

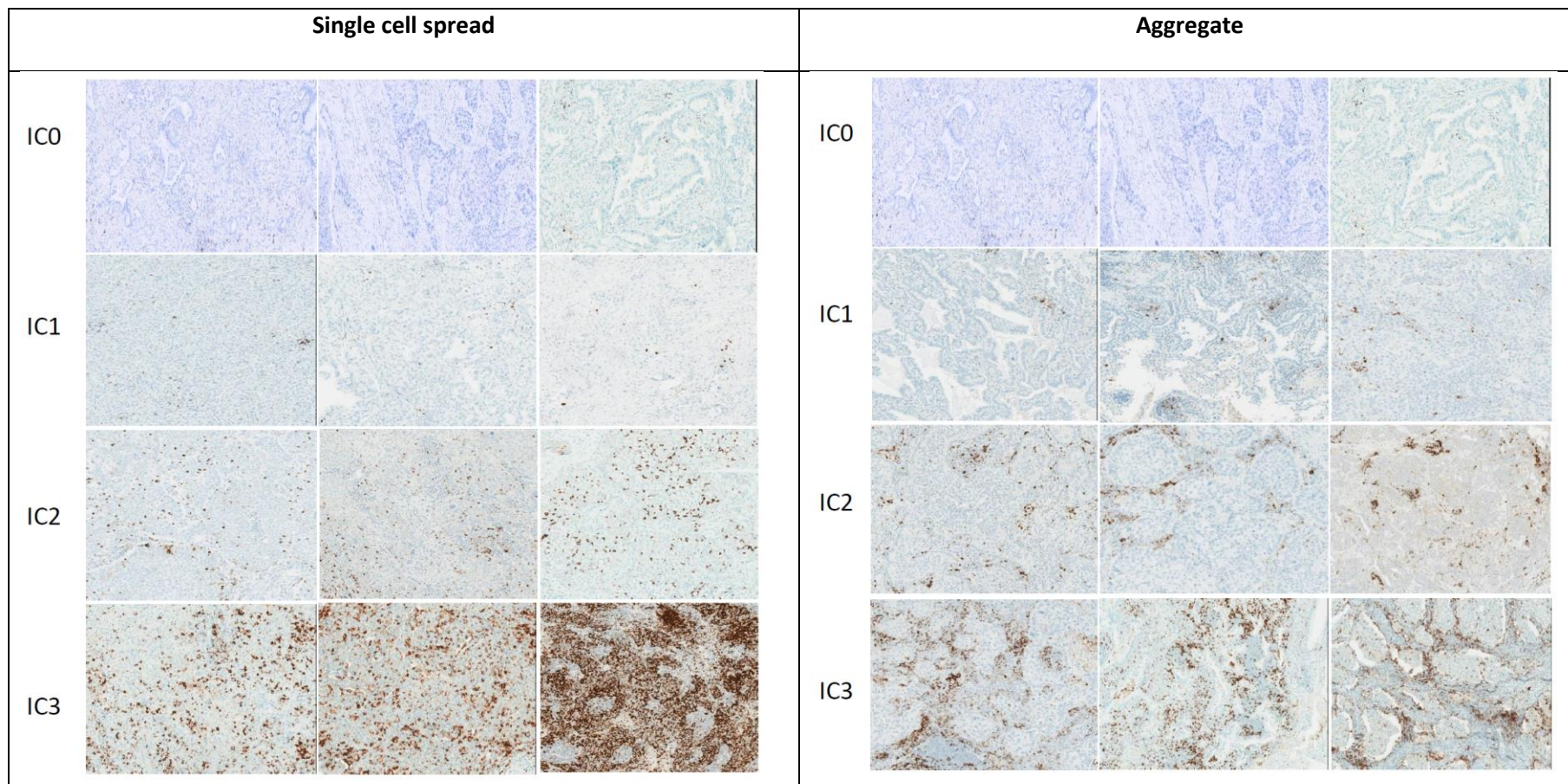
Supplemental Materials

PD-L1 Immunohistochemistry Comparability Study in Real-Life Clinical Samples:

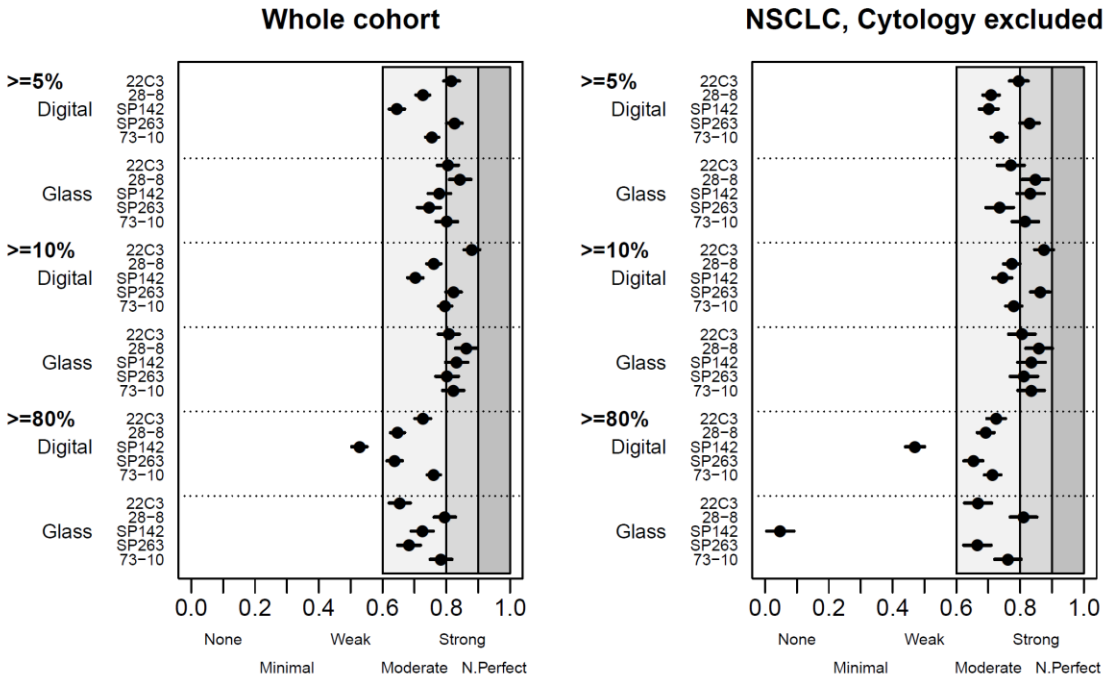
Results of Blueprint phase 2 (BP2) project

M.S. Tsao, K.M. Kerr, M. Kockx, M.-B. Beasley, A.C. Borczuk, J. Botling, L. Bubendorf, L. Chirieac, G. Chen, T.Y. Chou, J.-H. Chung, S. Dacic, S. Lantuejoul, M. Mino-Kenudson, A.L. Moreira, A.G. Nicholson, M. Noguchi, G. Pelosi, C. Poleri, P.A. Russell, J. Sauter, E. Thunnissen, I. Wistuba, H. Yu, M.W. Wynes, M. Pintilie, Y. Yatabe, F.R. Hirsch

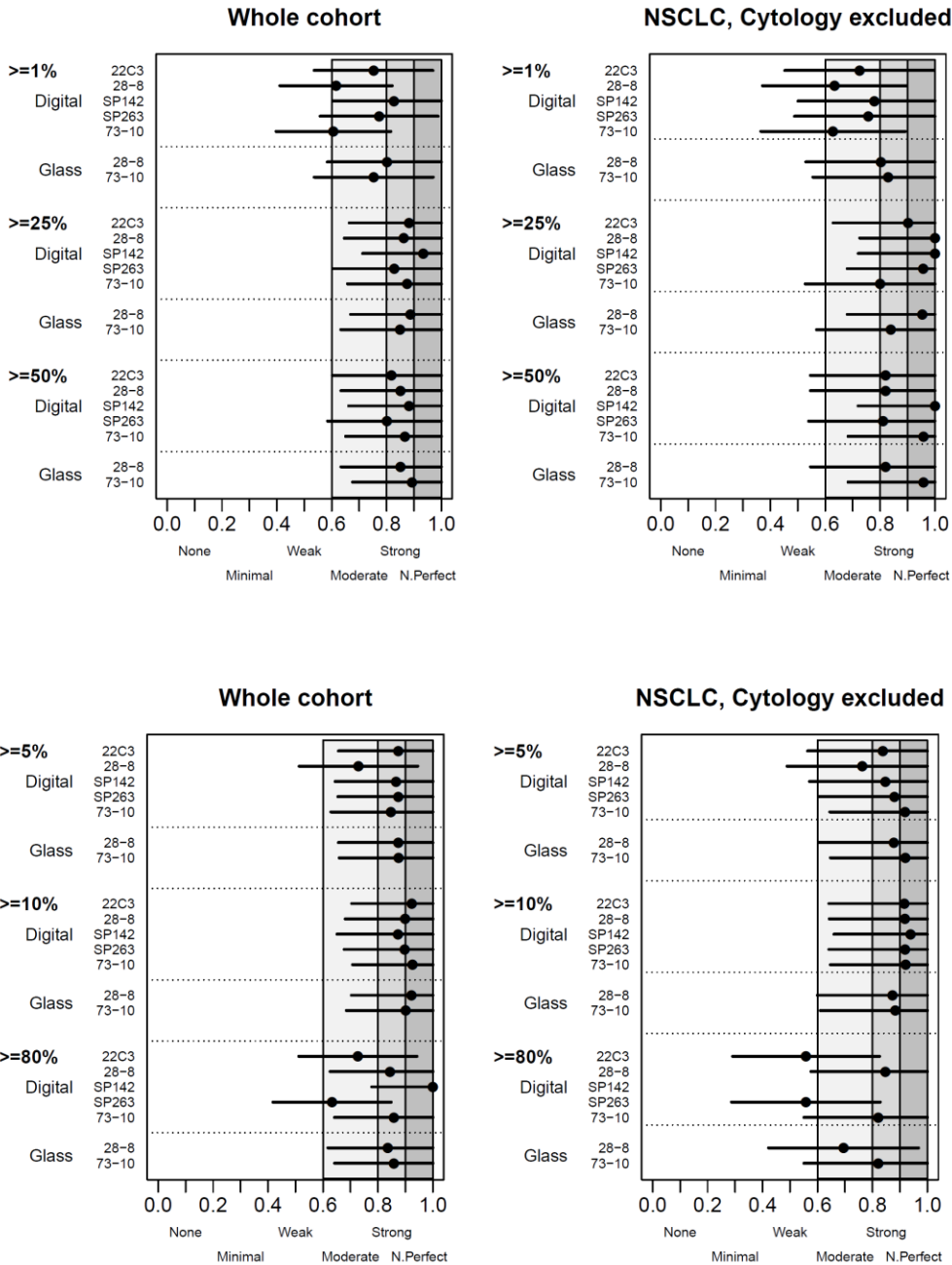
Supplemental Figure S1. Scoring PD-L1 expression on immune cells (IC) using the pattern algorithm



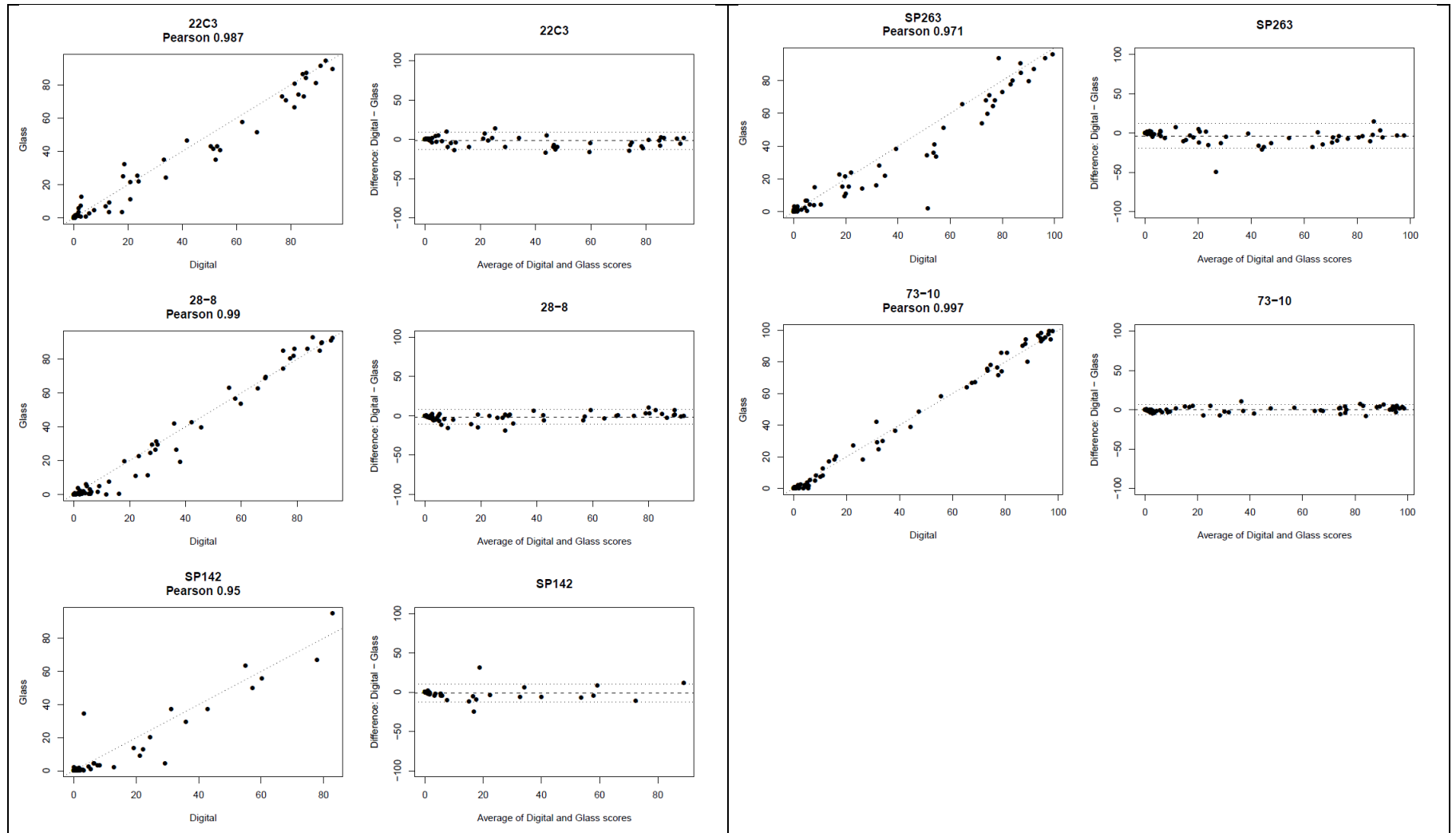
Supplemental Figure S2. Reliability of scoring tumor cells PD-L1 expression at additional cut-offs (5%, 10% and 80%), for digital and glass slide readings, respectively, and for all cases (whole cohort) or NSCLC only with cytology cases excluded.



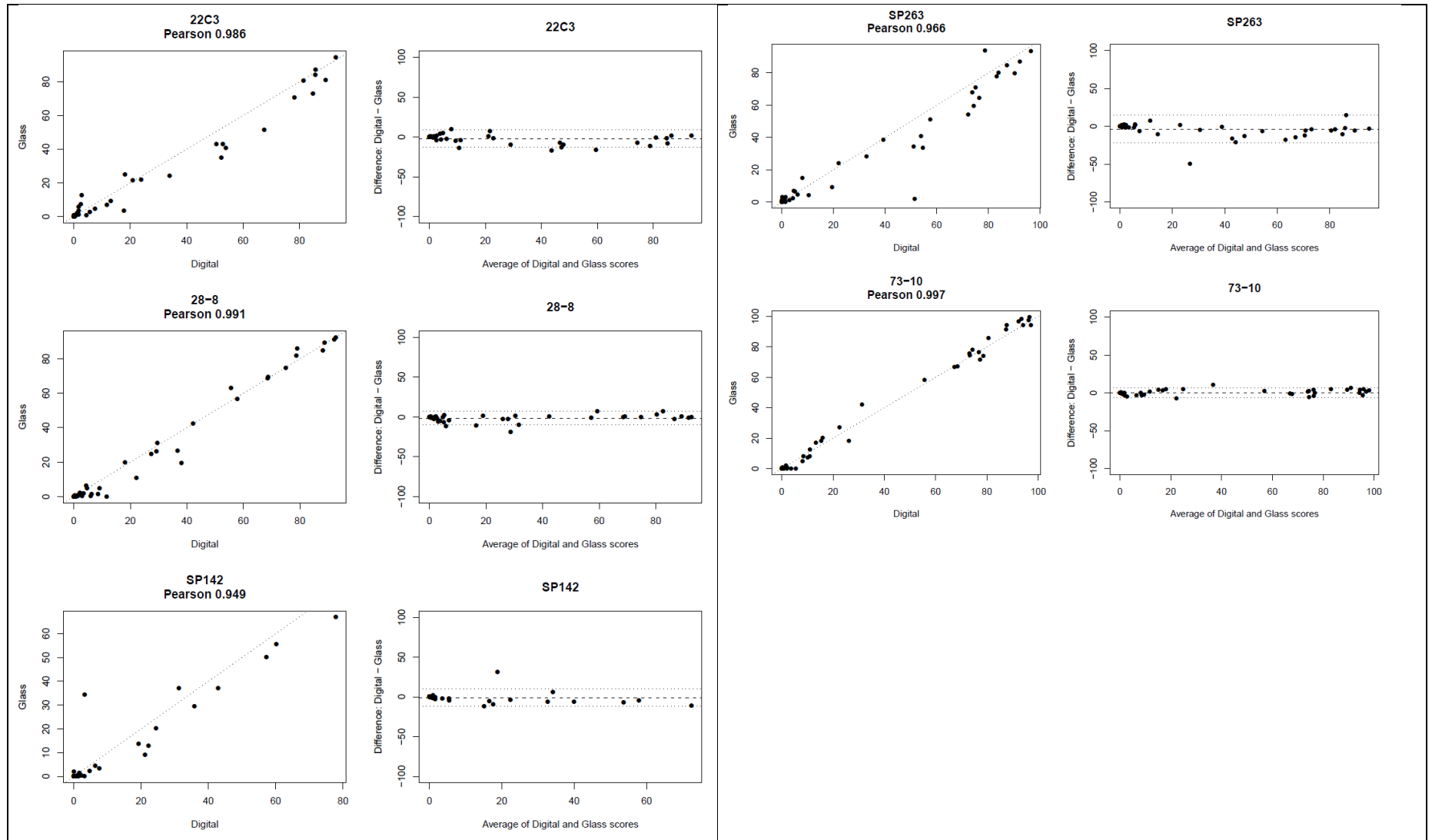
Supplementary Figure S3. Reliability of pathologists' scores on tumor cells PD-L1 expression compared to the trainer's scores, at different cut-offs (5%, 10% and 80%), for digital and glass slide readings, respectively, and for all cases (whole cohort) or NSCLC only with cytology cases excluded.



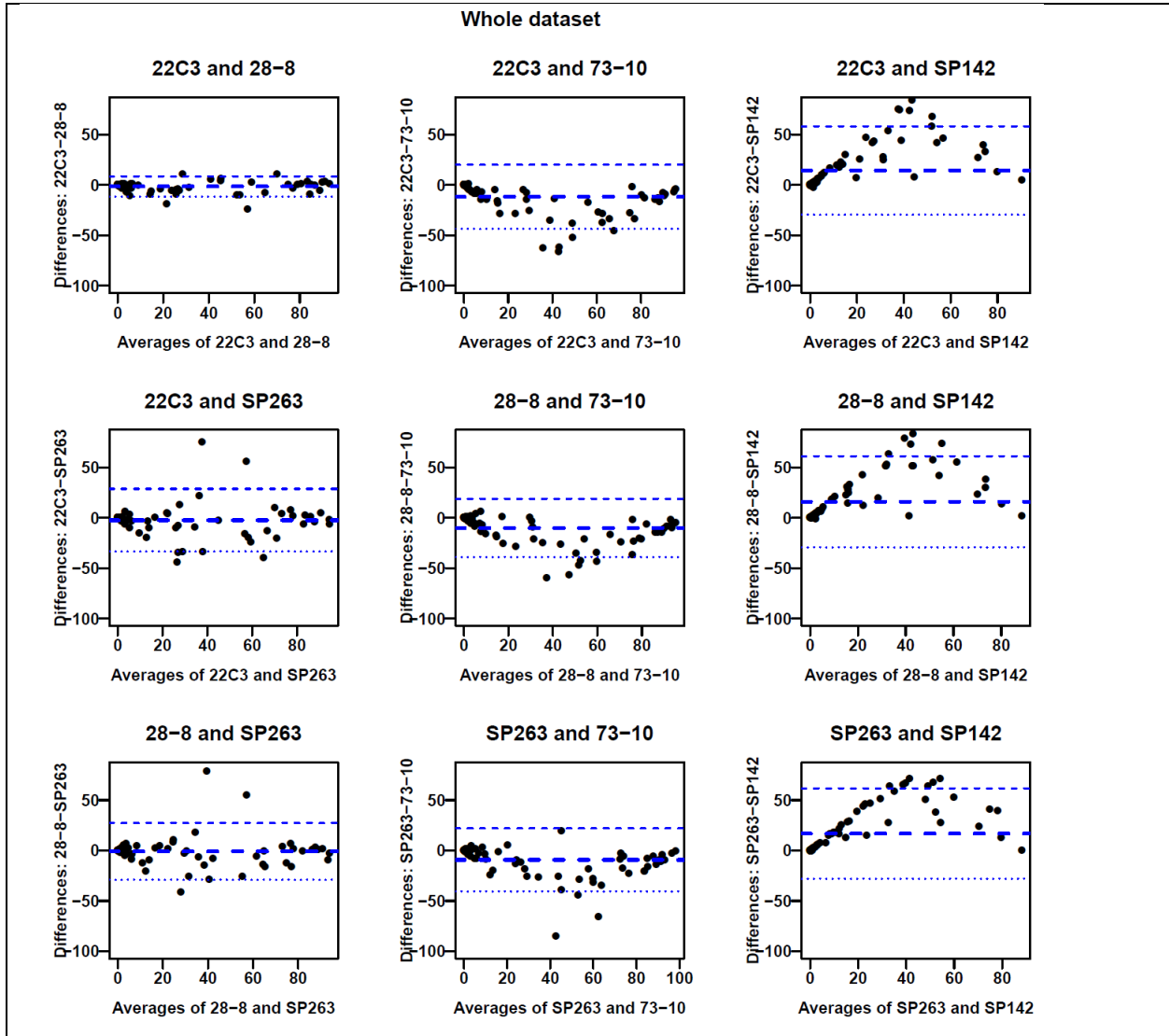
Supplementary Figure S4. Comparability of PD-L1 scoring using digital images versus microscopic glass slide readings and across all samples. For each assay, the results are shown using Pearson correlation plot (left) and Bland and Altman plot (right panel)



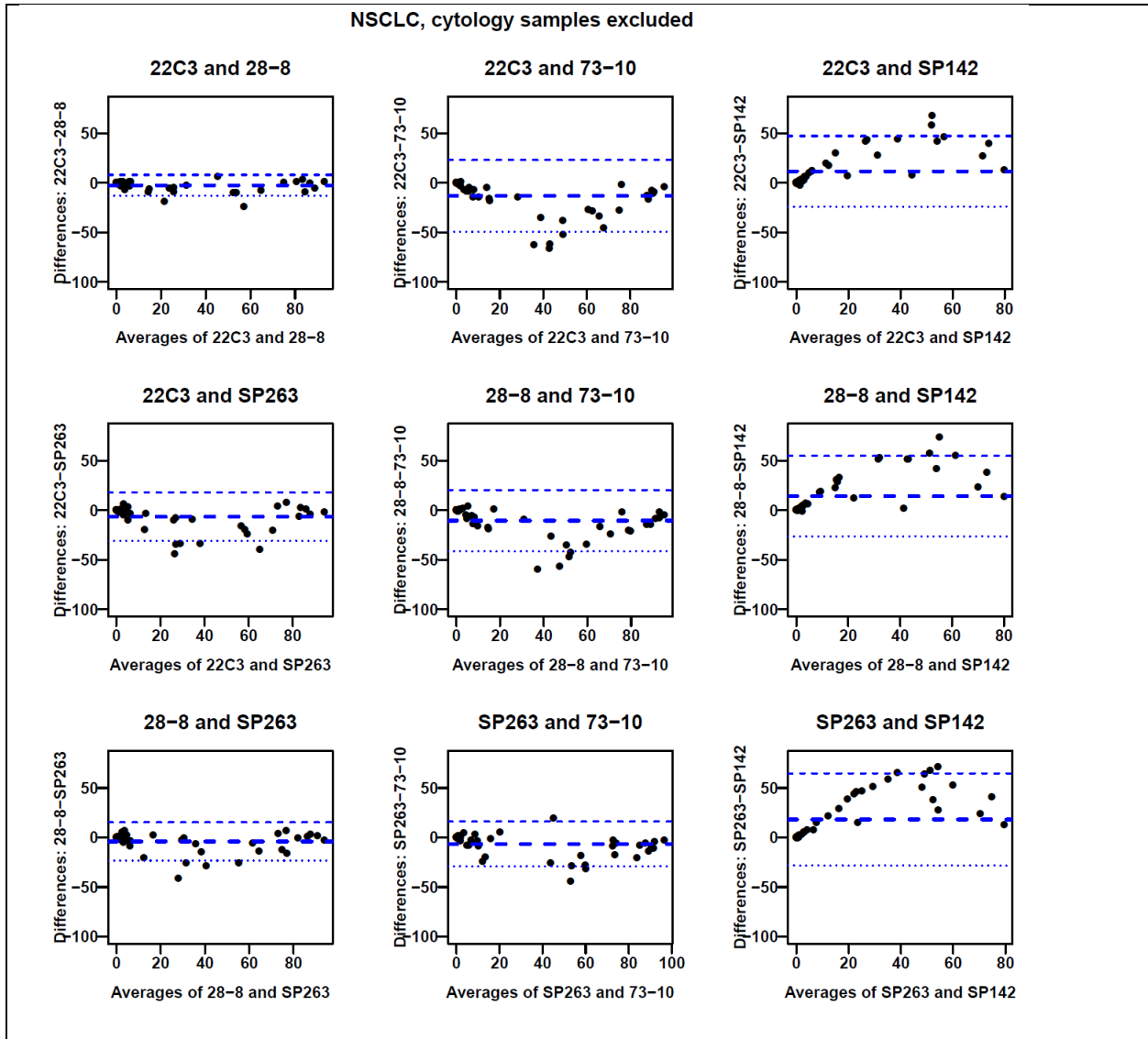
Supplementary Figure S5. Comparability of PD-L1 scoring using digital images versus microscopic glass slide readings and only tissue samples of non-small cell lung cancer cases (excluding cytology samples). For each assay, the results are shown using Pearson correlation plot (left) and Bland and Altman plot (right panel)



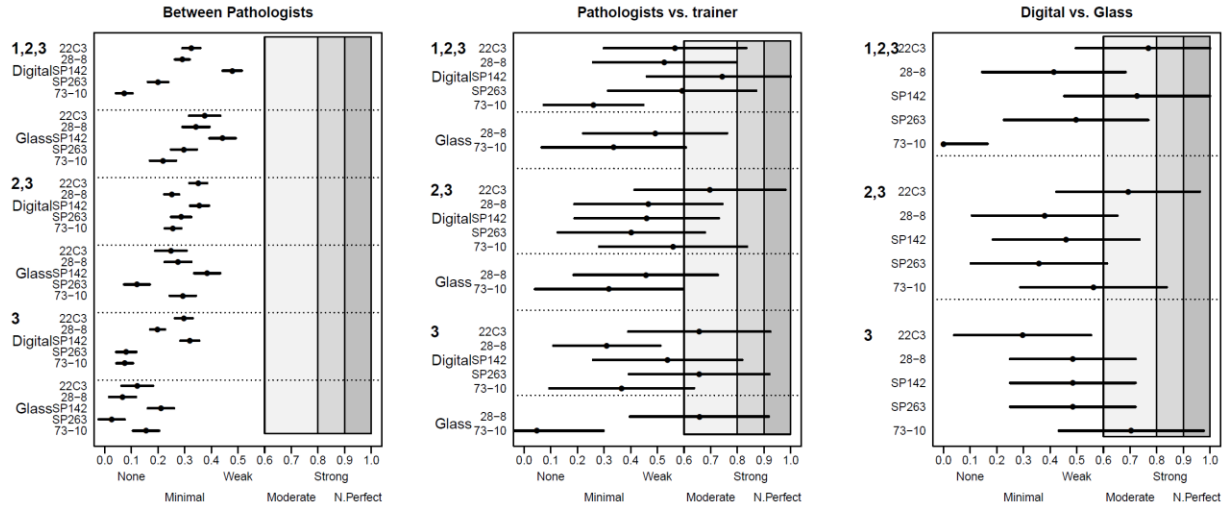
Supplemental Figure S6. Pair-wise comparison between assays using pooled (glass slide + digital) datasets and Altman and Bland statistical method and all available samples.



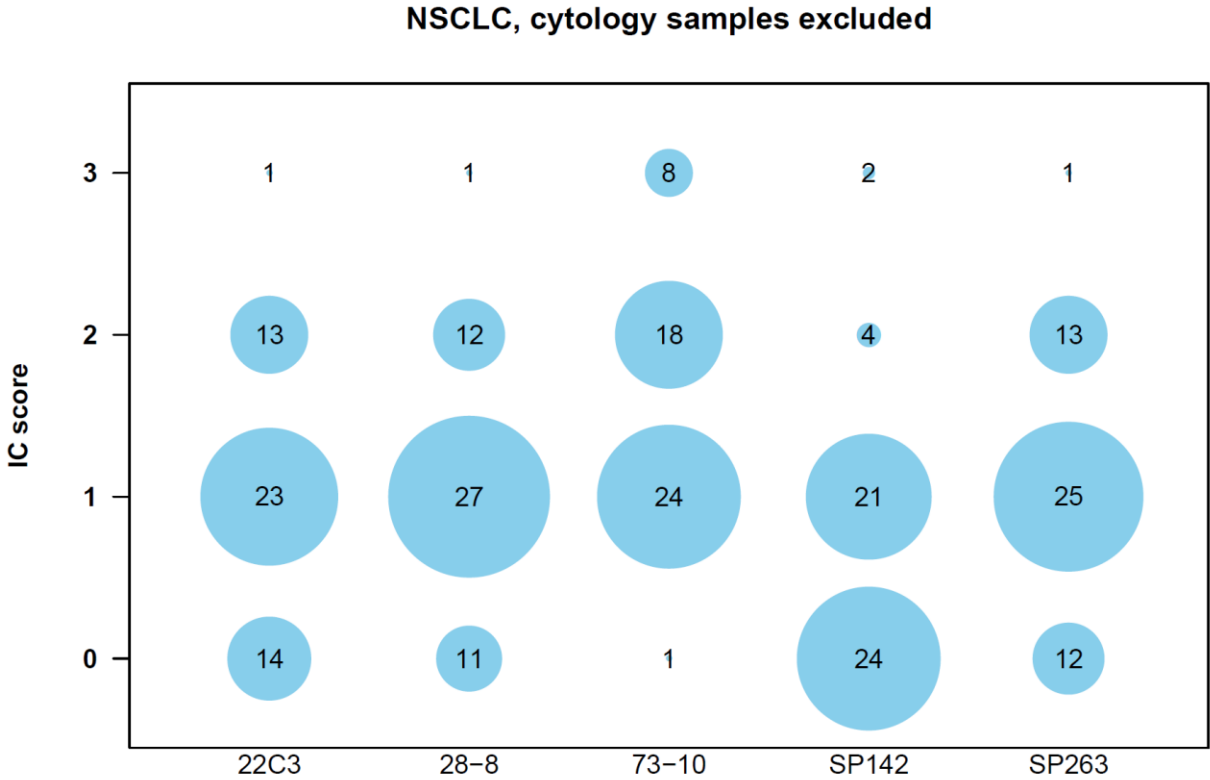
Supplemental Figure S7. Pair-wise comparison between assays using pooled (glass slide + digital) datasets and Altman and Bland statistical method and non-small cell lung cancer tissue only (excluding cytology and small cell carcinoma) samples.



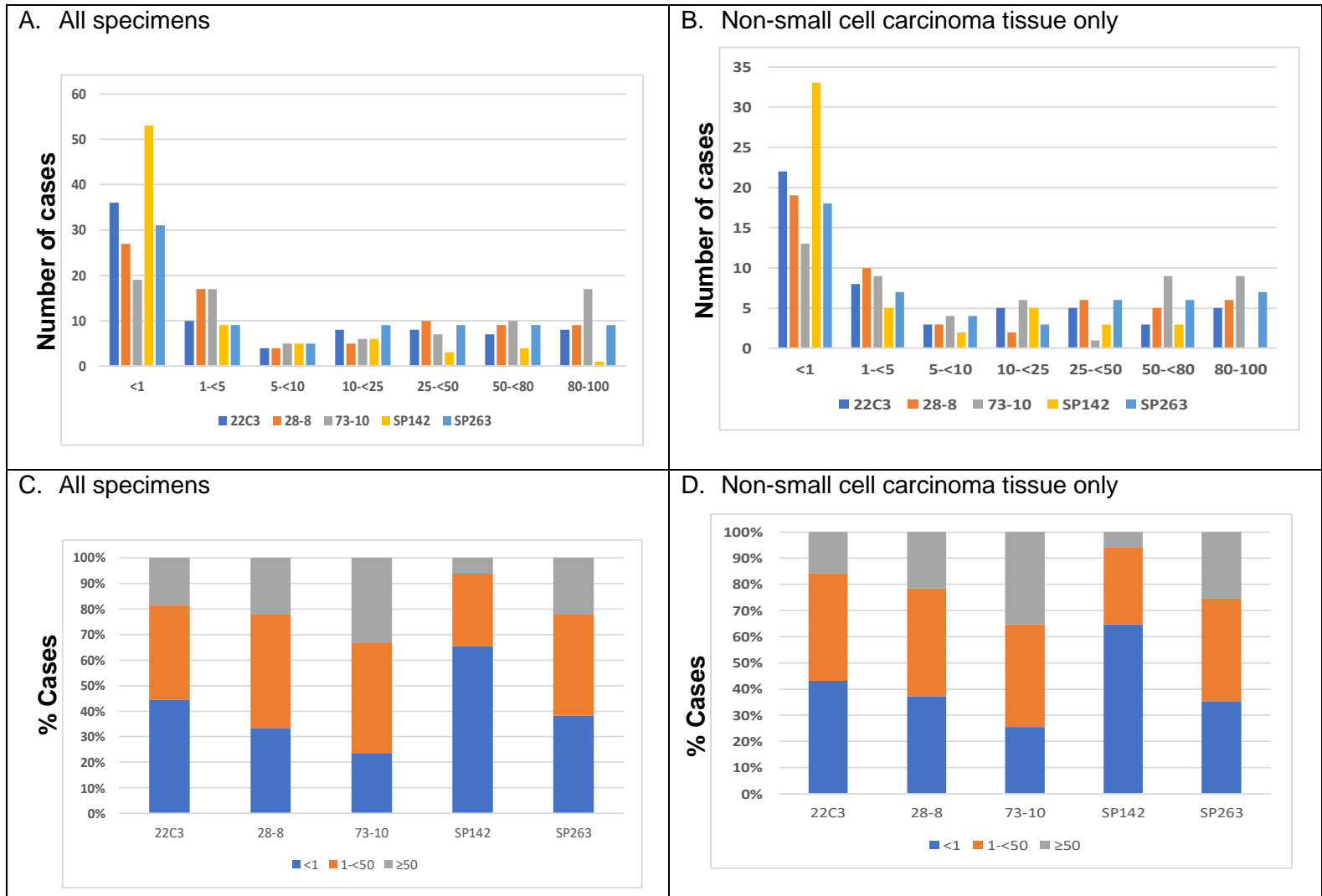
Supplementary Figure S8. Agreement of scoring immune cells PD-L1 expression for IC1,2,3, IC2,3 and IC3, for NSCLC tissue only samples, among all pathologists (including trainer), pathologists vs. trainer, and digital vs. glass slide scoring.



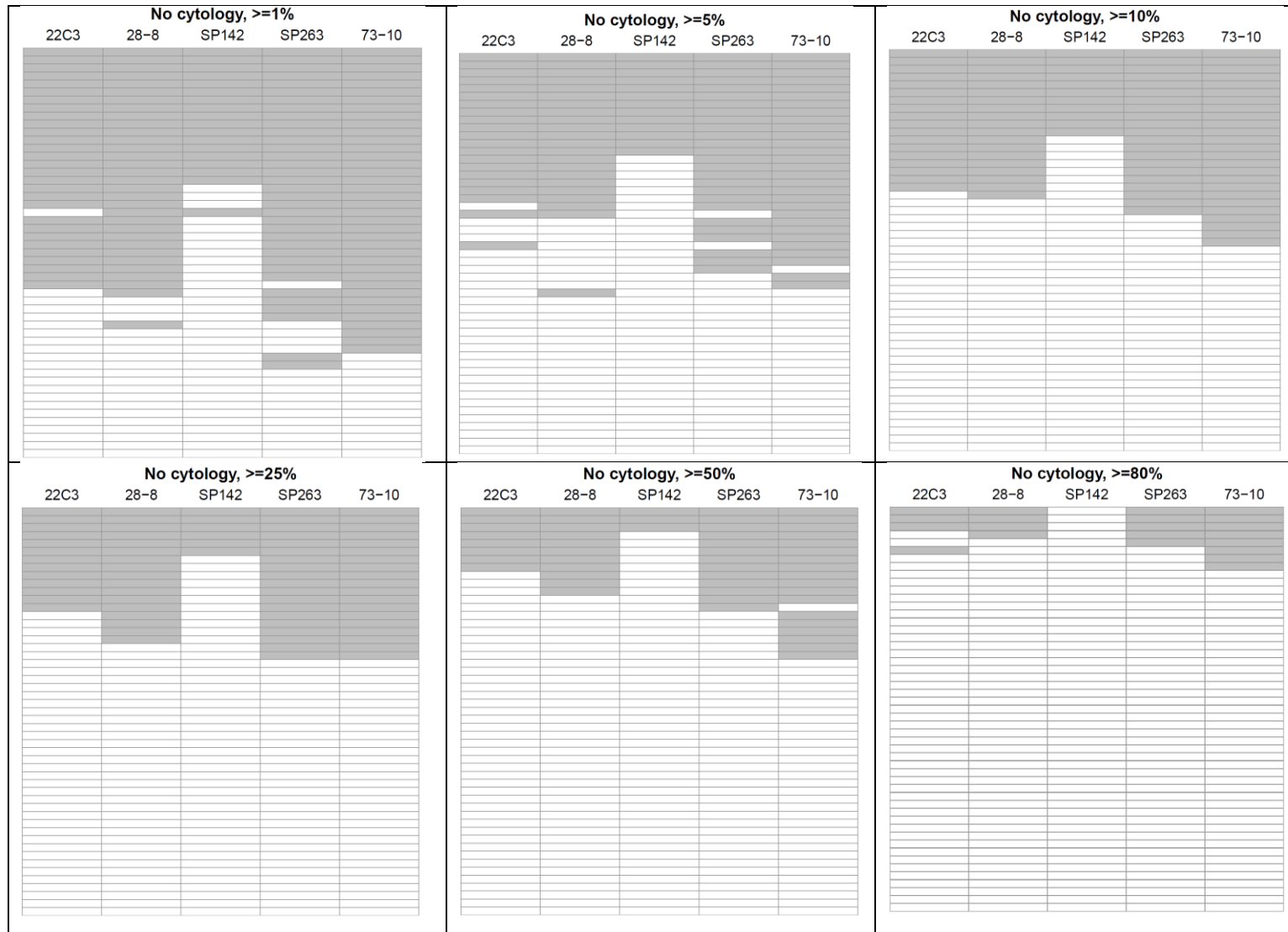
Supplemental Figure S9. Distribution of immune cell scores among 51 cases of non-cytology cases.



Supplemental Figure S10. Distribution of Blueprint 2 samples across PD-L1 expression landscape, using the mean tumor proportional score (TPS) of each assay to group the expression levels. (A) and (B): number of samples in each of 7 groups; (C) and (D): Percentage of tumors in 3 PD-L1 expression groups.



Supplemental Figure S11. Proportion of cases classified as “positive” (above) specific TPS cut-offs by the different assays. The data include only non-cytology cases.



Supplemental Table S1. Distribution of cases according to tumor histology and sample type

	Adeno	Squamous	NSCLC, NOS	Small cell	Total
Resection	10	7	0	4	21
Lymph node biopsy	8	6	1	3	18
Core/bronchial Biopsy	9	7	3	1	20
Cytology cell block	12	6	2	2	22
Total	39	26	6	10	81

Supplemental Table S2. Reliability (Fleiss-Kappa values) of scoring PD-L1 expression on immune cells among all pathologists (excluding trainer) for non-small cell lung cancer (NSCLC) tissue (biopsy/resected) cases, excluding cytology samples.

	Glass slide	Digital
22C3	0.15	0.21
28-8	0.17	0.13
SP-142	0.28	0.27
SP-263	0.11	0.11
73-10	0.11	0.08

Supplemental Table S3. Reliability (intraclass correlation coefficient) of scoring PD-L1 expression on tumor cells among all pathologists (excluding trainer) for non-small cell lung cancer cytology samples (n=20).

	Glass slide	Digital	Combined	Number of cases with mean TPS		
				≥1%	≥25%	≥50%
22C3	0.89	0.91	0.90	13	9	6
28-8	0.87	0.77	0.81	17	9	6
SP-142	0.92	0.74	0.80	8	2	2
SP-263	0.82	0.82	0.81	14	7	5
73-10	0.87	0.84	0.85	19	13	8
All assays	0.78	0.85	0.90	-	-	-