Supplemental Material

PD-L1 gene amplification and focality: relationship with protein expression

Supplemental Table 1 – Cohort characteristics

Characteristic		**Study Cohort (N=60,793)**
Median Age		**66.0 years**
Gender (%)	**Male**	**28177 (46)**
	Female	**32587 (54)**
	Unknown	**29**
Genomic ancestry (%)	**African American**	**6241 (10)**
	American	**4483 (7)**
	East Asian	**2095 (3)**
	European	**47411 (78)**
	South-East Asian	**532 (1)**
	Unknown	**31**
Site of tissue specimen for CGP (%)	**Local**	**26483 (44)**
	Metastatic	**23788 (39)**
	Unknown	**10522 (17)**
Median tissue specimen tumor purity [95%CI]		**49.7% [36.0%-66.2%]**
Most frequent histologies		**N (%)**
Lung Adenocarcinoma		11961 (20)
Colon adenocarcinoma		7344 (12)
Lung squamous cell carcinoma		4932 (8)
Ovary serous carcinoma		3004 (5)
Lung non-small cell lung carcinoma (nos)		2957 (5)
Prostate acinar adenocarcinoma		2929 (5)
Pancreas ductal adenocarcinoma		2560 (4)
Unknown primary adenocarcinoma		1808 (3)
Rectum adenocarcinoma		1626 (3)
Skin melanoma		1308 (2)

Abbreviations: CGP: comprehensive genomic profiling; nos: not other specified

Supplemental Table 2- Distribution of PDL1 IHC score category over *CD274* focality thresholds at a *CD274* gain threshold of 4

Ploidy Category	Focality Category	PDL1 Status	N
<ploidy+4	<0.1Mb	TPS ≥ 50%	14
<ploidy+4	<0.1Mb	TPS 1% -49%	11
<ploidy+4	<0.1Mb	TPS < 1%	17
<ploidy+4	≥0.1Mb	TPS ≥ 50%	7716
<ploidy+4	≥0.1Mb	TPS 1% -49%	16210
<ploidy+4	≥0.1Mb	TPS < 1%	36087
≥ploidy+4	<0.1Mb	TPS ≥ 50%	18
≥ploidy+4	<0.1Mb	TPS 1% -49%	0
≥ploidy+4	<0.1Mb	TPS < 1%	0
≥ploidy+4	≥0.1Mb	TPS ≥ 50%	368
≥ploidy+4	≥0.1Mb	TPS 1% -49%	190
≥ploidy+4	≥0.1Mb	TPS < 1%	162
<ploidy+4	<4Mb	TPS ≥ 50%	317
<ploidy+4	<4Mb	TPS 1% -49%	357
<ploidy+4	<4Mb	TPS < 1%	620
<ploidy+4	≥4Mb	TPS ≥ 50%	7413
<ploidy+4	≥4Mb	TPS 1% -49%	15864
<ploidy+4	≥4Mb	TPS < 1%	35484
≥ploidy+4	<4Mb	TPS ≥ 50%	186
≥ploidy+4	<4Mb	TPS 1% -49%	45
≥ploidy+4	<4Mb	TPS < 1%	17
≥ploidy+4	≥4Mb	TPS ≥ 50%	200
≥ploidy+4	≥4Mb	TPS 1% -49%	145
≥ploidy+4	≥4Mb	TPS < 1%	145
<ploidy+4	<20Mb	TPS ≥ 50%	2416
<ploidy+4	<20Mb	TPS 1% -49%	3776
<ploidy+4	<20Mb	TPS < 1%	7064
<ploidy+4	≥20Mb	TPS ≥ 50%	5314
<ploidy+4	≥20Mb	TPS 1% -49%	12445
<ploidy+4	≥20Mb	TPS < 1%	29040
≥ploidy+4	<20Mb	TPS ≥ 50%	334
≥ploidy+4	<20Mb	TPS 1% -49%	134
≥ploidy+4	<20Mb	TPS < 1%	90
≥ploidy+4	≥20Mb	TPS ≥ 50%	52
≥ploidy+4	≥20Mb	TPS 1% -49%	56
≥ploidy+4	≥20Mb	TPS < 1%	72

Abbreviations: TPS, Tumor Proportion Score

Supplemental Table 3 –Distribution of PDL1 IHC score category over *CD274* focality thresholds at a *CD274* gain threshold of 2

Ploidy Category	Focality Category	PDL1 Status	N
<ploidy+2	<0.1Mb	TPS ≥ 50%	8
<ploidy+2	<0.1Mb	TPS 1% -49%	6
<ploidy+2	<0.1Mb	TPS < 1%	16
<ploidy+2	≥0.1Mb	TPS ≥ 50%	6951
<ploidy+2	≥0.1Mb	TPS 1% -49%	15240
<ploidy+2	≥0.1Mb	TPS < 1%	34405
≥ploidy+2	<0.1Mb	TPS ≥ 50%	24
≥ploidy+2	<0.1Mb	TPS 1% -49%	5
≥ploidy+2	<0.1Mb	TPS < 1%	1
≥ploidy+2	≥0.1Mb	TPS ≥ 50%	1133
≥ploidy+2	≥0.1Mb	TPS 1% -49%	1160
≥ploidy+2	≥0.1Mb	TPS < 1%	1844
<ploidy+2	<4Mb	TPS ≥ 50%	220
<ploidy+2	<4Mb	TPS 1% -49%	290
<ploidy+2	<4Mb	TPS < 1%	569
<ploidy+2	≥4Mb	TPS ≥ 50%	6739
<ploidy+2	≥4Mb	TPS 1% -49%	14956
<ploidy+2	≥4Mb	TPS < 1%	33852
≥ploidy+2	<4Mb	TPS ≥ 50%	283
≥ploidy+2	<4Mb	TPS 1% -49%	112
≥ploidy+2	<4Mb	TPS < 1%	68
≥ploidy+2	≥4Mb	TPS ≥ 50%	874
≥ploidy+2	≥4Mb	TPS 1% -49%	1053
≥ploidy+2	≥4Mb	TPS < 1%	1777
<ploidy+2	<20Mb	TPS ≥ 50%	2005
<ploidy+2	<20Mb	TPS 1% -49%	3390
<ploidy+2	<20Mb	TPS < 1%	6610
<ploidy+2	≥20Mb	TPS ≥ 50%	4954
<ploidy+2	≥20Mb	TPS 1% -49%	11856
<ploidy+2	≥20Mb	TPS < 1%	27811
≥ploidy+2	<20Mb	TPS ≥ 50%	745
≥ploidy+2	<20Mb	TPS 1% -49%	520
≥ploidy+2	<20Mb	TPS < 1%	544
≥ploidy+2	≥20Mb	TPS ≥ 50%	412
≥ploidy+2	≥20Mb	TPS 1% -49%	645
≥ploidy+2	≥20Mb	TPS < 1%	1301

Abbreviations: TPS, Tumor Proportion Score

Supplemental Table 4 - Distribution of samples across focality (20 Mb cutoff) and PDL1 score (50 TPS cutoff) bins at a ploidy cutoff of 4, for Non Small Cell Lung Cancer (NSCLC), Colorectal cancer (CRC), and the rest of the cohort

NSCLC, >= ploidy + 4 (n=321)	**PDL1 TPS: <50**	**PDL1 TPS: >=50**
Focality category:<20 Mb	74	199
Focality category: >=20 Mb	21	27

Two-sided Fisher's exact test odds ratio = 0.48[0.24-0.95], P Value = 0.02

NSCLC, < ploidy + 4 (n=20241)	**PDL1 TPS: <50**	**PDL1 TPS: >=50**
Focality category:<20 Mb	3815	1843
Focality category: >=20 Mb	10802	3781

Two-sided Fisher's exact test odds ratio = 0.72[0.68-0.78], P Value = 6.56e-21

CRC, >= ploidy + 4 (n=72)	**PDL1 TPS: <50**	**PDL1 TPS: >=50**
Focality category:<20 Mb	17	5
Focality category: >=20 Mb	49	1

Two-sided Fisher's exact test odds ratio = 0.07[0.001-0.71], P Value = 0.009

CRC, < ploidy + 4 (n=8922)	**PDL1 TPS: <50**	**PDL1 TPS: >=50**
Focality category:<20 Mb	912	17
Focality category: >=20 Mb	7901	92

Two-sided Fisher's exact test odds ratio = 0.62[0.37-1.12], P Value = 0.08

Others, >= ploidy + 4 (n=345)	**PDL1 TPS: <50**	**PDL1 TPS: >=50**
Focality category:<20 Mb	133	130
Focality category: >=20 Mb	58	24

Two-sided Fisher's exact test odds ratio = 0.42[0.24-0.74], P Value = 0.001

Others, < ploidy + 4 (n=30892)	**PDL1 TPS: <50**	**PDL1 TPS: >=50**
Focality category:<20 Mb	6113	556
Focality category: >=20 Mb	22782	1441

Two-sided Fisher's exact test odds ratio = 0.70[0.63-0.77], P Value = 9.03e-12