
Supplementary material

Analysis of real-world PD-L1 IHC 28-8 and 22C3 pharmDx assay utilisation, turnaround times and analytical concordance across multiple tumour types

Dr Gabriel S Krigsfeld,¹ Dr Emily A Prince,¹ Dr James Pratt,¹ Dr Vladislav Chizhevsky,²
Dr Josette William Ragheb,² Dr James Novotny Jr,¹ Dr David Huron¹

¹*Bristol-Myers Squibb, Princeton, New Jersey, USA*

²*NeoGenomics Laboratories Inc, Aliso Viejo, California, USA*

Contents

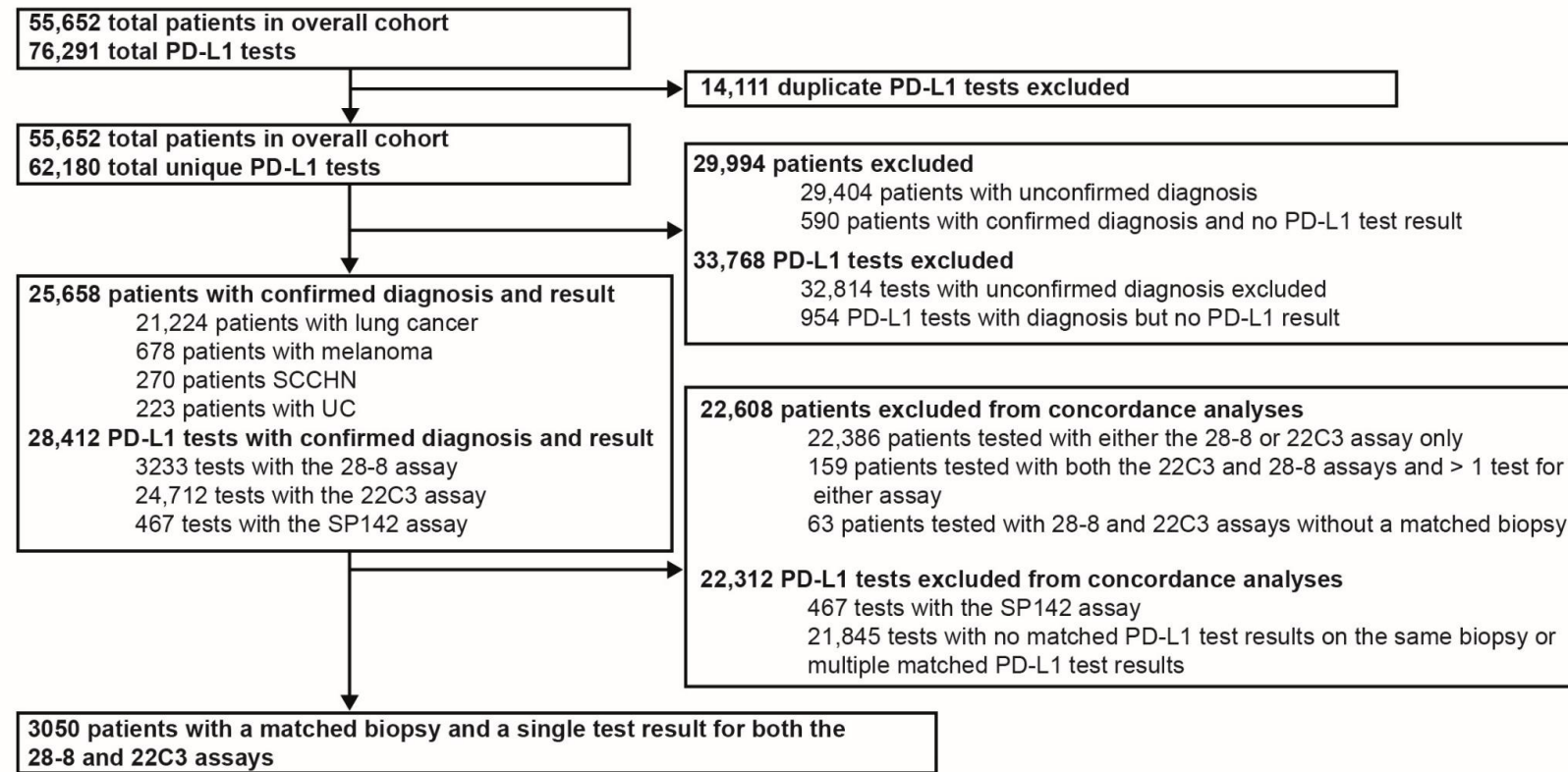
Supplementary Figure 1 Sample disposition.

Supplementary Figure 2 PD-L1 test volume and test failure rates in the overall population.

Supplementary Table 1 Concordance between the 28-8 and 22C3 assays in matched samples for tumour subgroups and for the most frequently biopsied sites with matched samples.

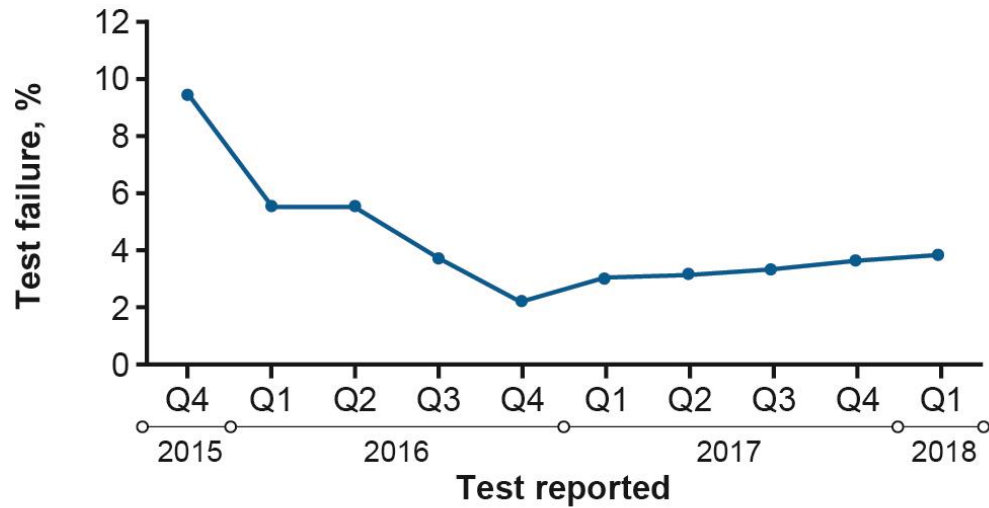
Supplementary Table 2 Agreement between the 28-8 and 22C3 assays at various PD-L1 expression cutoffs.

Supplementary Figure 1 Sample disposition. PD-L1, programmed death ligand 1; SCCHN, squamous cell carcinoma of the head and neck; UC, urothelial carcinoma.



Supplementary material

Supplementary Figure 2 PD-L1 test volume and test failure rates in the overall population. PD-L1, programmed death ligand 1.



Test count (n)	1163	1466	1816	2162	5072	8926	10528	9833	10054	10544
Test failures (n)	109	81	99	80	113	272	328	320	365	400
Test failure rate (%)	9.4	5.5	5.5	3.7	2.2	3	3.1	3.3	3.6	3.8

Supplementary Table 1 Concordance between the 28-8 and 22C3 assays in matched samples for tumour subgroups and for the most frequently biopsied sites with matched samples.

	n	Kendall's tau correlation		Spearman's correlation	
		τ	95% CI	ρ	95% CI
Tumour type					
Any	3050	0.94	0.93–0.94	0.97	0.97–0.97
Lung cancer	1475	0.93	0.92–0.94	0.97	0.97–0.98
UC	12	0.98	0.93–1.00	0.99	0.96–1.00
Melanoma	35	0.93	0.81–1.00	0.94	0.89–0.97
SCCHN	23	0.92	0.80–1.00	0.95	0.88–0.98
Biopsy site					
Lung	1642	0.94	0.93–0.95	0.97	0.97–0.97
Lymph node	300	0.92	0.88–0.95	0.95	0.94–0.96
Bone	148	0.97	0.96–0.99	0.99	0.99–1.00
Liver	140	0.96	0.92–1.00	0.98	0.97–0.98
Brain	93	0.93	0.88–0.97	0.97	0.96–0.98
Pleural Fluid	93	0.93	0.90–0.97	0.98	0.97–0.98

Biopsy sites are independent of cancer diagnosis. CI, confidence interval; SCCHN, squamous cell carcinoma of the head and neck; UC, urothelial carcinoma.

Supplementary material

J Clin Pathol

Supplementary Table 2 Agreement between the 28-8 and 22C3 assays at various PD-L1 expression cutoffs.

PD-L1 expression, % TC	28-8 as reference		22C3 as reference		OPA	Cohen's kappa
	PPA	NPA	PPA	NPA		
1%						
Agreement	97	96	97	97	97	0.94
n/N	1656/1701	1298/1349	1656/1707	1298/1343	2954/3050	
5%						
Agreement	97	96	96	97	96	0.93
n/N	1480/1531	1462/1519	1480/1537	1462/1513	2942/3050	
10%						
Agreement	98	97	96	98	97	0.94
n/N	1296/1324	1670/1726	1296/1352	1670/1698	2966/3050	
25%						
Agreement	98	97	94	99	97	0.94
n/N	1032/1050	1938/2000	1032/1094	1932/1956	2970/3050	
50%						
Agreement	99	96	92	99	97	0.93
n/N	844/856	2116/2194	844/922	2116/2128	2960/3050	

n, number of patients with concordant results; N, total number of patients; NPA, negative percentage agreement; OPA, overall percentage agreement; PD-L1, programmed death ligand 1; PPA, positive percentage agreement; TC, tumour cell.

Krigsfeld GS, *et al. J Clin Pathol* 2020;0:1–9. doi: 10.1136/jclinpath-2020-206466