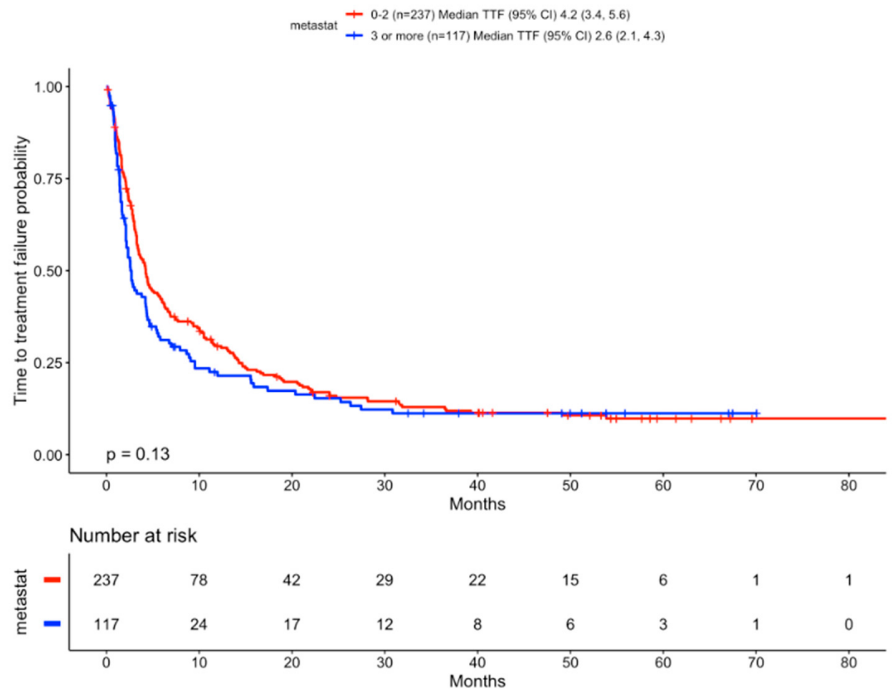
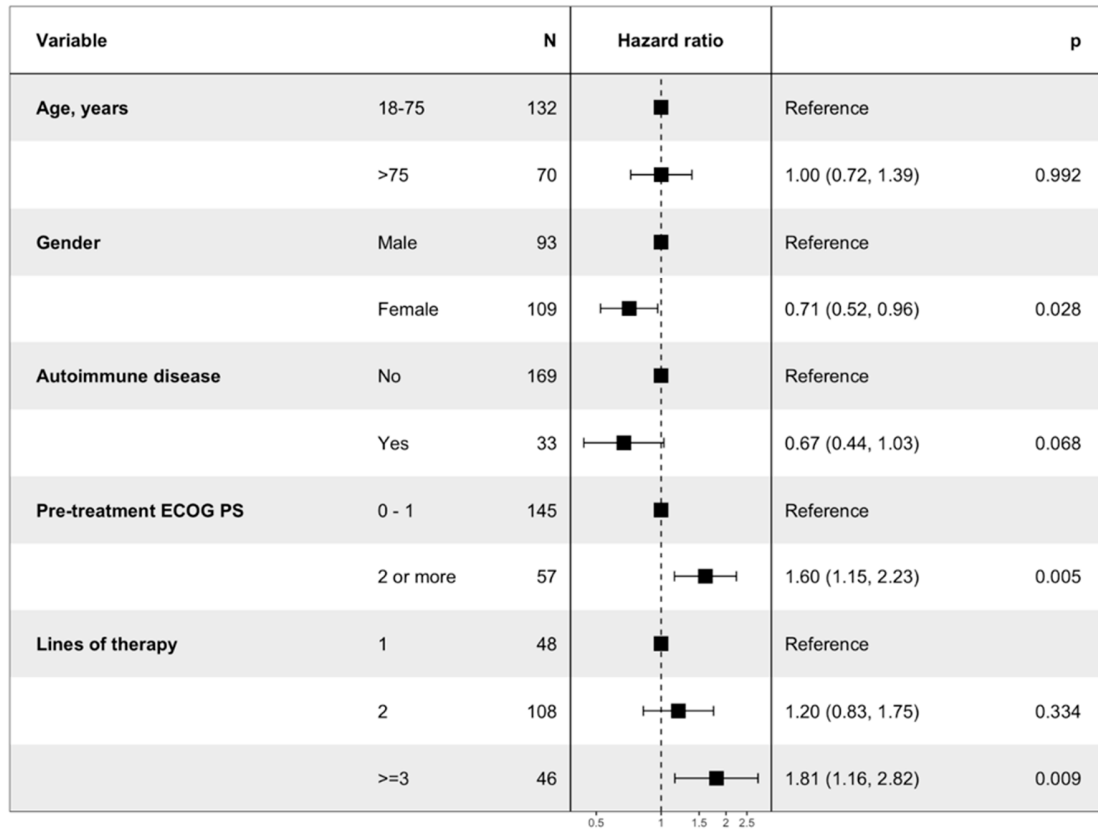
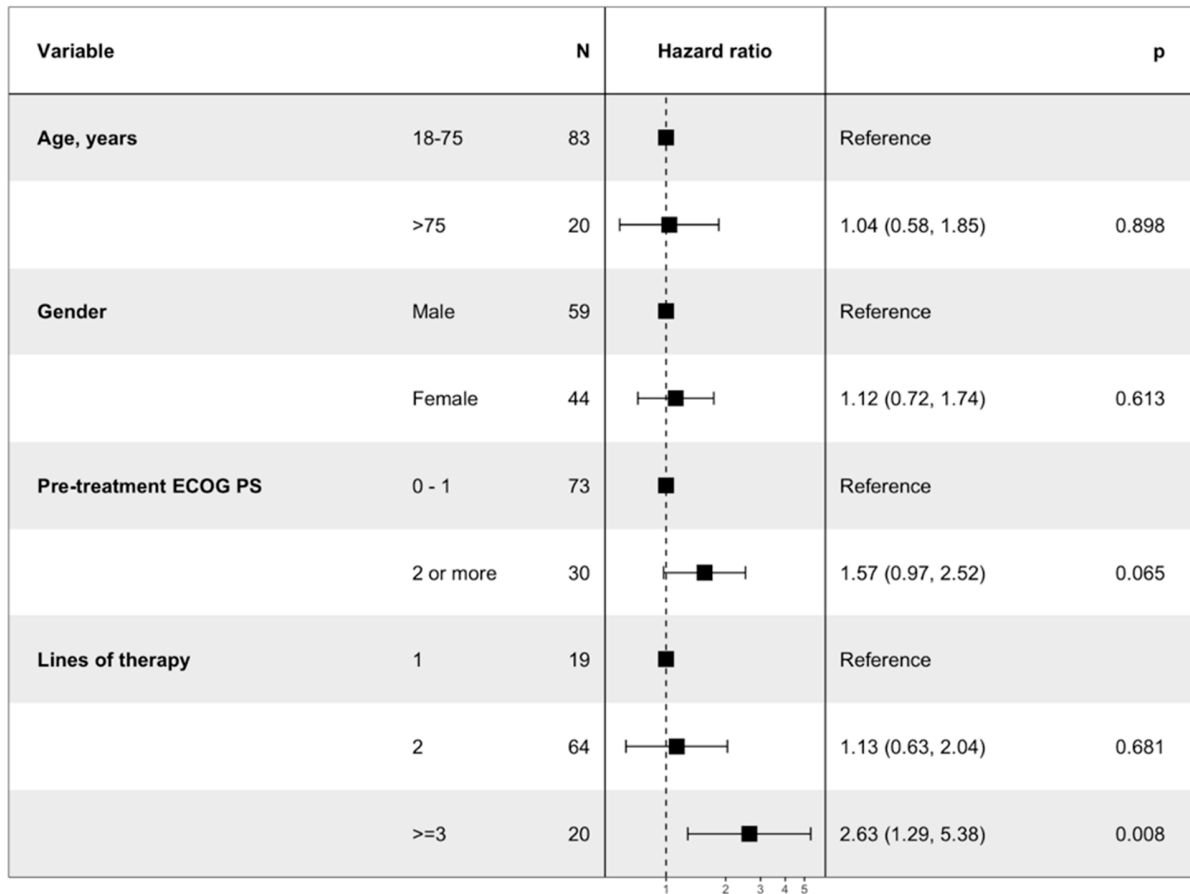


Figure S12. Time to treatment failure hazard ratio by unique patient groups of interest in White patients in the anti-PD-(L)1 monotherapy NSCLC cohort.



May and Hosmer goodness-of-fit test $\chi^2 = 0.309$.

Figure S13. Time to treatment failure hazard ratio by unique patient groups of interest in Black patients in the anti-PD-(L)1 monotherapy NSCLC cohort.



May and Hosmer goodness-of-fit test $p = 0.742$.

Figure S14. Overall survival hazard ratio in the entire NSCLC cohort treated with ICIs by unique cohorts.

Variable		N	Hazard ratio		p
Age, years	18-75	284		Reference	
	>75	112		1.08 (0.80, 1.46)	0.608
Race	White	234		Reference	
	Black or African America	118		0.84 (0.62, 1.13)	0.258
	Others	44		1.03 (0.66, 1.60)	0.900
Gender	Male	197		Reference	
	Female	199		0.88 (0.68, 1.14)	0.331
BMI, kg/m2	12 to 30	340		Reference	
	30 or more	56		1.05 (0.74, 1.48)	0.779
Smoking	Ever	325		Reference	
	Never	71		1.27 (0.91, 1.76)	0.156
Combined Chronic Viral Infections (CVI)	No	379		Reference	
	Yes	17		1.38 (0.77, 2.46)	0.274
Autoimmune disease	No	339		Reference	
	Yes	57		0.81 (0.56, 1.18)	0.275
Pre-treatment ECOG PS	0 - 1	297		Reference	
	2 or more	99		1.72 (1.28, 2.31)	<0.001
Number of metastatic sites	0-2	259		Reference	
	3 or more	137		1.36 (1.04, 1.78)	0.023
Lines of therapy	1	114		Reference	
	2	201		1.35 (0.99, 1.84)	0.055
	>=3	81		1.77 (1.23, 2.56)	0.002

May and Hosmer goodness-of-fit test p = 0.359.