

Table 1. Survival results from randomized trials exploring PD-(L)-1 inhibitors as monotherapy or in combination with anti-CTLA-4 agents or with standard first line chemotherapy in advanced NSCLC patients.

STUDY	Treatment arms	mPFS (not selected for PD-L1)		mOS (not selected for PD-L1)		mPFS (PD-L1 -)		mOS (PD-L1 -)		mPFS (PD-L1+)		mOS (PD-L1 +)		mPFS High PD-L1		mOS High PD-L1		Treatment related tox G3/G4 (%)
		HR PFS (not selected for PD-L1)		HR OS (not selected for PD-L1)		HR PFS (PD-L1 -)		HR OS (PD-L1 -)		HR PFS (PD-L1 +)		HR OS (PD-L1 +)		HR PFS High PD-L1		HR OS High PD-L1		
Gandhi et al. (KN 189) (NSq)	Pembrolizumab + platinum-pemetrexed vs platinum-pemetrexed	8.8 vs 4.9		NR vs 11.3														67.2 vs 65.8
		0.52 (0.43-0.64)		0.49 (0.38-0.64)		0.75 (0.53-1.05) §		0.59 (0.38-0.92) §		0.44 (0.34-0.57) □		0.47 (0.34-0.66) □		0.36 (0.25-0.52) #		0.42 (0.26-0.68) #		
Borghaei et al. (KN 021) (NSq)	Pembrolizumab + platinum-pemetrexed vs platinum-pemetrexed	24 vs 9.3		NR vs 21.1														41 vs 27
		0.53 (0.33-0.89)		0.56 (0.34-0.95)														
Hellmann et al. (CCM 227) (Sq+NSq)	Nivolumab + Ipilimumab vs platinum-based CT	7.2 vs 5.5 ¶	3.2 vs 5.5 ‡	23 vs 16.7 ¶	16.2 vs 12.4 ‡	7.7 vs 5.3 §¶	3.1 vs 4.7 §‡											31.2 vs 36.1
		0.58 (0.41-0.81) ¶	1.07 (0.84-1.35) ‡	0.77 (0.56-1.06) ¶	0.78 (0.61-1.00) ‡	0.48 (0.27-0.85) §¶	1.17 (0.76-1.81) §‡			0.62 (0.44-0.88) ¶								
Borghaei et al. (CCM 227) (Sq+NSq)	Nivolumab + platinum-based CT vs platinum-based CT					6.2 vs 5.3 §¶	4.7 vs 4.7 §‡											52 vs 35
						0.56 (0.35-0.91) §¶	0.87 (0.57-1.33) §‡											
Lopes et al. (KN 042) (Sq+ NSq)	Pembrolizumab vs platinum-based CT									5.4 vs 6.5 □	16.7 vs 12.1 □	7.1 vs 6.4	20.0 vs 12.2					17.8 vs 41
										1.07 (0.94-1.21) □	0.81 (0.71-0.93) □	0.81 (0.67-0.99)	0.69 (0.56-0.85)					
Carbone et al. (CCM 026) (Sq+ NSq)	Nivolumab vs platinum-based CT									4.2 vs 5.9 ‡	14.4 vs 13.2 ‡	5.4 vs 5.8 #	15.9 vs 13.9 #					17.6 vs 50.6
										1.15 (0.91-1.45) ‡	1.02 (0.80-1.30) ‡	1.07 (0.77-1.49) #	0.90 (0.63-1.29) #					
Reck et al. (KN 024) (Sq+ NSq)	Pembro vs platinum-based CT													10.3 vs 6.0 #	30 vs 14.2 #			26.6 vs 53.3
														0.50 (0.37-0.68) #	0.63 (0.46-0.88) #			
Socinski et al. (IMpower-150) ITT- WT (NSq)	Atezolizumab+bevacizumab+carboplatin+paclitaxel vs Carboplatin+paclitaxel+bevacizumab	8.3 vs 6.8		19.2 vs 14.7		7.1 vs 6.9 φ		17.1 vs 14.1 φ		8.3 vs 6.6 †		20.3 vs 16.4 §		12.6 vs 6.8*		25.2 vs 15.0*		60 vs 51
		0.62 (0.52-0.74)		0.78 (0.64-0.96)		0.77 (0.61-0.99) φ		0.82 (0.62-1.08) φ		0.56 (0.41-0.77) †		0.80 (0.55-1.15) §		0.39 (0.25-0.60)*		0.70 (0.43-1.13) *		
Impower 150 EGFR and ALK+ (NSq)	Atezolizumab+bevacizumab+carboplatin+paclitaxel vs Carboplatin+paclitaxel+bevacizumab	9.7 vs 6.1		NE vs 17.5														
		0.59 (0.37-0.94)		0.54 (0.29-1.03)														
Cappuzzo et al. (IMpower 130) (NSq) ITT-WT	Atezolizumab + carboplatin+ nabpaclitaxel vs Carboplatin+nab-paclitaxel	7.0 vs 5.5		18.6 vs 13.9		6.2 vs 4.7 φ		15.2 vs 12.0 φ		8.3 vs 6.0†		23.7 vs 15.9§		6.4 vs 4.6 *		17.3 vs 16.9*		73 v 60
		0.64 (0.54-0.77)		0.79 (0.64-0.98)		0.72 (0.56-0.91) φ		0.81 (0.61-1.08) φ		0.61 (0.43-0.85)†		0.70 (0.45-1.08)§		0.51 (0.34-0.77)*		0.84 (0.51-1.39)*		
IMpower 130 EGFR and ALK+ (NSq)	Atezolizumab + carboplatin+ nabpaclitaxel vs Carboplatin+nab-paclitaxel	7.0 vs 6.0		14.4 vs 10														
		0.75 (0.36-1.54)		0.98 (0.41-2.31)														
Papadimitrakopoulou et al. (IMpower 132) (NSq)	Atezolizumab+ platinum-pemetrexed Vs Platinum-pemetrexed	7.6 vs 5.2		18.1 vs 13.6		8.5 vs 4.9 φ		17.1 vs 14.1 φ		6.2 vs 5.7†		20.3 vs 16.4 §		10.8 vs 6.5*		25.2 vs 15.0*		54 vs 39
		0.60 (0.49-0.72)		0.81 (0.64-1.03)		0.45 (0.31-0.64) φ		0.82 (0.62-1.08) φ		0.80 (0.56-1.16) †		0.80 (0.55-1.15) §		0.46 (0.22-0.96) *		0.70 (0.43-1.13) *		
Jotte et al. (IMpower 131) (Sq)	Atezolizumab+carboplatin+nab-paclitaxel vs carboplatin+nab-paclitaxel	6.3 vs 5.6		14 vs 13.9		5.7 vs 5.6 φ		13.8 vs 12.5 φ		6.0 vs 5.6 †		12.4 vs 16.6†		10.1 vs 5.5*		23.6 vs 14.1*		69 vs 58
		0.71 (0.60-0.85)		0.96 (0.78-1.18)		0.81 (0.64-1.03) φ		0.86 (0.65-1.15) φ		0.70 (0.53-0.92) †		1.34 (0.95-1.90)†		0.44 (0.27-0.71)#		0.56 (0.32-0.99)*		
Paz-Ares (KN 407) (Sq)	Pembrolizumab+carboplatin-paclitaxel/nab-paclitaxel vs Carboplatin-paclitaxel/ nab-paclitaxel	6.4 vs 4.8		15.9 vs 11.3		6.3 vs 5.3§		15.9 vs 10.2 §		7.2 vs 5.2 •		14.0 vs 11.6•		8.0 vs 4.2 #		NR vs NR #		69.8 vs 68.2
		0.56 (0.45-0.70)		0.64 (0.49-0.85)		0.68 (0.47-0.98) §		0.61 (0.38-0.98) §		0.56 (0.39-0.80)•		0.57 (0.36-0.90)•		0.68 (0.47-0.98)#		0.64 (0.37-1.10) #		

- ¶ Tumor Mutational Burden ≥ 10 mutations per megabase,
- ‡ Tumor Mutational Burden < 10 mutations per megabase
- § in PD-L1 Tumor Proportional Score (TPS) $< 1\%$
- ⌘ in PD-L1 TPS $\geq 1\%$
- ‡ in PD-L1 TPS $\geq 5\%$
- # in PD-L1 TPS $\geq 50\%$
- ϕ in PD-L1 TC0/ and IC/0
- * in PD-L1 TC3 or IC3 WT population
- † in PD-L1 TC1/2 or IC1/2
- in PD-L1 TPS 1-49%

Trial with Single agent IO

Trial with IO+CT

Trial with IO+IO

IO=immune checkpoint inhibitors, CT=chemotherapy, Sq=Squamous, NSq=Non-squamous, Tox= treatment related adverse events grade 3-4 (not necessary of immunological etiology)