BD® OMICS-One Protein Panels

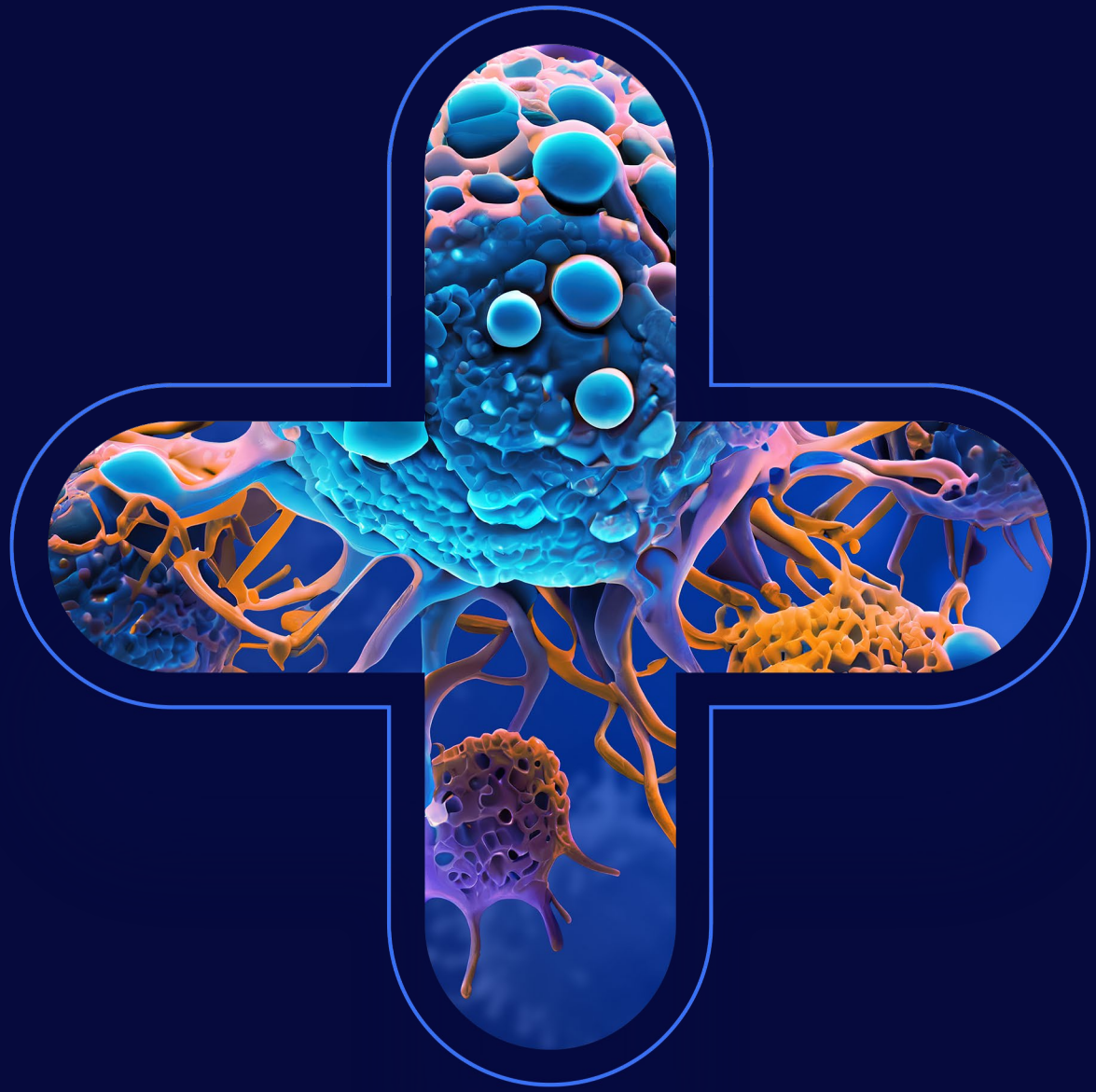
The power of RNA + protein without the high cost and complexity

BD

BD® OMICS-One Protein Panels for CITE-seq

CITE-seq helps to unlock deeper insights about your samples and can reveals novel cell types and different cell states.

We offer a complete CITE-seq solution with a streamlined sample-to-data workflow. Now with predesigned BD® OMICS-One Protein panels, CITE-seq on the BD Rhapsody™ System is even more accessible.



BD® OMICS-One Protein Panels

Focused: Pretitrated lyophilized panels to stain up to 2 million cells for your immunology discovery research

Flexible: Each panel is compatible with other BD® OMICS-One Protein Panels or drop-ins from our growing library of more than 470 single-vial BD® AbSeq Antibody-Oligo Reagents

Multiomics enabled: Optimized to work with single-cell RNA-seq assays for multiomic studies

SMART: Designed to lower your sequencing cost without compromising sensitivity*

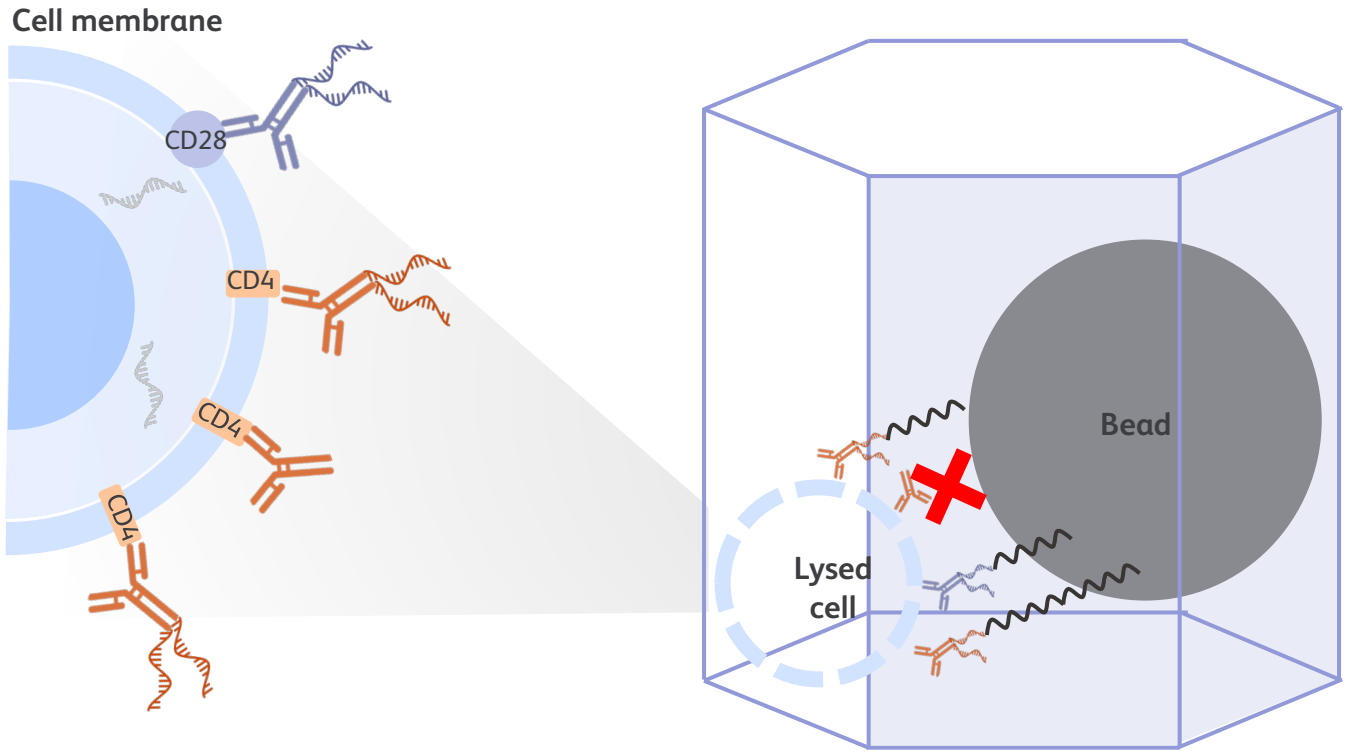
Intuitive: Supported by the free BD Cellismo™ Data Visualization Tool for data analysis, which requires no bioinformatics expertise or coding experience

*BD® OMICS-One Immune Profiler Protein Panel is not designed with SMART technology

Manage sequencing costs and improve sensitivity with SMART panel design

SMART panel design helps lower sequencing costs while increasing data resolution utilizing carefully selected, pretitrated concentrations of antibody-oligos (SMART-titrated antibodies) against abundant primary markers and allowing re-allocation of sequencing reads to markers expressed at lower levels.

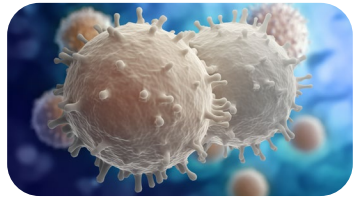
With SMART panel design, now low-expression markers can be quantified without having to do deeper sequencing and incurring high sequencing costs.



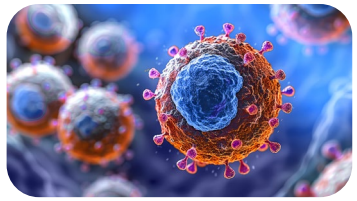
More NGS sequencing reads allocated to low expressors

Available panels

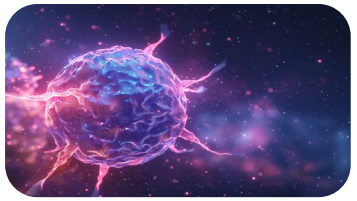
Modular panels



T-Cell Protein Panel



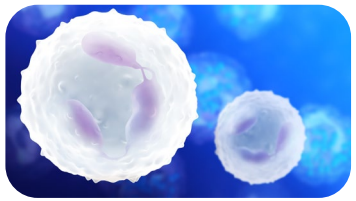
B-Cell Protein Panel



Tumor Protein Panel

NEW

Focused integration panels



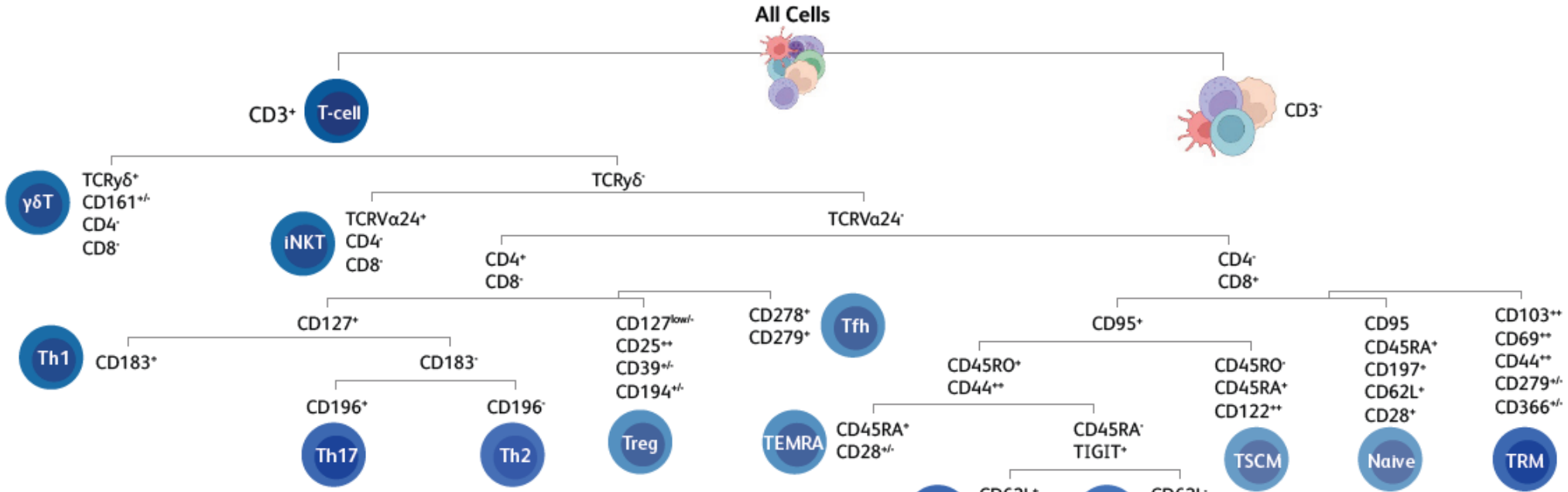
Adaptive Protein Panel

Immuno-Oncology Protein Panel

NEW

BD® OMICS-One T-Cell Protein Panel

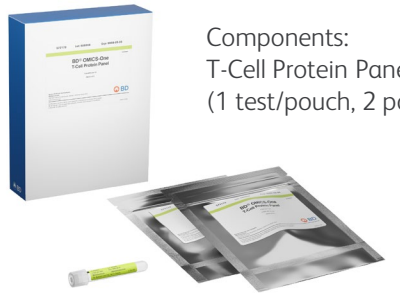
Explore T-cell populations and their activation and suppressed states



Target for SMART panel design	Symbols	Activating receptors	Inhibitory receptors
CD4	Positive expression: + or ++	CD134	CD154
CD44	Low or negative expression: –	CD 137	CD223

T-cell populations and activation states monitored by this panel.

BD® OMICS-One T-Cell Protein Panel specificities



Components:
T-Cell Protein Panel
(1 test/pouch, 2 pouches)

Specificity	Clone
CD3	UCHT1
CD4*	SK3
CD8	SK1
CD25	2A3
CD28	L293
CD44*	L178
CD45RO	UCHL1
CD45RA	HI100
CD69	FN50
CD62L	DREG-56

Specificity	Clone
CD95	DX2
CD103	BER-ACT8
CD127	HIL-7R-M21
CD134	ACT35
CD137	4B4-1
CD154	TRAP1
CD161	HP-3G10
CD183	1C6/CXCR3
CD194	1G1
CD196	11A9

Specificity	Clone
CD197	2-L1-A
CD223	T47-530
CD272	J168-540
CD278	DX29
CD279	EH12.1
CD357	V27-580
CD366	7D3
TCRγ/δ	11F2
TCR Vα24-Jα18	6B11
TIGIT	TgMab-2

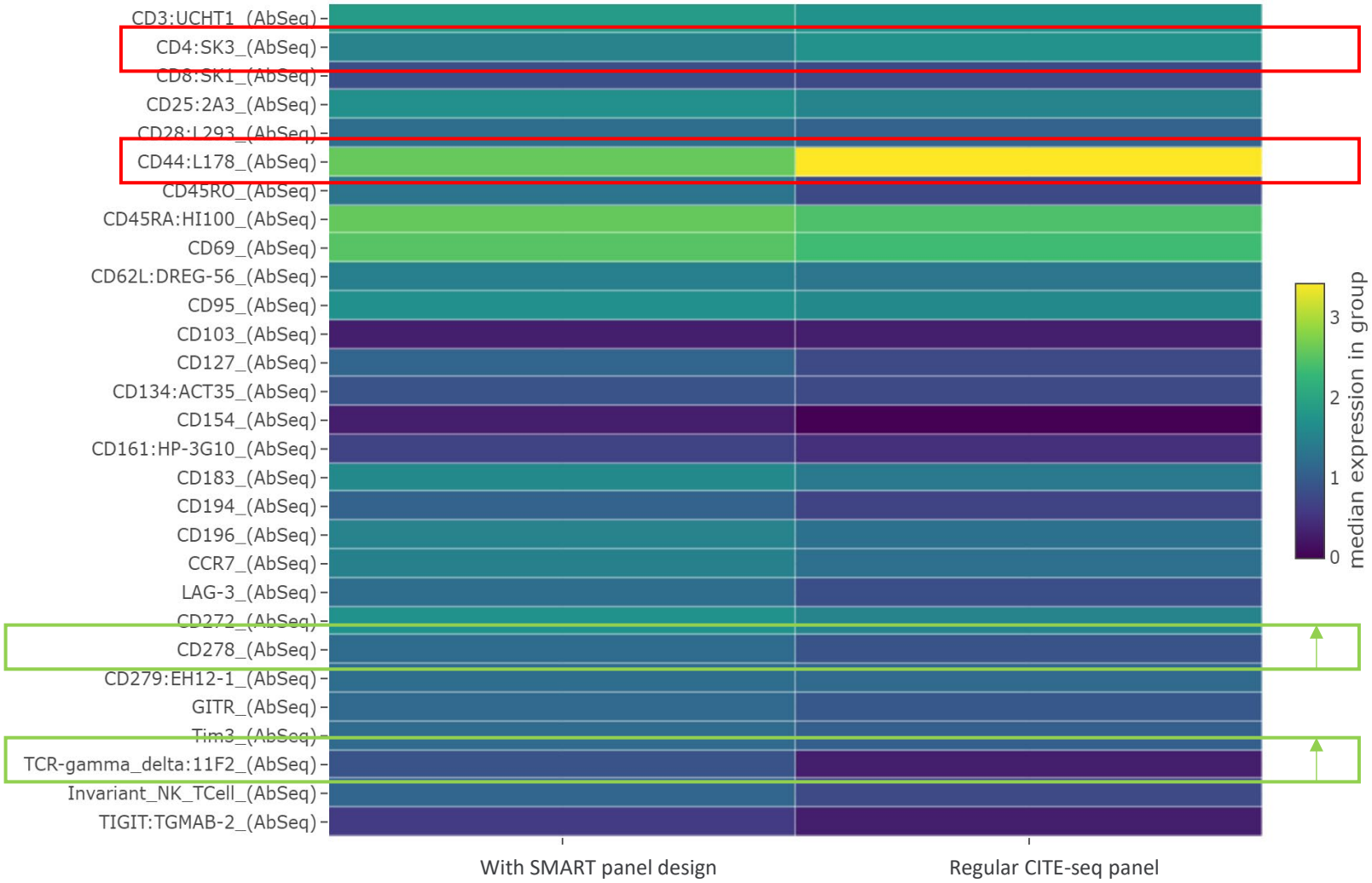
*Targets for SMART panel design

Fewer sequencing reads consumed by CD4 and CD44 and more reads allocated to lowly expressed markers

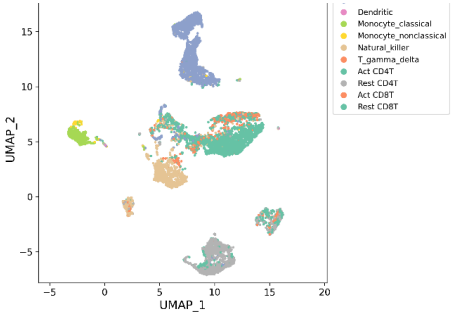
Percent of Total Sequencing Reads Consumed		
Markers	Without SMART panel design	With SMART panel design
Reduction of sequencing reads allocated to primary markers ▼		
CD4	5.92	4.07
CD44	46.10	8.70
Read re-allocation to lowly expressed markers ▲		
CD3	2.30	4.25
CD8	0.98	1.59
CD25	3.72	7.52
CD45RO	0.87	1.48
CD45RA	3.88	9.17
CD69	9.50	19.07
CD62L	1.35	2.61
CD95	1.18	1.86
CD127	0.61	1.10
CD137	1.64	3.14
CD197	0.91	1.76
CD223	0.78	1.71

Percent of Total Sequencing Reads Consumed		
Markers	Without SMART panel design	With SMART panel design
CD279	1.77	2.67
CD366	1.80	3.39
CD103	0.23	0.46
CD134	0.88	1.28
CD154	0.15	0.29
CD161	0.38	0.64
CD183	4.87	4.15
CD194	1.94	3.79
CD196	2.65	4.16
CD272	1.72	3.34
CD278	0.65	1.33
CD28	0.95	1.68
CD357	0.57	1.23
TCR Vα24-Jα18	0.86	1.93
TCRγ/δ	0.34	0.79
TIGIT	0.38	0.74

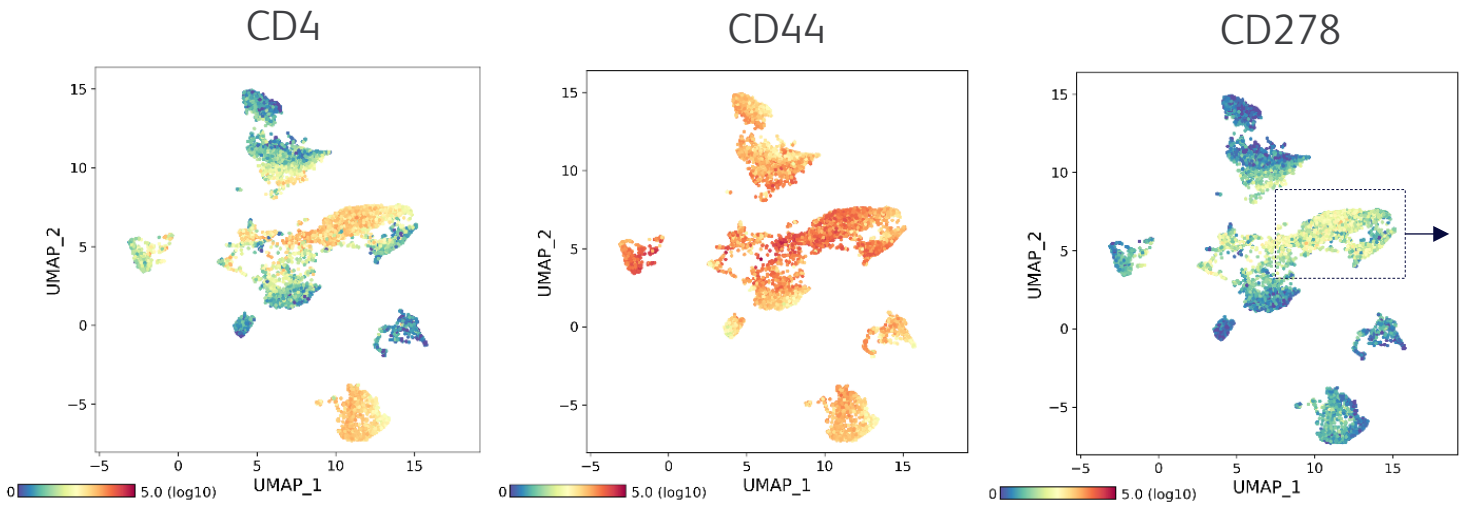
Increased AbSeq molecule detection of low expressors

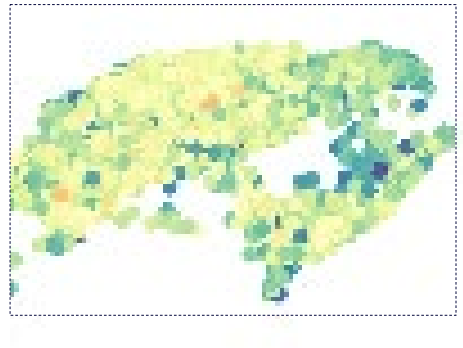


CD4 and CD44 detection is not compromised, while better resolution of low expressors is found with SMART panel design

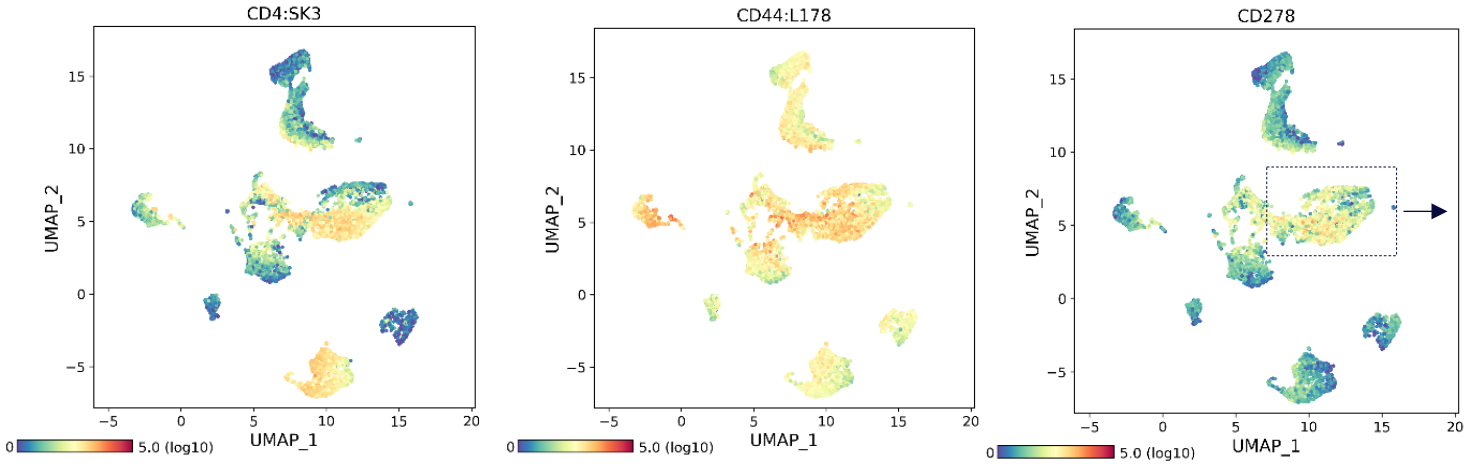


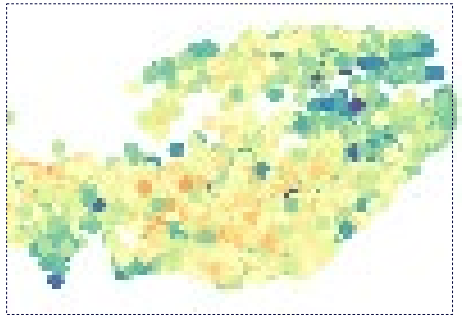
Without SMART panel design



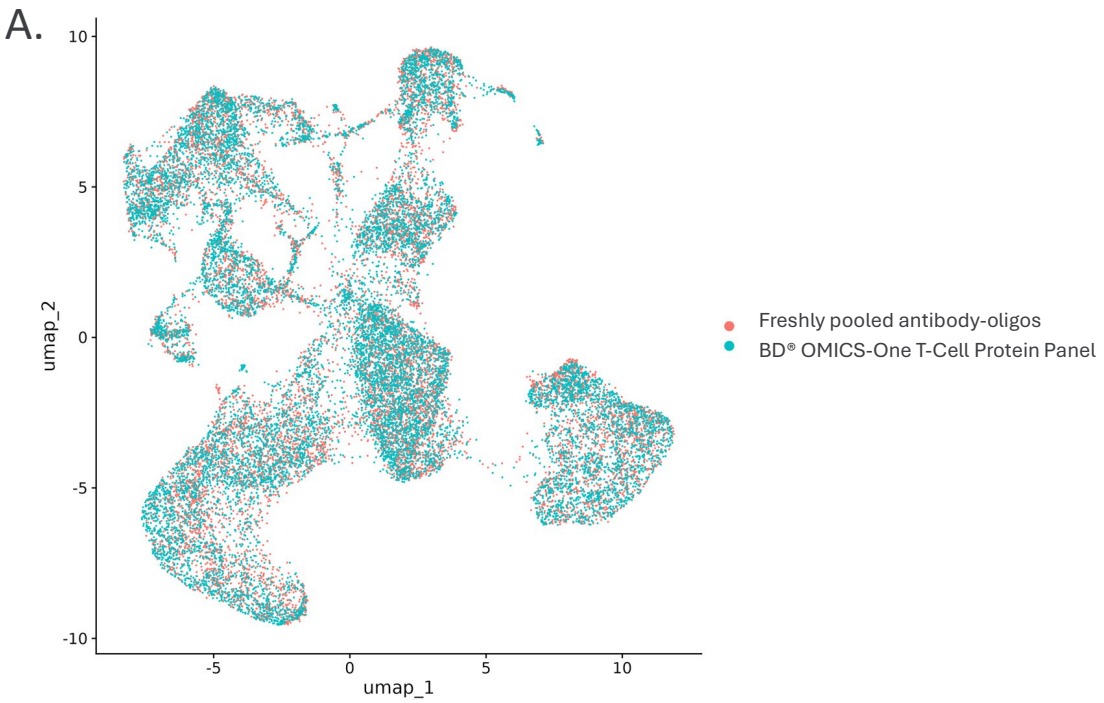


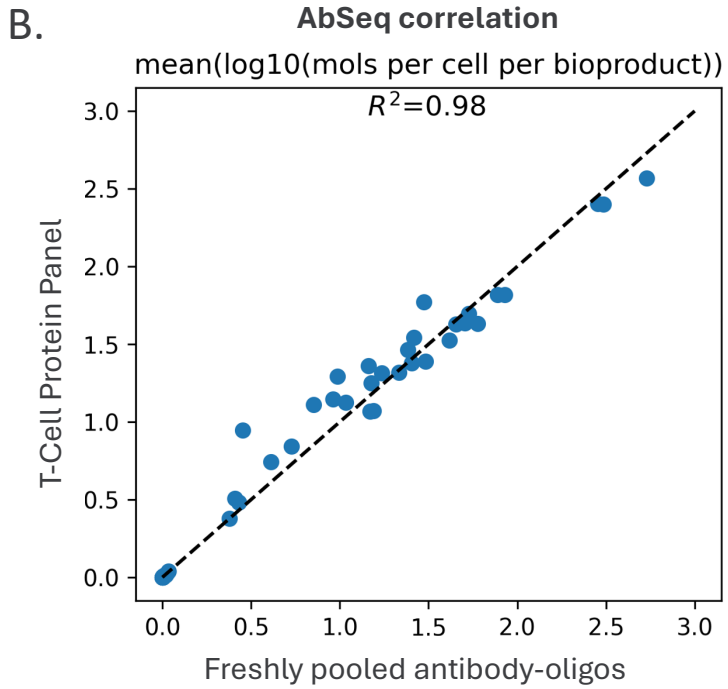
With SMART panel design





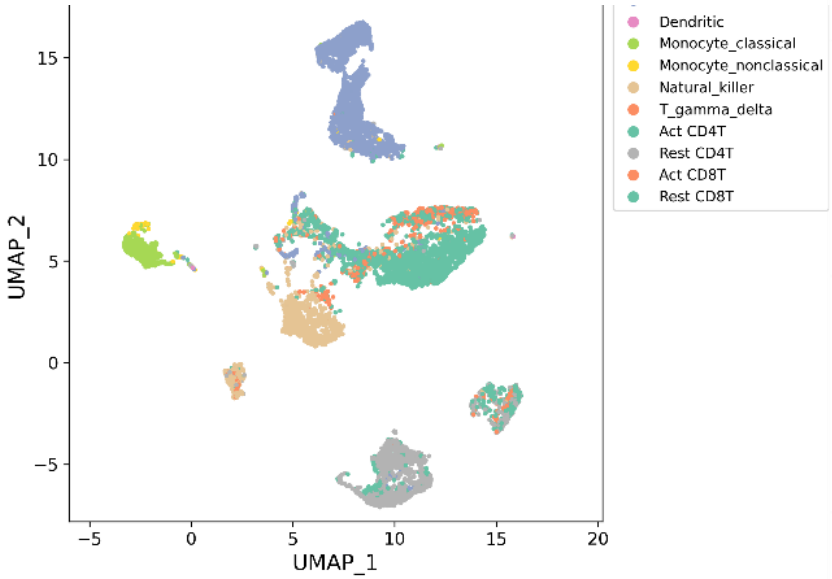
Comparable performance of the lyophilized panel to freshly pooled BD® AbSeq Antibody-Oligo Reagents



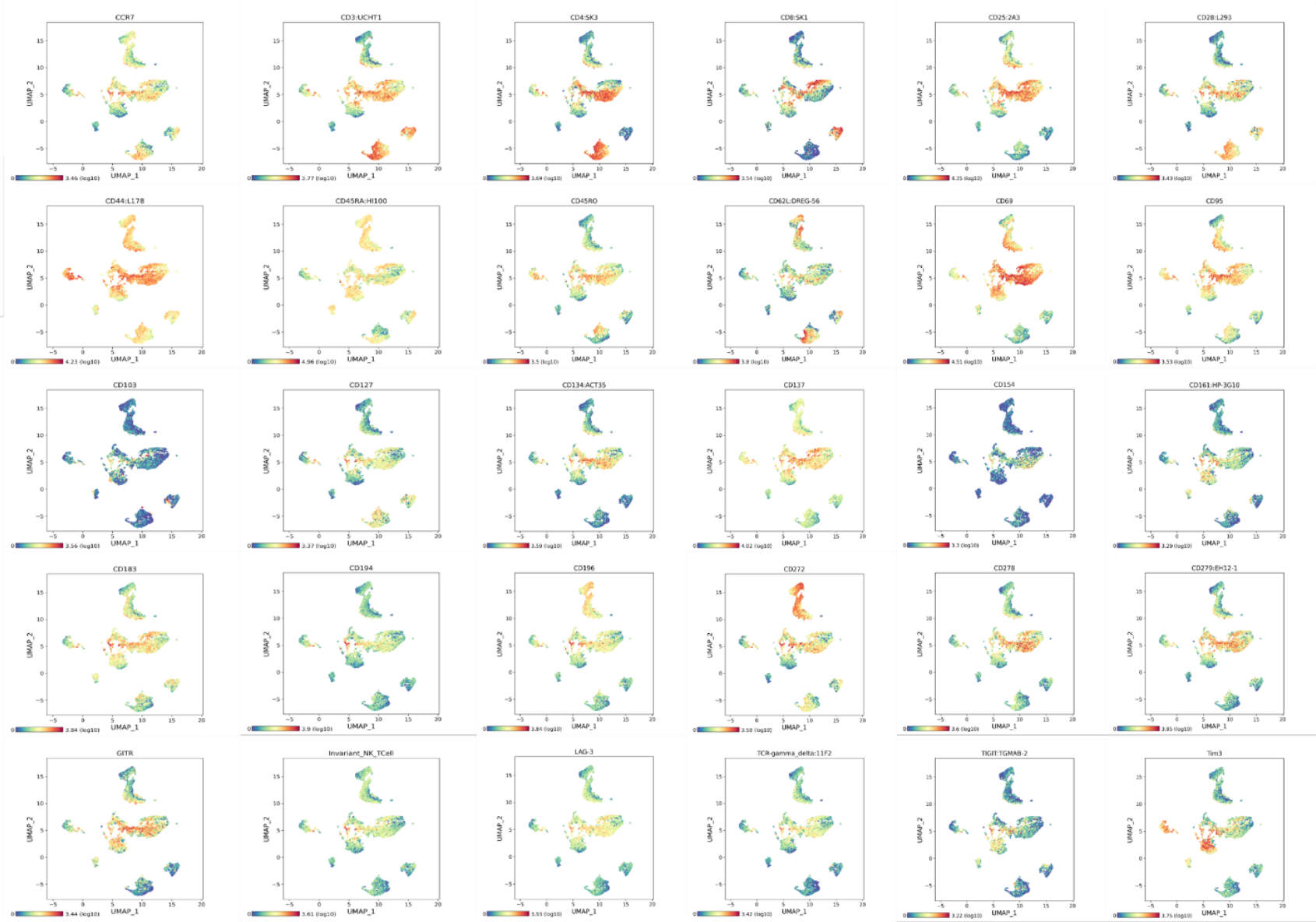


Detect 30 critical T-cell markers in your samples with confidence

A.

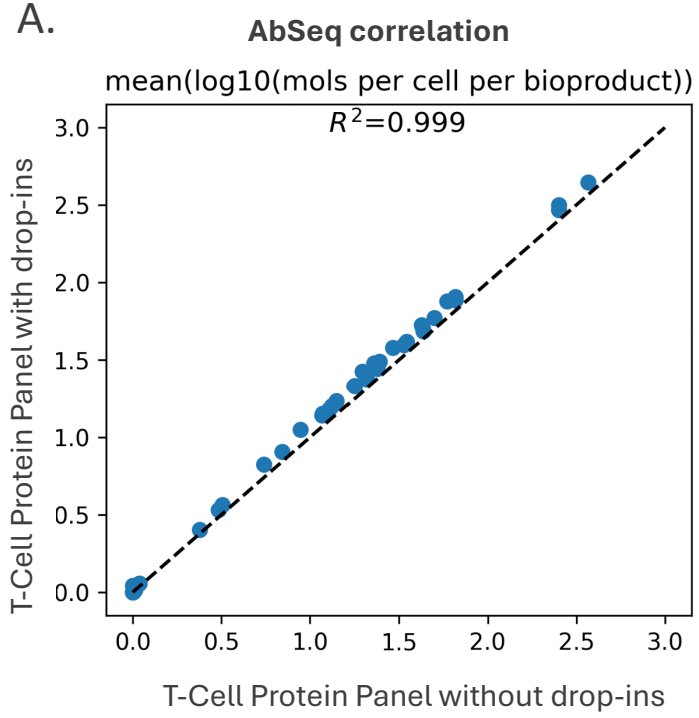


B.

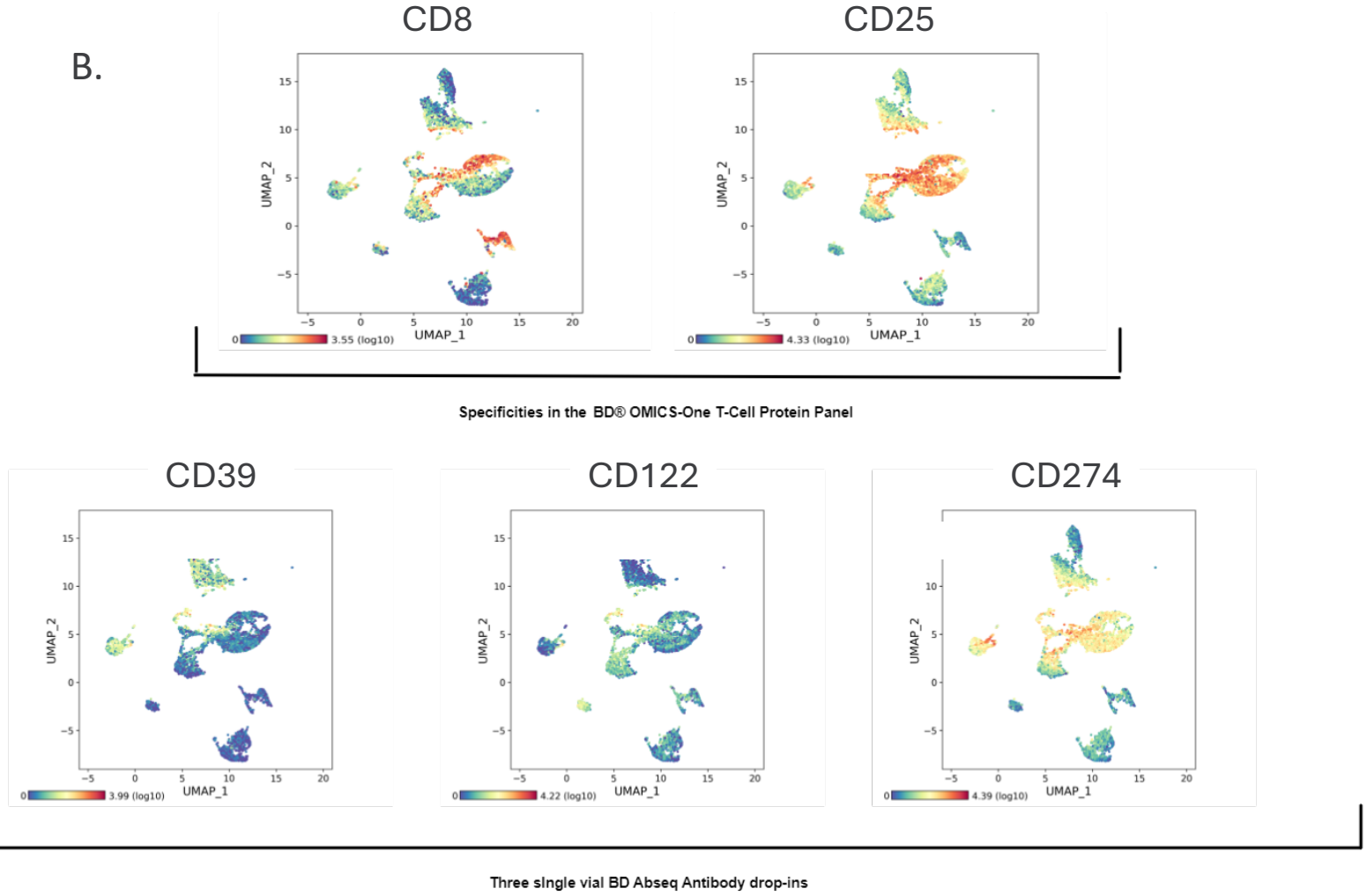


Flexible: Add additional specificities of interest to the BD® OMICS-One T-Cell Protein Panel without compromising performance

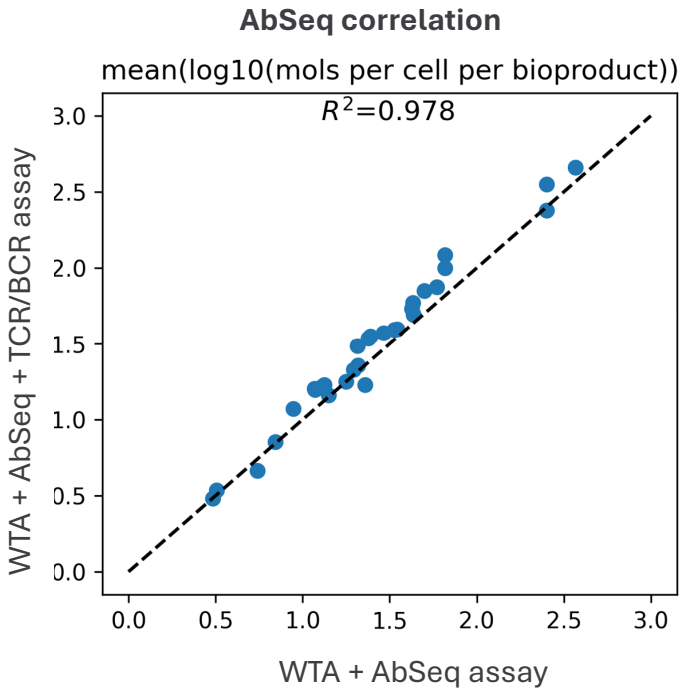
A.



B.



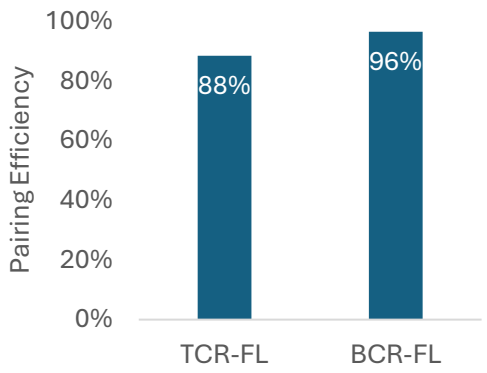
Multiomics enabled: The BD® OMICS-One T-Cell Protein Panel is designed to work with whole transcriptome and TCR/BCR profiling assays



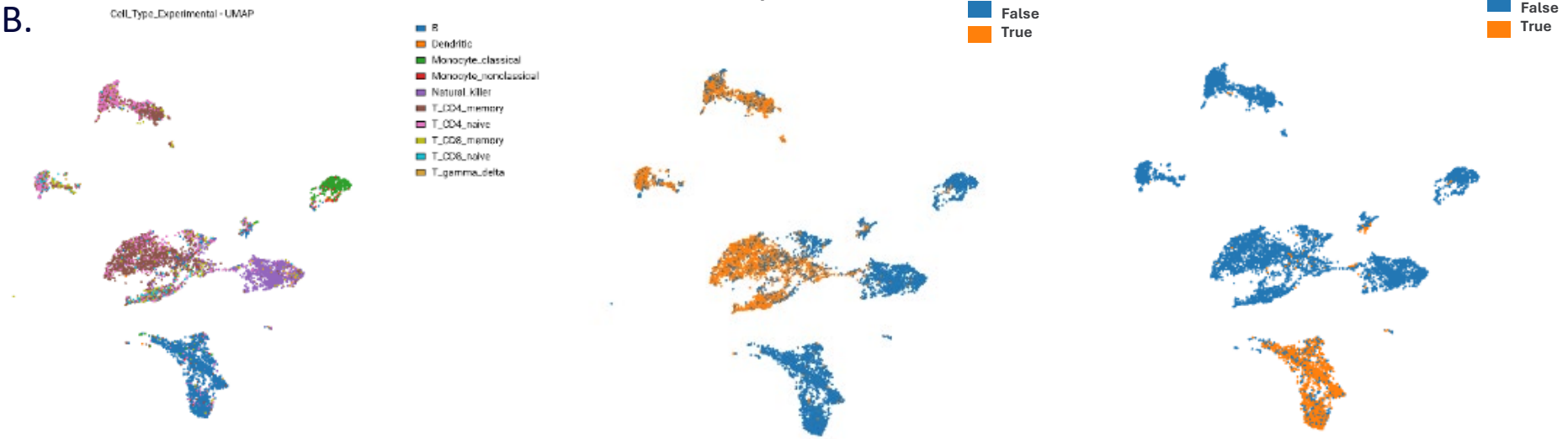
The addition of the BD Rhapsody™ TCR/BCR Next Assay does not impact BD® OMICS-One T-Cell Protein Panel performance

Multiomics enabled: The BD® OMICS-One T-Cell Protein Panel is designed to work with whole transcriptome and TCR/BCR assays

A.



B.



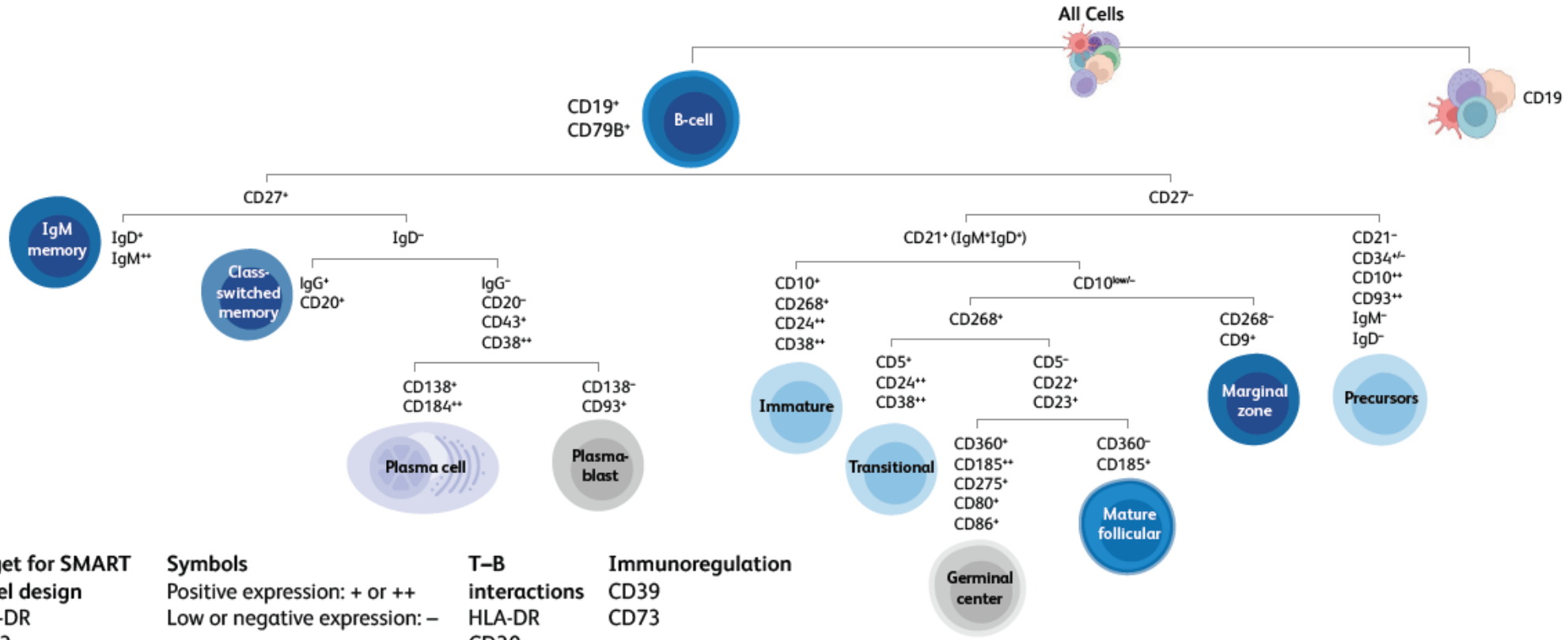
C.

●FWR1 ●CDR1 ●FWR2 ●CDR2 ●FWR3 ●CDR3 ●FWR4

Cell Index	TCR Chain	VDJ Translation Trimmed
1057	TCR_Alpha	AQTVTQSQPEMSVQEAETVTLSCTYDTSENNYYLFWYKQPPSRQMILVIRQEAYKQQNATENRFSVNFQKAAKSFSLKISDSQLGDTAMYFCALPGSENNDMRFGAGTRLTVKP
1057	TCR_Beta	NAGVTQTPKFRILKIGQSMTLQCTQDMNHNYMYWYRQDPGMGLKLIYYSVGAGITDKGEVPNGYNVSRSTTEDFPLRLELAAPSQTSVYFCASSYVGRGYTFGSGTRLTVV
6784	TCR_Alpha	GQNIDQPTEMTATEGAIVQINCTYQ TSGFNGLFWYQQHAGEAPTFLSYNVLDGLEEKGRFSSFLSRSKGYSYLLLKELQMKDSASYLCAVKGSYIPTFGRGTSLIVHP
6784	TCR_Beta	DAGVIQSPRHEVTEMGQEVTLRCKPISGHNSLFWYRQTMMRGLELLIYFNNNVPIDDSGMPEDRFSAKMPNASFSTLKIQPSEPRDSAVYFCASTFRTGGPETQYFGPGTRLLVL
23618	TCR_Delta	AIELVPEHQTVPVSIGVPATLRCSMKGEAIGNYYINWYRKTQGNTMTFIYREKDIYGPGFKDNFQGDIDIAKNLAVLKILAPSERDEGSYYCACDTATGGRSSWDTRQMFFGTGIKLFVEP
23618	TCR_Gamma	AGHLEQPQISSTKTLSKTARLECVVSGITISATSVYWYRERPGEVIQFLVSISYDGTVRKESGIPSGKFEVDRIPETSTSTLTIHNVEKQDIATDYCALWEVRGYYKKFFG
39145	TCR_Alpha	DAKTTQPPSMDCAEGRAANLPCNHSTISGNEYVYWYRQIHSQGPQYIIHGLKNNETNEMASLIITEDRKSSTLILPHATLRDTAVYYCIVRLERGGSNYKLTFGKGTLLTVNP
39145	TCR_Beta	NAGVTQTPKFRVLKTGQSMTLLCAQDMNHEYMYWYRQDPGMGLRLIHYSVGEGTTAKGEVPDGYNVSRLKKQNFLLGLESAAPSQTSVYFCASRFGSGNTIYFGEGSWLTVV
44437	TCR_Alpha	DQQVKQNSPSLSVQEGRIFYSEL*LYQHV*LPMVQKIPC*RSYIPDIKFH*G**RWKIHCFLKQKCQAPLSAHCALPAWRLCSVLLSKQ*HAWSRDQTDSKT
44437	TCR_Beta	DTGVSQDPRHKITKRGQNVTFRCDPISEHNRLYWYRQTLGQGPEFLTYFQNEAQLEKSRLLSDRFSAERPKGSFSTLEIQRTEQGDSAMYLCASSSVGFTETQYFGPGTRLLVL

BD® OMICS-One B-Cell Protein Panel

Explore B-cell populations and their activation and suppressed states



Target for SMART panel design
HLA-DR
CD23

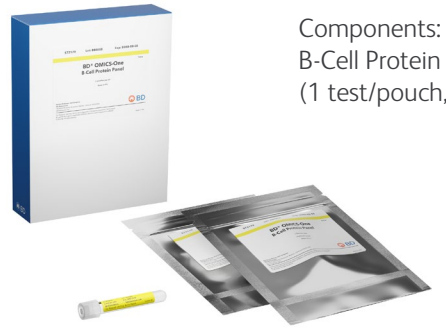
Symbols
Positive expression: + or ++
Low or negative expression: –

T–B interactions
HLA-DR
CD30
CD40
CD95
CD126

Immunoregulation
CD39
CD73

B-cell populations and activation states monitored by this panel.

BD® OMICS-One B-Cell Protein Panel specificities



Components:
B-Cell Protein Panel
(1 test/pouch, 2 pouches)

Specificity	Clone
CD1d	CD1d42
CD5	UCHT2
CD9	M-L13
CD10	HI10A
CD19	SJ25C1
CD20	2H7
CD21	B-LY4
CD22	HIB22
CD23	EBVCS-5
CD24	ML5

Specificity	Clone
CD27	M-T271
CD30	BERH8
CD34	581
CD38	HB7
CD40	5C3
CD43*	1G10
CD73	AD2
CD79b	CB3-1
CD80	L307.4
CD95	DX2

Specificity	Clone
CD126	M5
CD138	MI15
CD184	12G5
CD185	RF8B2
CD268	11C1
CD275	2D3/B7-H2
HLA-DR*	G46-6
IgD	IA6-2
IgG	G18-145
IgM	G20-127

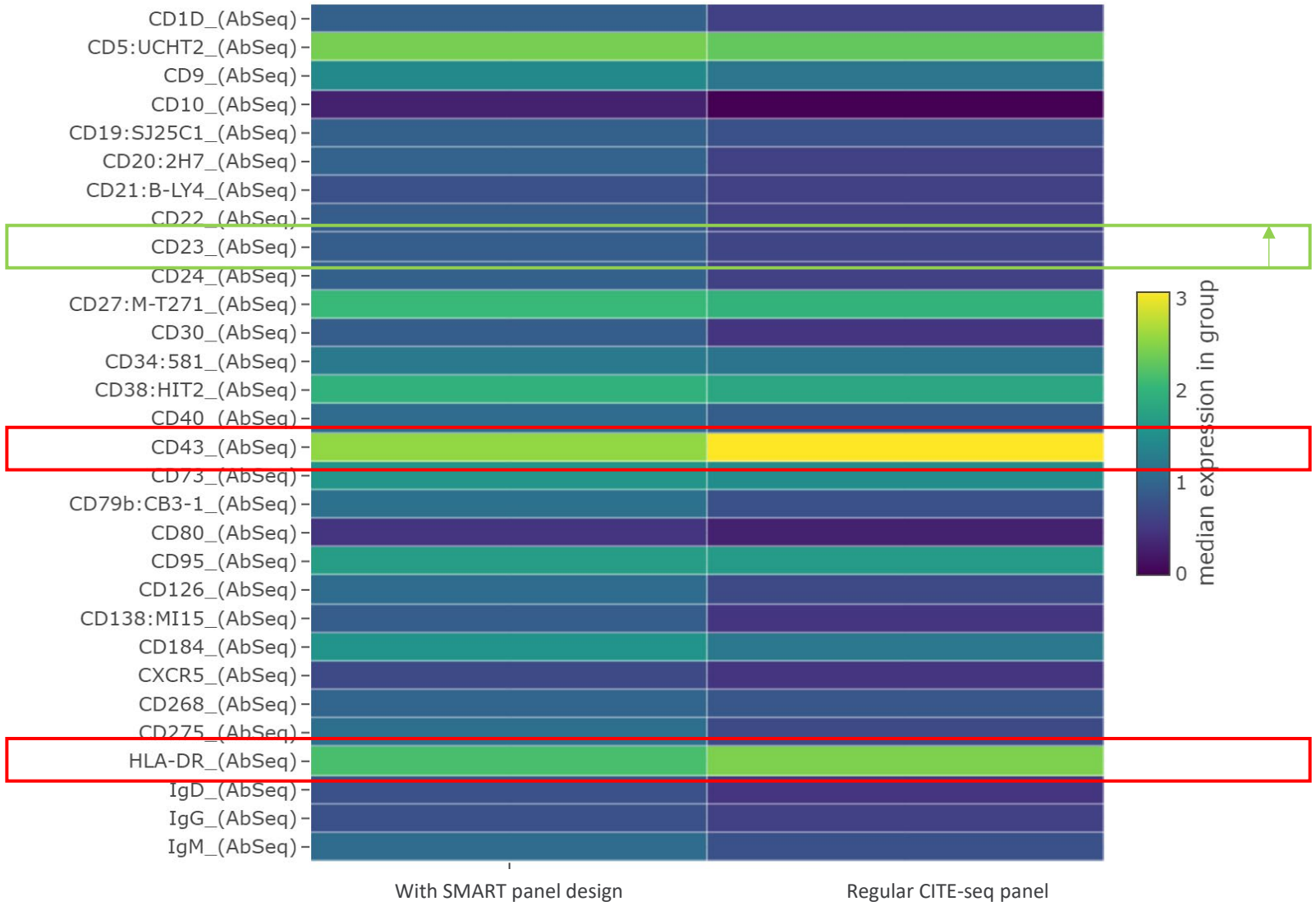
*Targets for SMART panel design

Fewer sequencing reads consumed by CD43 and HLA-DR and more reads allocated to lowly expressed markers

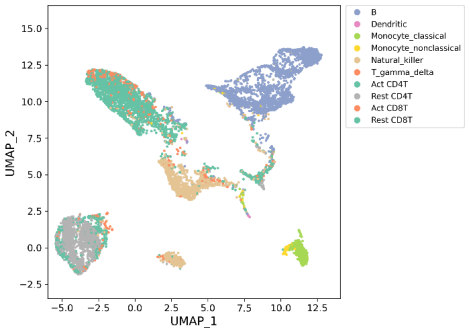
Percent of Total Sequencing Reads Consumed		
Markers	Without SMART panel design	With SMART panel design
Reduction of sequencing reads allocated to primary markers ▼		
CD43	17.09	8.92
HLA-DR	37.76	23.13
Read re-allocation to lowly expressed markers ▲		
CD5	5.74	8.61
CD9	1.76	2.64
CD19	1.22	1.97
CD20	1.28	3.19
CD23	1.72	2.53
CD27	4.05	5.47
CD38	2.14	3.27
CD40	0.93	2.10
CD138	0.41	0.79
CD184	0.88	2.30
IgD	0.87	1.41
IgG	0.66	1.01

Percent of Total Sequencing Reads Consumed		
Markers	Without SMART panel design	With SMART panel design
IgM	1.71	2.63
CD10	0.21	0.31
CD126	0.51	0.81
CD1d	0.81	1.37
CD21	0.56	0.84
CD22	0.91	1.50
CD24	1.49	2.21
CD268	1.31	1.98
CD275	1.70	3.76
CD30	0.73	1.14
CD34	6.13	5.79
CD73	2.34	3.39
CD79b	2.76	3.85
CD80	0.44	0.60
CD95	1.38	1.66
CD185	0.37	0.72

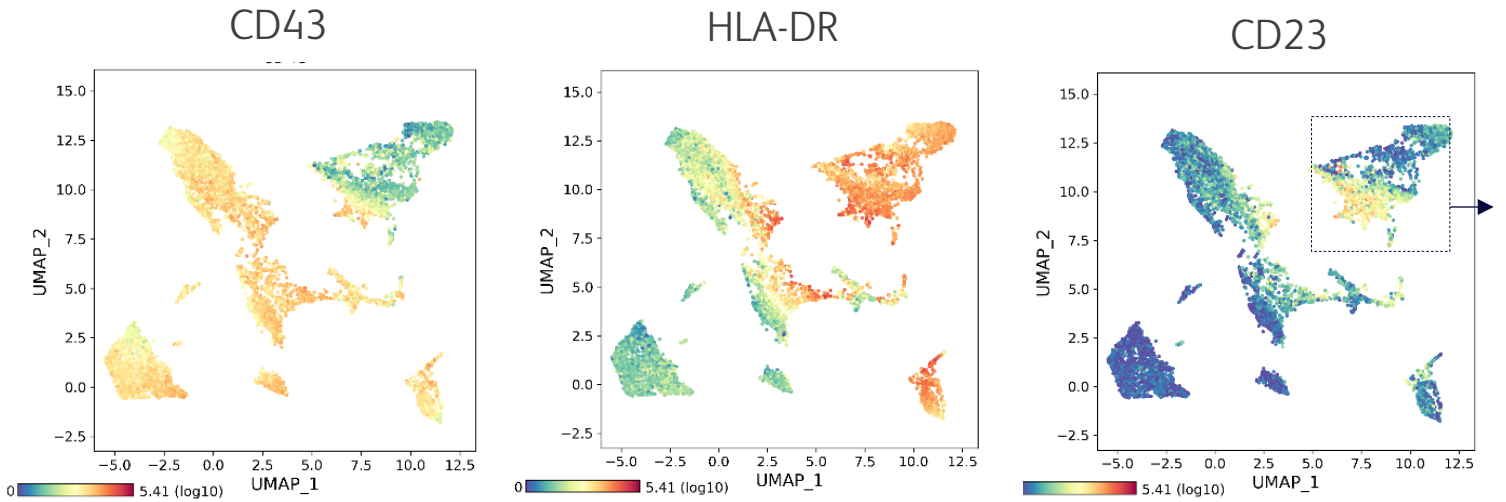
Increased AbSeq molecule detection of low expressors



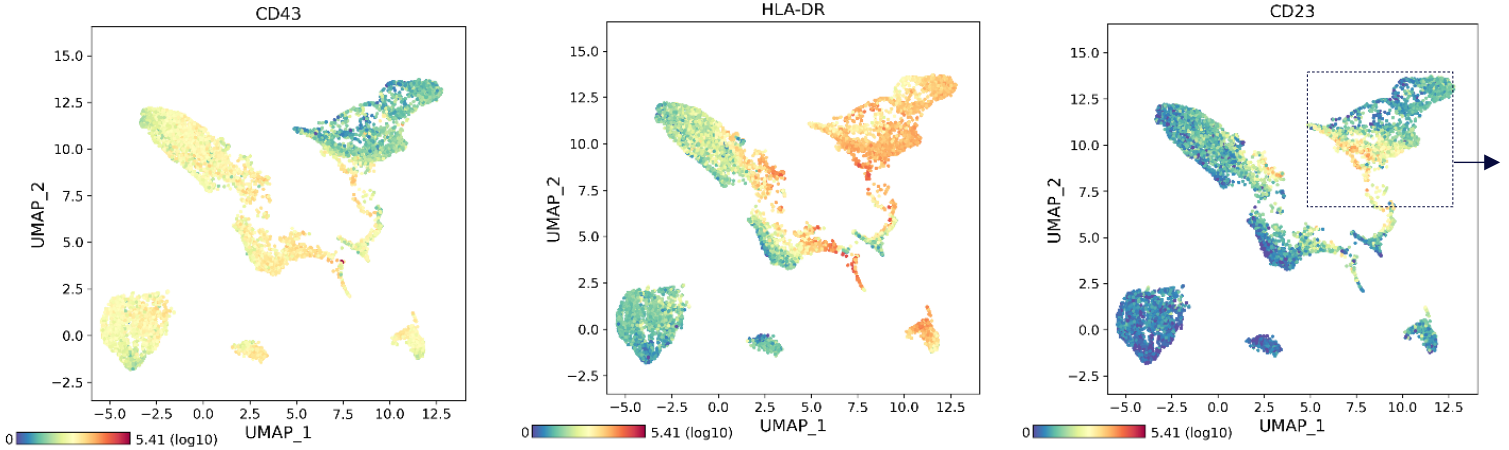
CD43 and HLA-DR detection is not compromised, while better resolution of low expressors is found with SMART panel design



Without SMART panel design

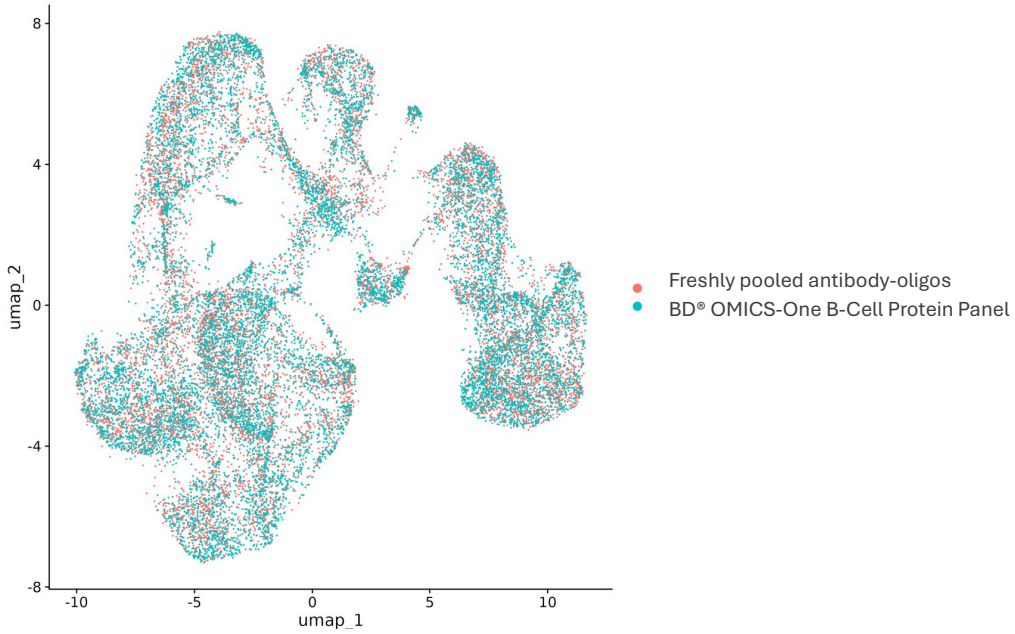


With SMART panel design

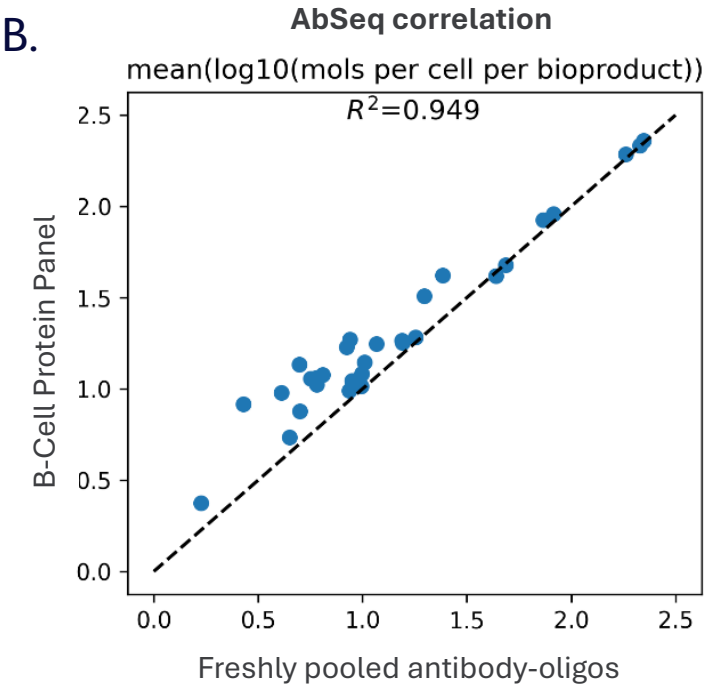


Comparable performance of the lyophilized panel to freshly pooled BD® AbSeq Antibody-Oligo Reagents

A.

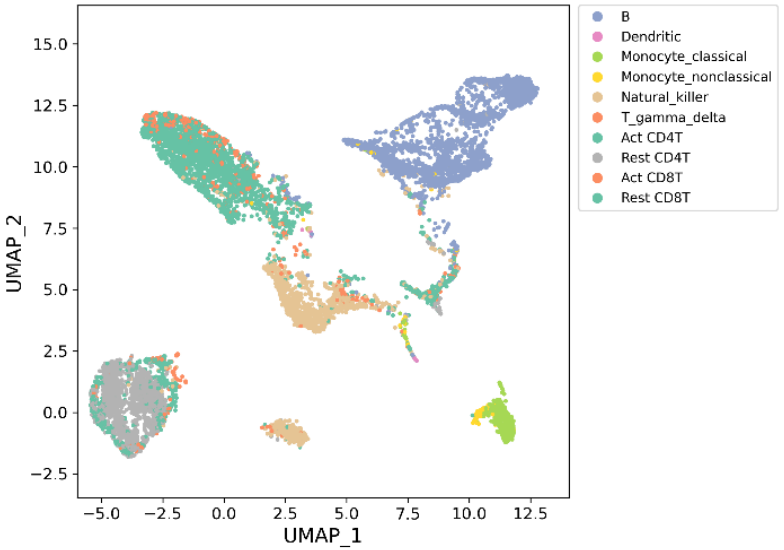


B.

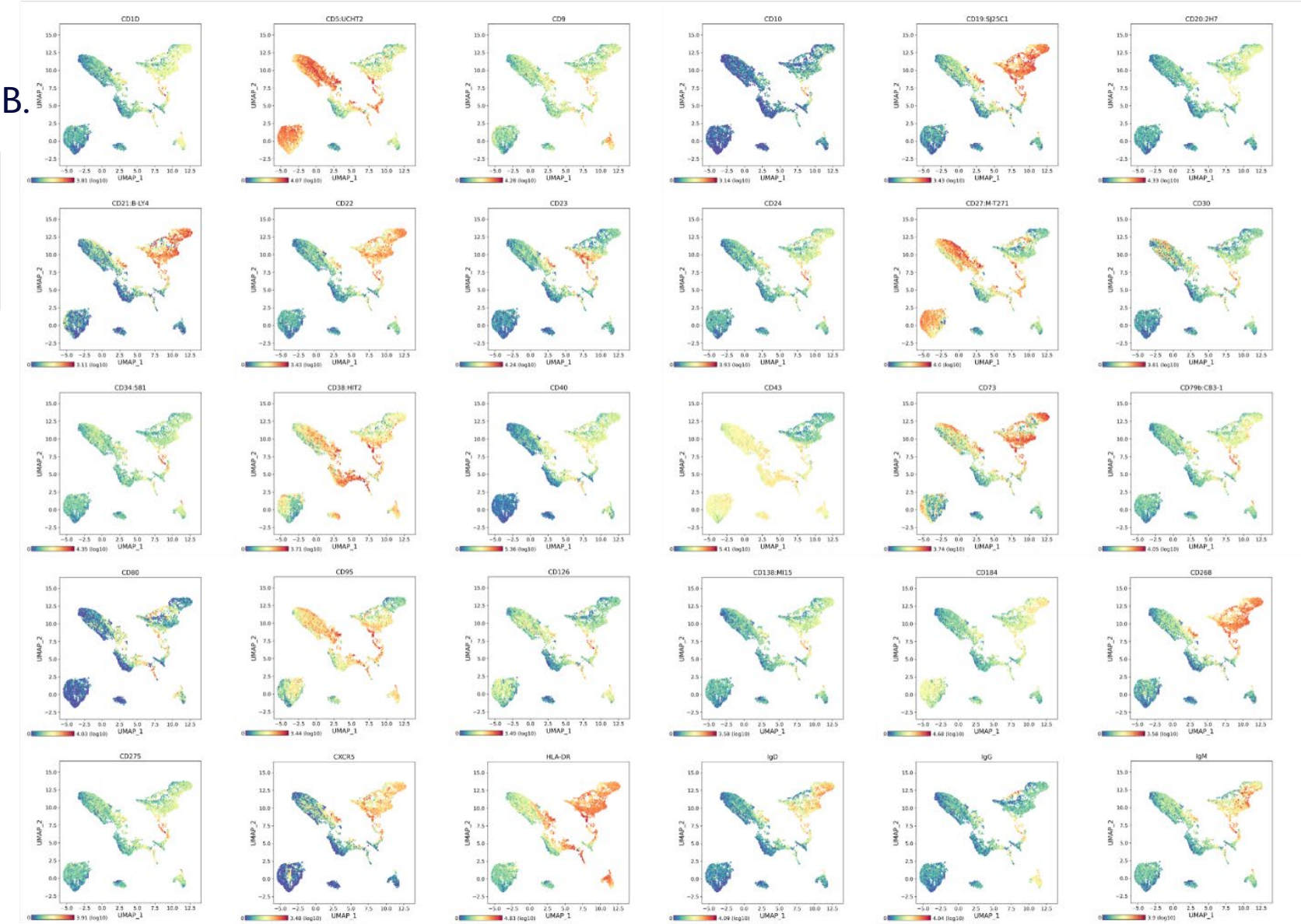


Detect 30 critical B-cell markers in your samples with confidence

A.

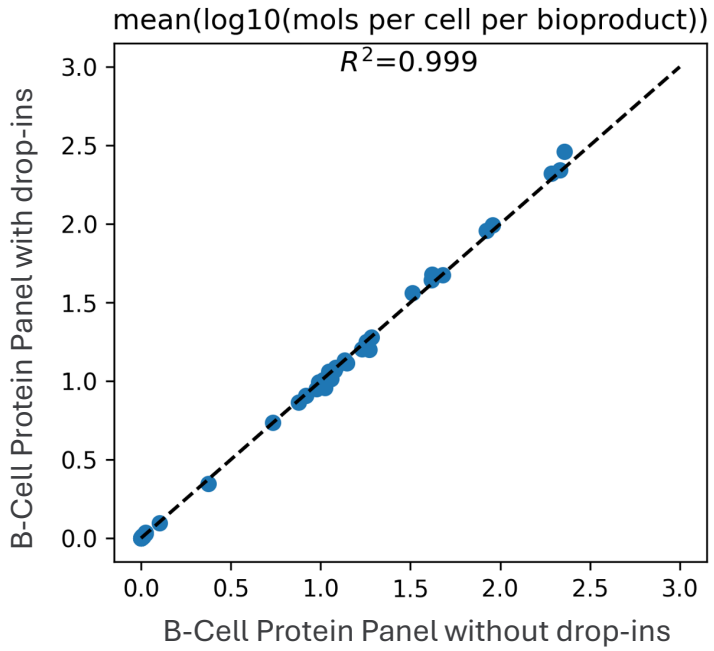


B.

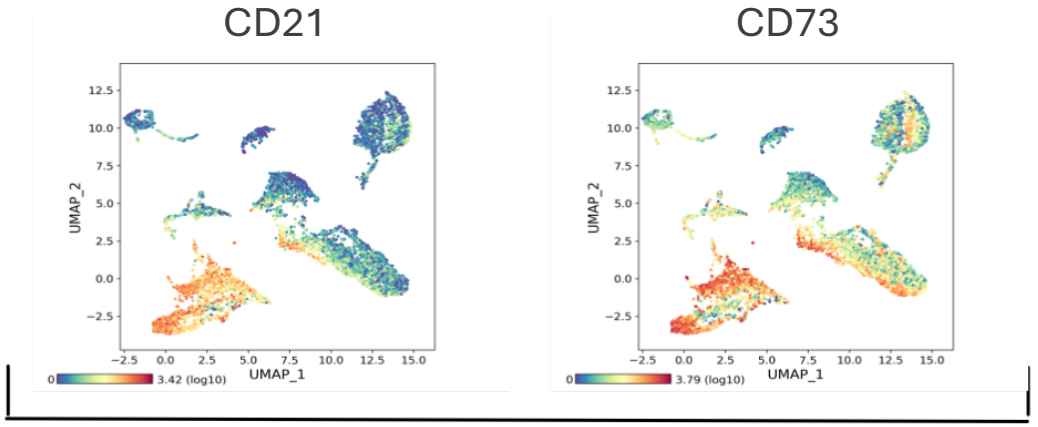


Add additional specificities of interest to the BD® OMICS-One B-Cell Protein Panel without compromising performance

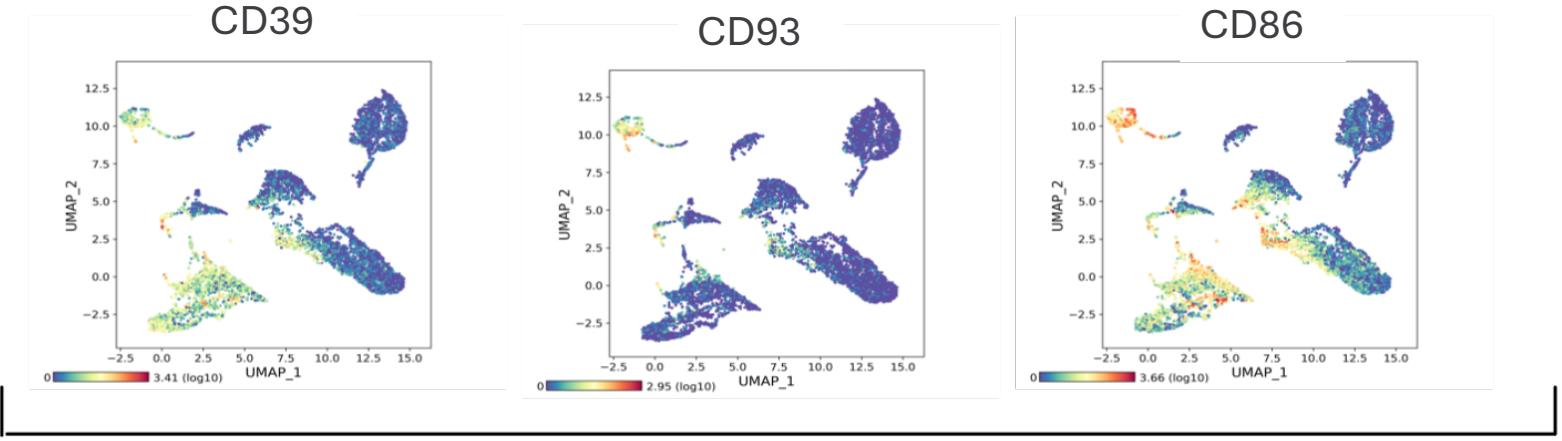
A.



B.

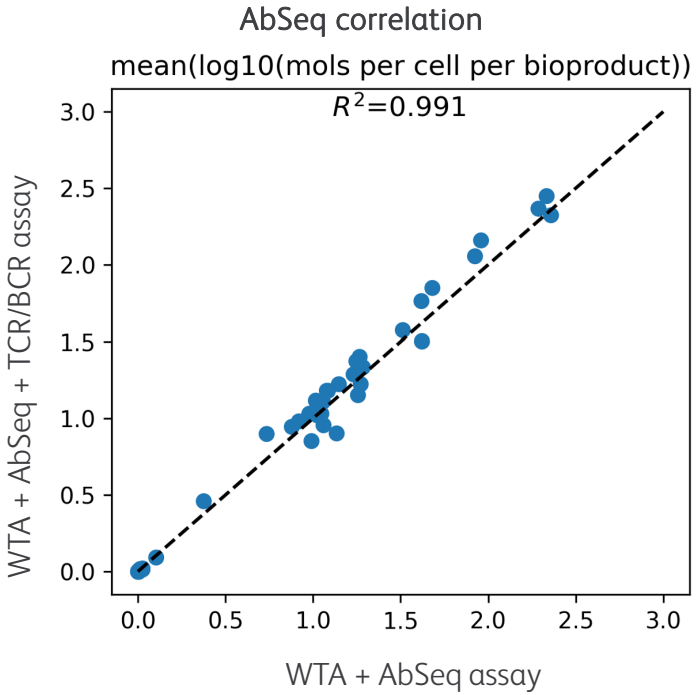


Specificities in the BD® OMICS-One B-Cell Protein Panel



Three single vial BD Abseq Antibody drop-ins

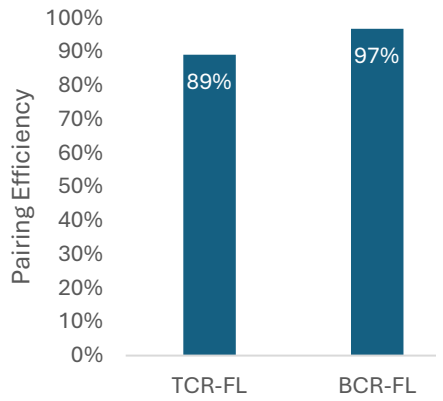
Multiomics enabled: BD® OMICS-One B-Cell Protein Panel is designed to work with WTA and TCR/BCR assays



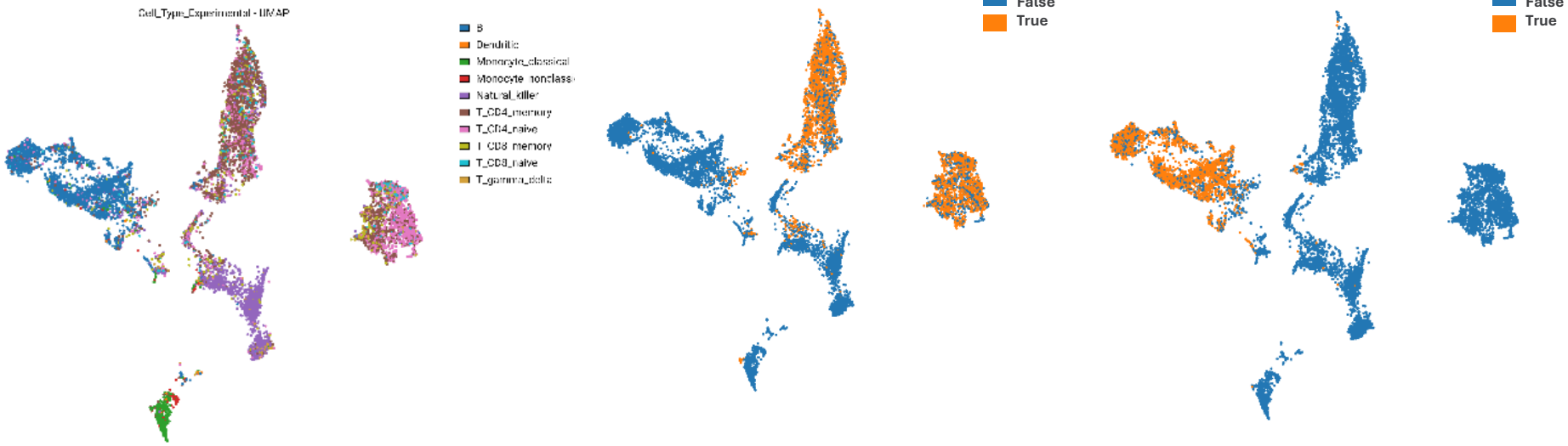
The addition of BD Rhapsody™ TCR/BCR Next Assay does not impact BD® OMICS-One B-Cell Protein Panel performance

Multiomics enabled: BD® OMICS-One B-Cell Protein Panel is designed to work with WTA and TCR/BCR assays

A.



B.



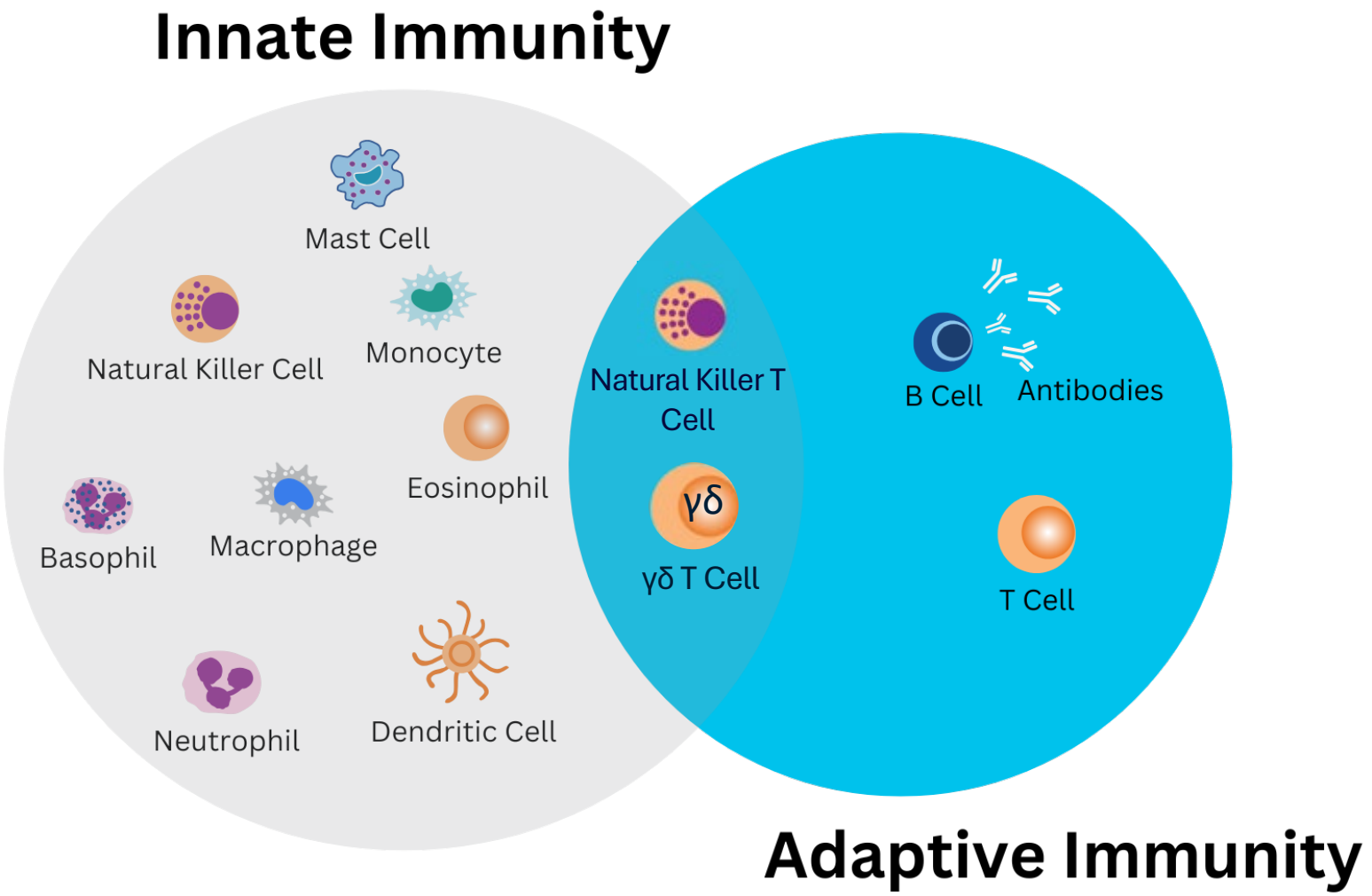
C.

●FWR1 ● CDR1 ● FWR2 ● CDR2 ● FWR3 ● CDR3 ● FWR4

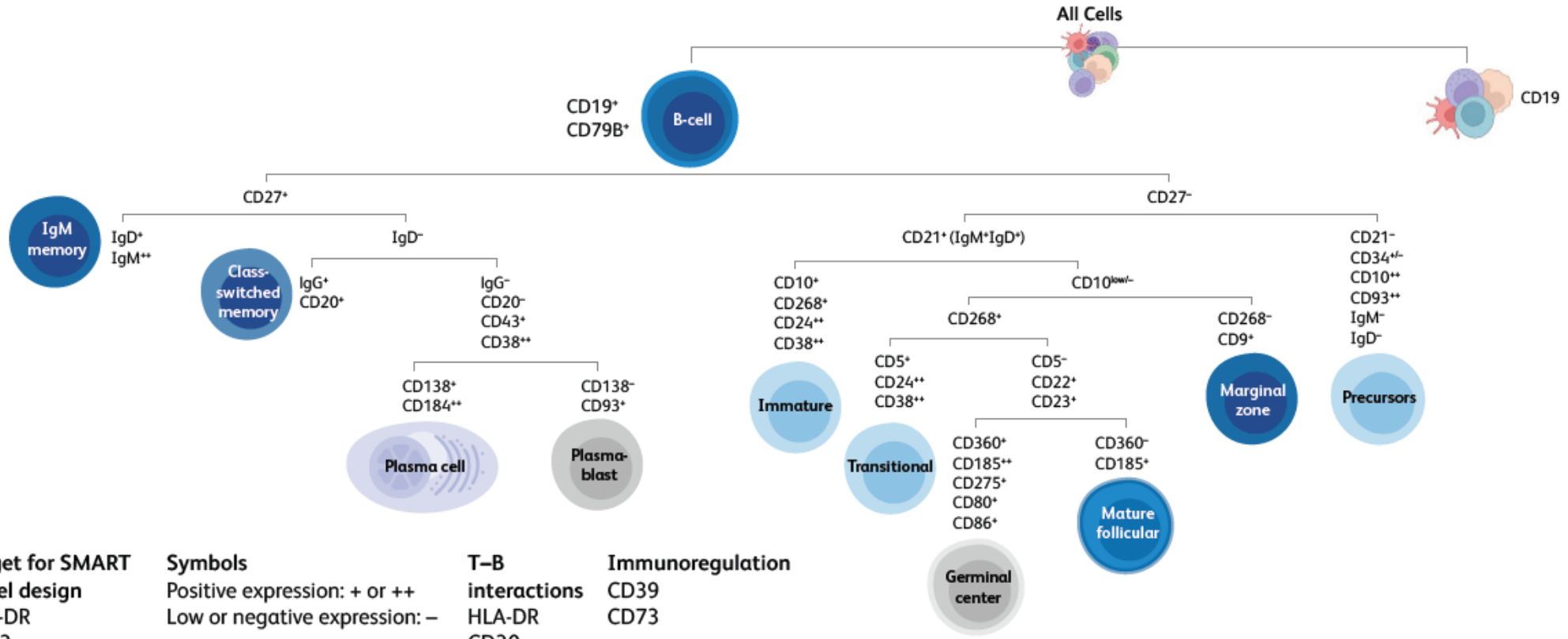
Cell Index	BCR Chain	VDJ Translation Trimmed
1685	IG_Heavy	EVQLVESGGGLVQPGRSLRLSCTASGFTFGDYAMSWVRQAPGKGLEWVGFIRSKAYGGTTEYAASVKGRFTISRDDSKSIAYLQMNSLKTEDTAVYYCTSSYYDFWSGYYPFDYWGQGTLVTVSS
1685	IG_Kappa	DIQMTQSPSAMSASVGDRVTITCRASQGISNYLAWFQQKPGKVPKRLIYAASSLQSGVPSRFSGSGSGTEFTLTISSLQPEDFATYYCLQHNSYPWTFGQGTKVEIK
34654	IG_Heavy	EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAKDQYSSGWTFDYWGQGTLVTVSS
34654	IG_Lambda	SSELTQDPAVSVALGQTVRITCQGDSLRSYYASWYQQKPGQAPVLVIYGKNNRPSGIPDRFSGSSSGNTASLTITGAQAEDEADYYCNSRDSSGNPVVFGGGTKLTVL
73399	IG_Heavy	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYDINWVRQATGQGLEWMGWMNPNSGNTGYAQKFQGRVTMTRNTSISTAYMELSSLRSEDTAVYYCARGGTWVGVVVNPGGYYWGQGTLVTVSS
73399	IG_Kappa	DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDVAVYYCQQYYSTPYTFGQGTKLEIK
210497	IG_Heavy	EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAKDYYDSSGYSKTHYYYYYYGMDVWGQGTTVTVSS
210497	IG_Kappa	DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDVAVYYCQQYYSTPRTFGQGTKVEIK
210530	IG_Heavy	QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGDYYWSWIRQPPGKGLEWIGYIYYSGSTYYNPSLKSRVTISVDTSKNQFSLKLSSVTAADTAVYYCAREAAVTTYVGLDPPRWFDPWGQGTLVTVSS
210530	IG_Kappa	DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYAASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQSYSTPYTFGQGTKLEIK

BD® OMICS-One Adaptive Protein Panel

T-cells and B-cells are the two major players in adaptive immune system



Explore B-cell populations and their activation and suppressed states



Target for SMART panel design
HLA-DR
CD23

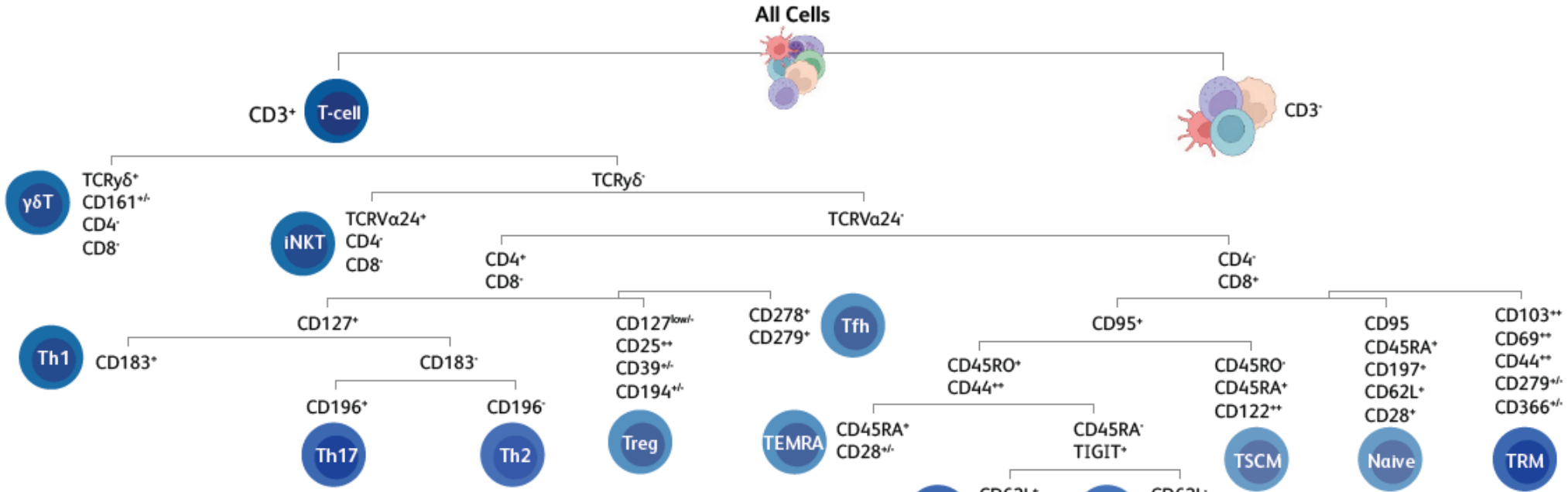
Symbols
Positive expression: + or ++
Low or negative expression: –

T–B interactions
HLA-DR
CD30
CD40
CD95
CD126

Immunoregulation
CD39
CD73

B-cell populations and activation states monitored by this panel.

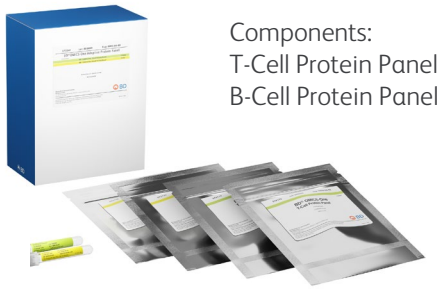
Explore T-cell populations and their activation and suppressed states



Target for SMART panel design	Symbols	Activating receptors	Inhibitory receptors
CD4	Positive expression: + or ++	CD134	CD154
CD44	Low or negative expression: –	CD 137	CD223

T-cell populations and activation states monitored by this panel.

BD® OMICS-One Adaptive Protein Panel specificities



Components:
T-Cell Protein Panel (1 test/pouch, 2 pouches)
B-Cell Protein Panel (1 test/pouch, 2 pouches)

Specificity	Clone
CD1d	CD1d42
CD5	UCHT2
CD9	M-L13
CD10	HI10A
CD19	SJ25C1
CD20	2H7
CD21	B-LY4
CD22	HIB22
CD23	EBVCS-5
CD24	ML5
CD3	UCHT1
CD4*	SK3
CD8	SK1
CD25	2A3
CD28	L293
CD44*	L178
CD45RO	UCHL1
CD45RA	HI100
CD69	FN50
CD62L	DREG-56

Specificity	Clone
CD27	M-T271
CD30	BERH8
CD34	581
CD38	HB7
CD40	5C3
CD43*	1G10
CD73	AD2
CD79b	CB3-1
CD80	L307.4
CD95**	DX2
CD103	BER-ACT8
CD127	HIL-7R-M21
CD134	ACT35
CD137	4B4-1
CD154	TRAP1
CD161	HP-3G10
CD183	1C6/CXCR3
CD194	1G1
CD196	11A9
CD197	2-L1-A

Specificity	Clone
CD126	M5
CD138	MI15
CD184	12G5
CD185	RF8B2
CD268	11C1
CD275	2D3/B7-H2
HLA-DR*	G46-6
IgD	IA6-2
IgG	G18-145
IgM	G20-127
CD223	T47-530
CD272	J168-540
CD278	DX29
CD279	EH12.1
CD357	V27-580
CD366	7D3
TCRγ/δ	11F2
TCR Vα24-Jα18	6B11
TIGIT	tgMab-2

*Targets for SMART panel design

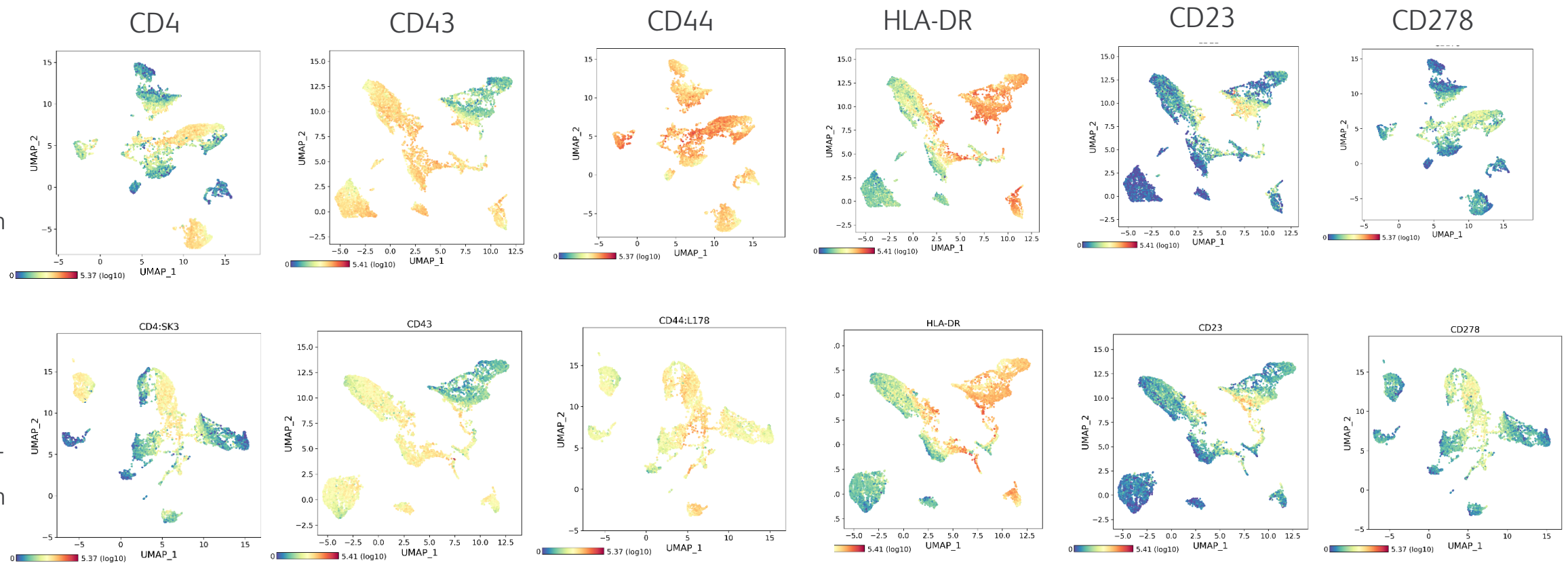
**The BD® OMICS-One Adaptive Protein Panel consists of two 30-plex protein panels: The BD® OMICS-One T-Cell Protein Panel and B-Cell Protein Panel. Both the T-cell and B-cell panel contain the same anti-CD95 antibody.

Fewer sequencing reads consumed by the high expressors and more reads allocated to lowly expressed markers

Percent of Total Sequencing Reads Consumed		
Markers	Without SMART panel design	With SMART panel design
Reduction of sequencing reads allocated to primary markers ▼		
CD44	23.20	5.34
HLA-DR	19.06	14.12
CD43	8.63	3.74
CD4	2.98	2.25
Read re-allocation to lowly expressed markers ▲		
CD3	1.16	2.58
CD62L	0.68	1.39
CD272	0.86	1.61
CD184	0.44	1.41
CD69	4.78	11.82
CD38	1.08	1.92
IgD	0.44	0.80
CD19	0.61	1.13
CD366	0.91	1.54
CD22	0.46	0.65

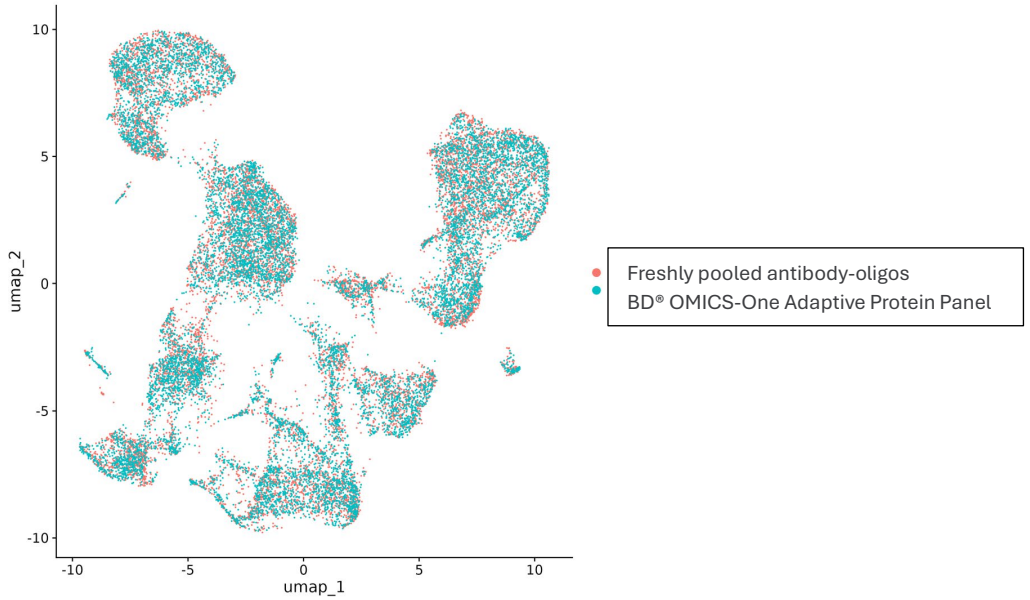
Percent of Total Sequencing Reads Consumed		
Markers	Without SMART panel design	With SMART panel design
CD197	0.46	1.38
IgG	0.33	0.44
CD40	0.47	0.91
CD185	0.19	0.48
CD25	1.87	4.34
CD1d	0.41	0.43
CD20	0.65	1.53
CD275	0.86	0.73
CD357	0.28	0.64
CD223	0.39	0.86
CD23	0.87	1.27
TIGIT	0.19	0.33
CD278	0.33	0.77
CD138	0.21	0.24
TCRγ/δ	0.17	0.33
CD154	0.07	0.14

CD4, CD43, CD44 and HLA-DR detection is not compromised, while better resolution of low expressors is found with SMART panel design

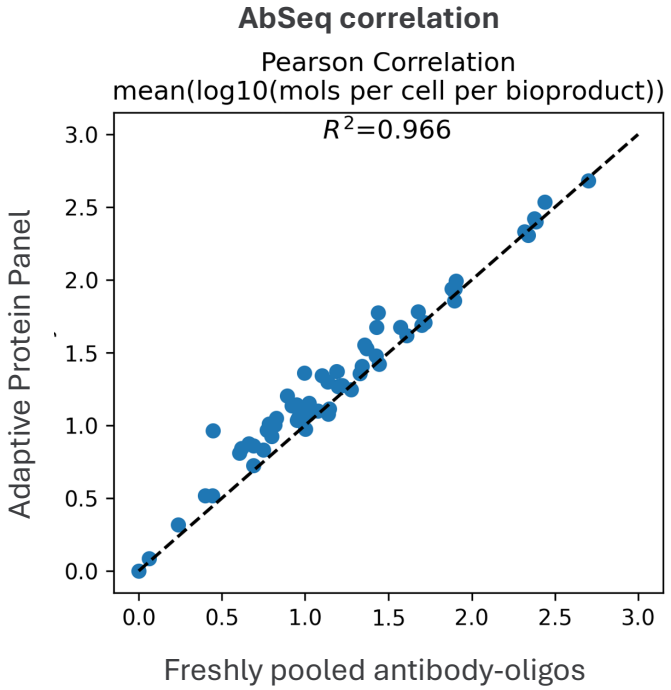


Comparable performance of the lyophilized panel to freshly pooled BD® AbSeq Antibody-Oligo Reagents

A.

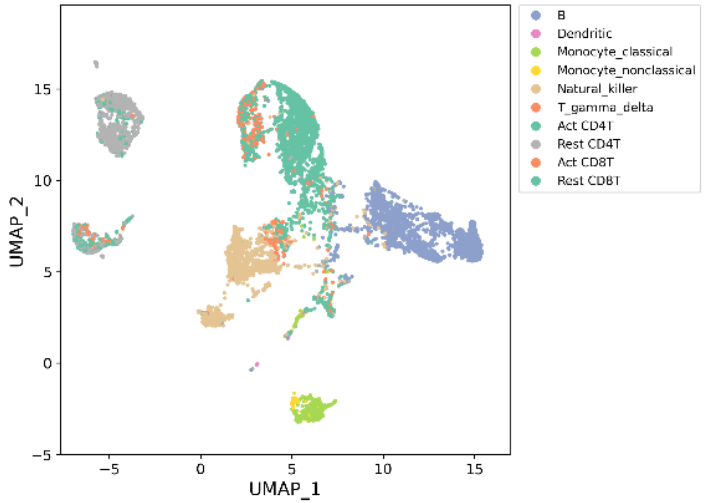


B.

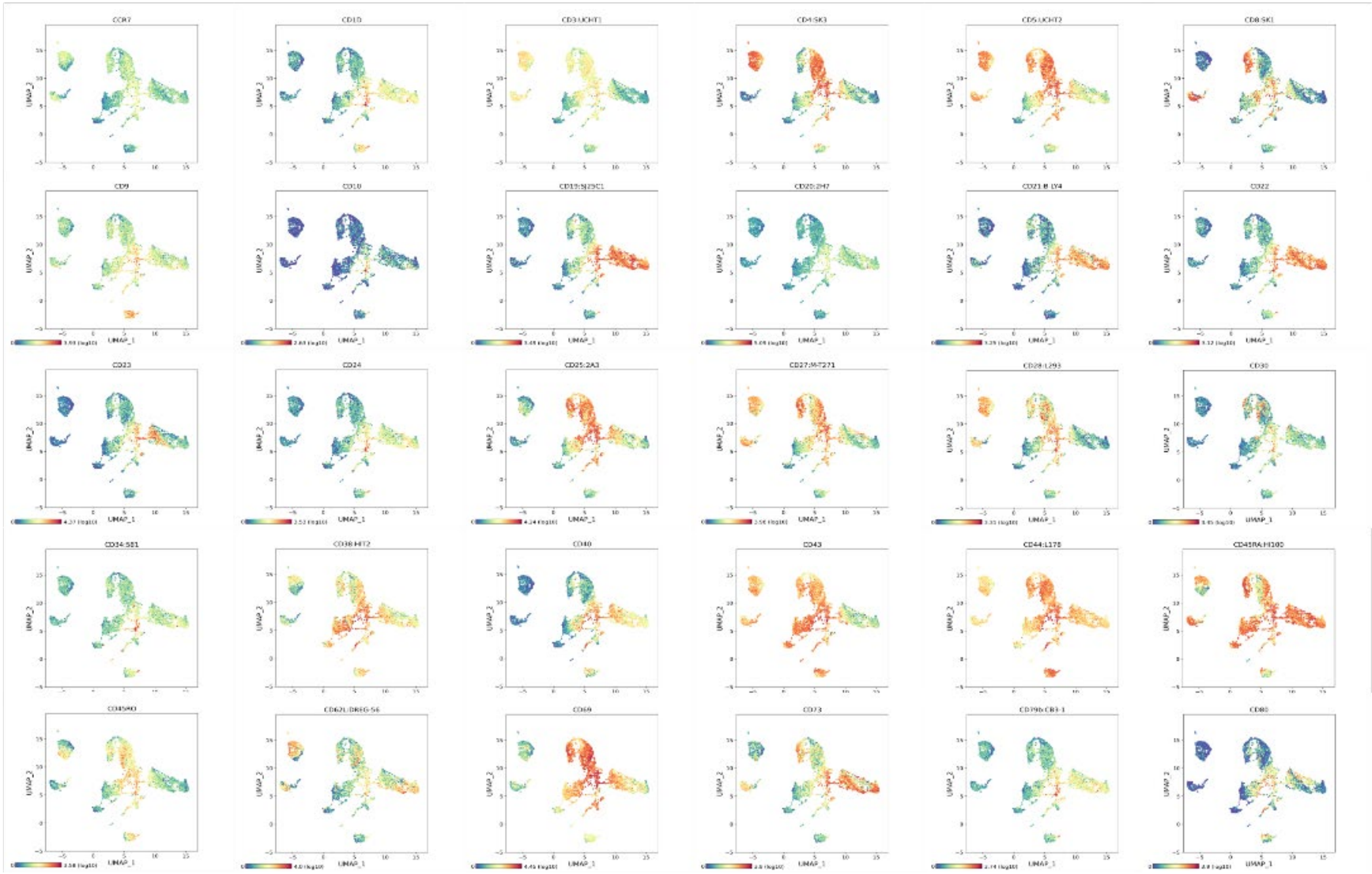


Detect 59 critical adaptive markers in your samples with confidence

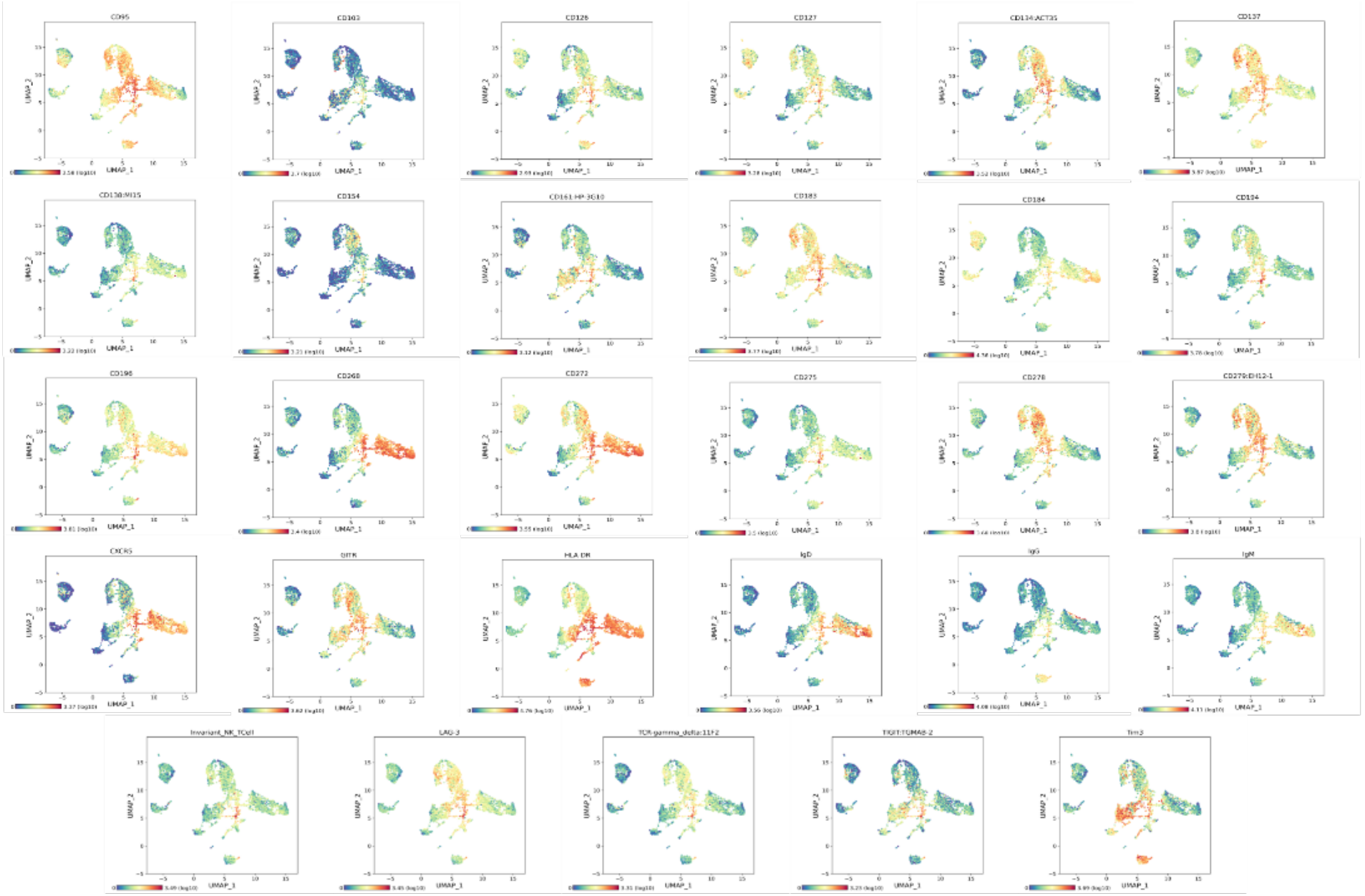
A.



B.

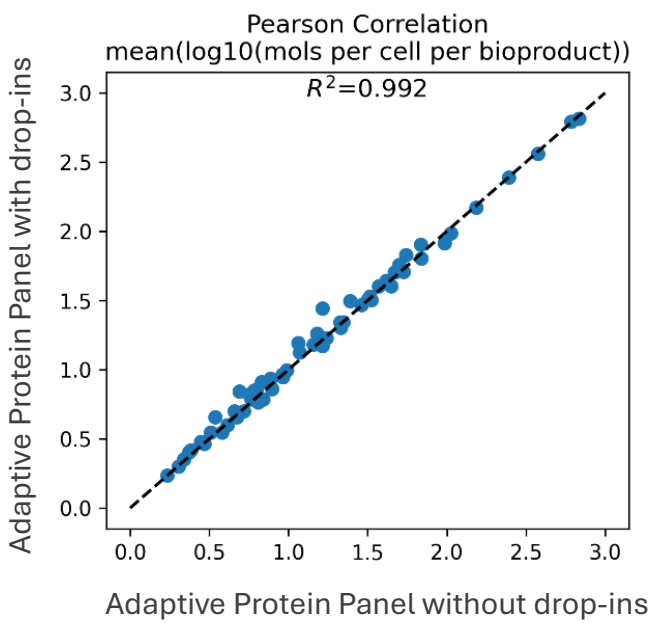


B. (cont.)


CD95
CD103
CD126
CD127
CD134:ACT35
CD137
CD150:A15
CD154
CD161:HP-3G10
CD183
CD184
CD194
CD196
CD269
CD272
CD275
CD278
CD279:EH12-1
CXCR5
GITR
HLA DR
IgD
IgG
IgM
Invariant_NK_TCell
LAG-3
TCR-gamma_delta:11F2
TIGIT:TUMA6-2
Tim3
UMAP_1
UMAP_2

Add additional specificities of interest to the BD® OMICS-One Adaptive Protein Panel without compromising performance

A.



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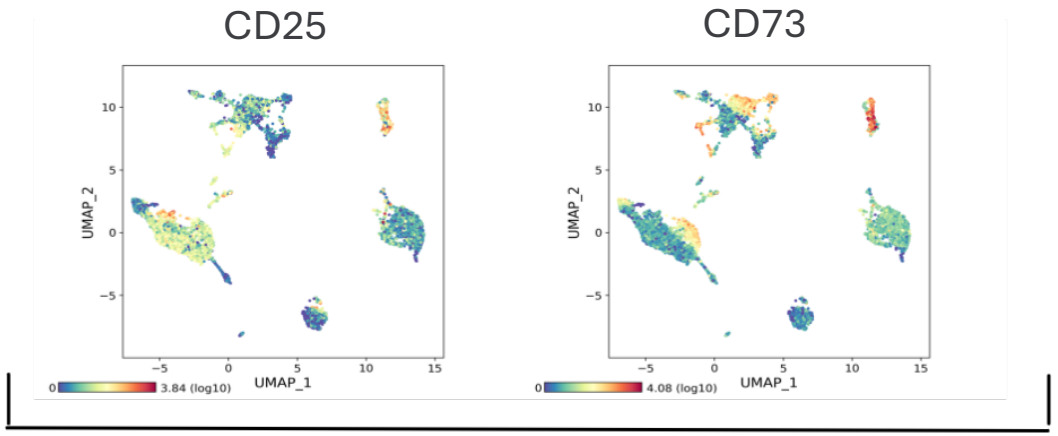
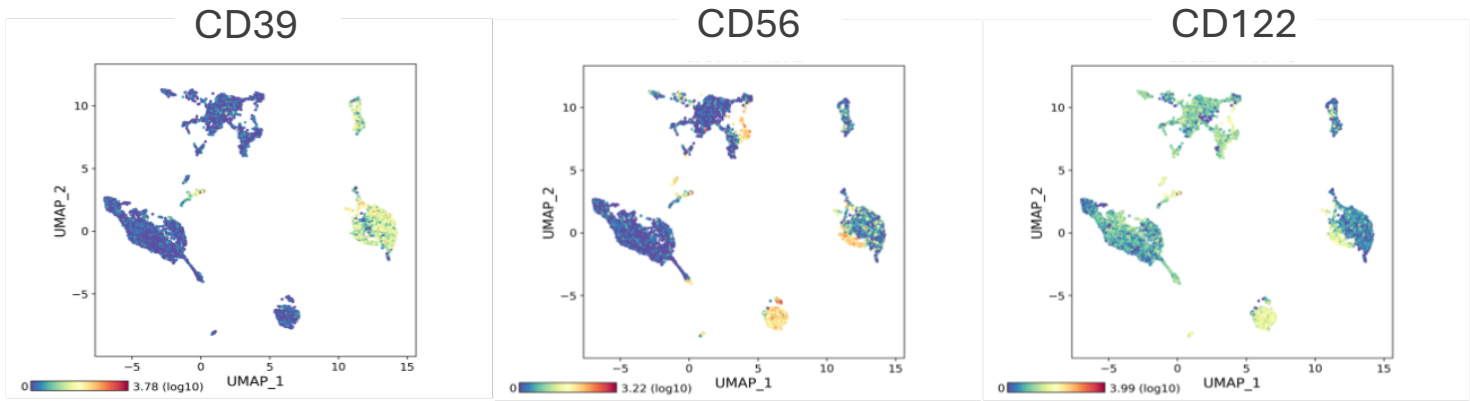
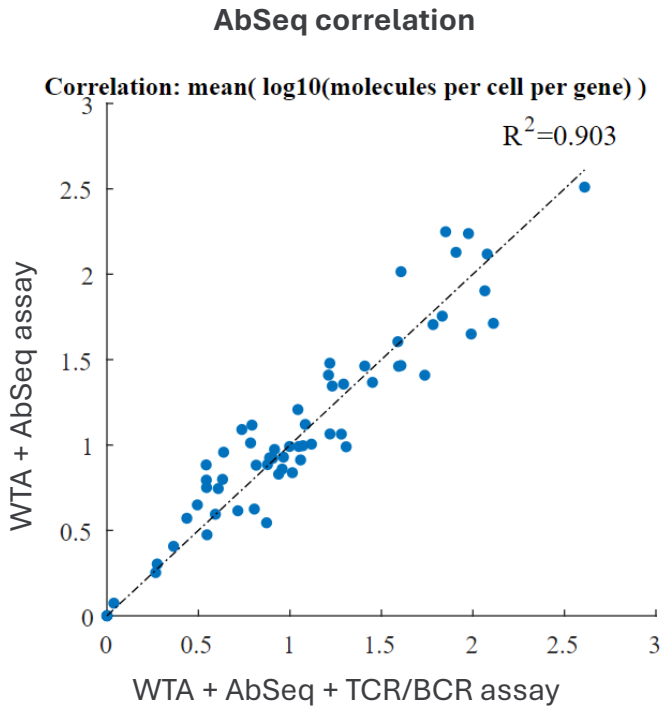


Specificities in the BD® OMICS-One B-Cell Protein Panel



Three single vial BD Abseq Antibody drop-ins

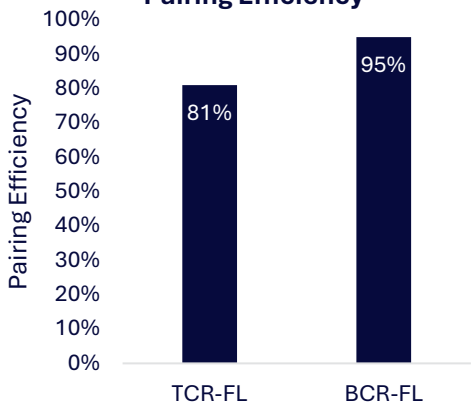
Multiomics enabled: The BD® OMICS-One Adaptive Protein Panel is designed to work with whole transcriptome and TCR/BCR assays



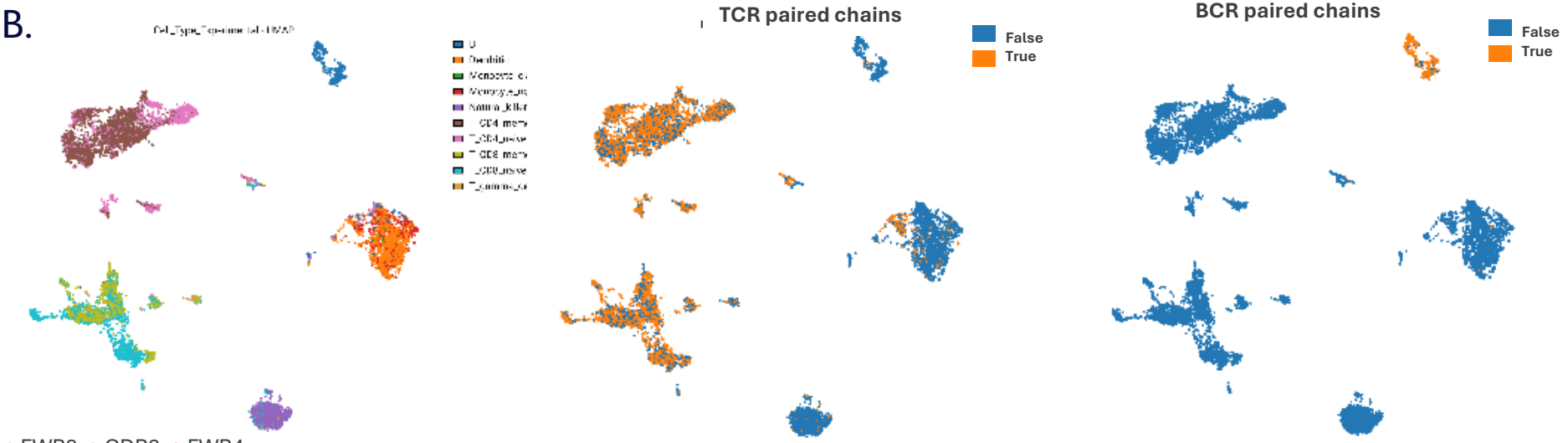
The addition of a TCR/BCR profiling assay does not impact BD® OMICS-One Adaptive Protein Panel performance

Multiomics enabled: The BD® OMICS-One Adaptive Protein Panel is designed to work with whole transcriptome and TCR/BCR assays

A.



B.



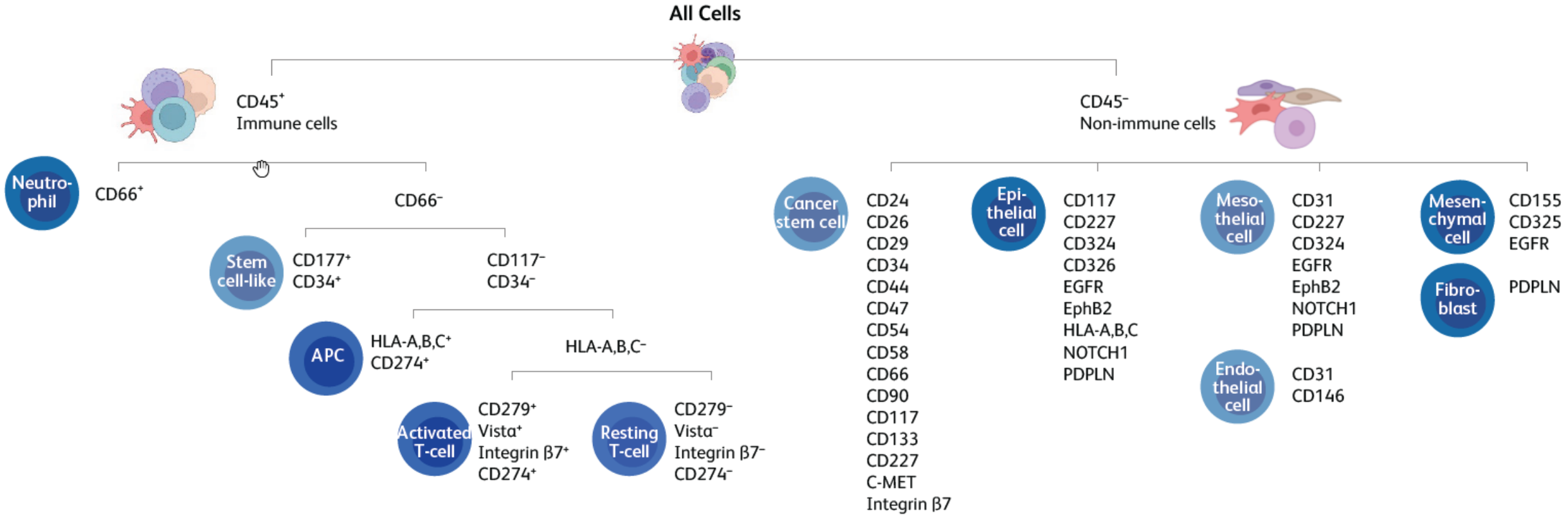
C.

●FWR1 ● CDR1 ● FWR2 ● CDR2 ● FWR3 ● CDR3 ● FWR4

Cell Index	TCR/BCR Chain	VDJ Translation Trimmed
23120	TCR_Alpha	AQSVSQHNHHVILSEAASLELGCNYSYGGTVNLFWYVQYPGQHLQLLLKYFSGDPLVKGIKGFEAEFIKSKFSFNLRKPSVQWSDTAEYFCAVKEGTNAGKSTFGDGTTLTVKP
23120	TCR_Beta	EAQVTQNPRYLITVTGKKLTVTCSQNMNHEYMSWYRQDPGLGLRQIYYSMNVEVTDKGDVPEGYKVSRKEKRNFPLILESPSPNQTSLYFCASWGFLTGELFFGEGSRLTVL
33061	TCR_Alpha	AQSVTQLDSHVSVSEGTPVLLRCNYSSSYSPSLFWYVQHPNKGLQLLLKYTSAATLVKGINGFEAEFKKSKTSFHLTKPSAHMSDAAEYFC VSPGYSSASKIIFGSGTRLSIRP
33061	TCR_Beta	NAGVTQTPKFRVLKTGQSMTLLCAQDMNHEYMYWYRQDPGMGLRLIHYSVGEGTTAKGEVPDGYNVSRLKKQNFLLGLESAAPSQTSVYFCASSYSMRDRGSDTQYFGPGTRLTVL
39942	TCR_Alpha	QQQVKQSPQSLIVQKGGISIINCAYENTAFDYFPWYQQFPGKGPALLIAIRPDVSEKKEGRFTISFNKSAKQFSLHIMDSQPGDSATYFCAASKGSNYQLIWGAGTKLIIKP
39942	TCR_Beta	GAVVSQHPSWVICKSGTSVKIECRSLDFQATTMFWYRQFPKQSLMLMATSNEGSKATYEQGVEKDKFLINHASLTLSTLTVTSAHPEDSSFYICSAIIPPEETQYFGPGTRLLVL
59553	IG_Heavy	EVQLVESGGGLVQPGGSLKLSCAASGFTFSTYWMHWVRQSPGKGLEWVSRINTGESHTNYADISYADFVEGRFTTSRDNAKNTLHLQMHSLRAEDSGVYYCARALEYFYYGLDVWGQGTTVIVSS
59553	IG_Kappa	DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSKNKNY AWYQQKPGQPPNLLIYWASTRESGVPDRFSGSGSGTNFTLTISRLQAEDVAVYYCQQYYYSPPTFGGGTKVEIK
65072	IG_Heavy	EVQLVESGGGLVQPGRSLRLSCTASGFTFGDYAMSWVRQAPGKGLEWVGFIRSKAYGGTTEYAASVKGRFTISRDDSKSIAYLQMNSLKTEDTAVYYCTSSVSWWYTALDAFDIWGQGTMVTVSS
65072	IG_Kappa	DIQMTQSPSSLSASVGDRVTITCRASQGISNYLAWYQQKPGKVPKLLIYAASTLQSGVPSRFSGSGSGTDFTLTISSLQPEDVATYYCQKYNSAPITFGQGTRLEIK
266242	IG_Heavy	EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYEMNWVRQAPGKGLEWISYISTSGSTIYSADSVRGRFTISRDNAKNSQYLQMNSLRAEDTAVYYCARRGISTIGFGAFDIWGRGTMVTVSS
266242	IG_Kappa	DIVLTQTPPSLSVTPGQPASISCKSSQSLLHIDGKTYLYWYLQKPGQSPQLLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVGVYYCLQTIHLPALSFGGGTKVEIK

BD® OMICS-One Tumor Protein Panel

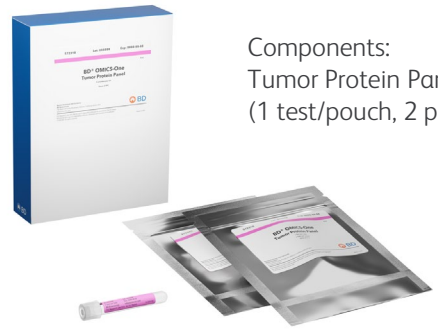
Explore tumor biology, immune evasion and stemness of your samples



Target for SMART panel design
CD44, CD45, HLA-A,B,C

Symbols
Positive expression: + or ++
Low or negative expression: –

BD® OMICS-One Tumor Protein Panel specificities



Components:
Tumor Protein Panel
(1 test/pouch, 2 pouches)

Specificity	Clone
CD24	ML5
CD26	M-A261
CD29	MAR4
CD31 (PECAM-1)	WM59
CD34	581
CD44*	L178
CD45*	HI30
CD47	B6H12
CD54	HA58
CD58	1C3

Specificity	Clone
CD117	YB5.B8
CD133	W6B3C1
CD146	P1H12
CD155	TX24
CD227 (MUC1)	HMFG2
CD66	B1.1/CD66
CD90	5E10
CD274 (PD-L1)	MIH1
CD279 (PD-1)	EH12.1
CD324 (E-Cadherin)	67A4

Specificity	Clone
CD325 (N-Cadherin)	8C11
CD326 (EpCAM)	EBA-1
c-MET	3D6
EGFR	EGFR.1
EphB2	2H9
HLA-A,B,C*	G46-2.6
Integrin β7	FIB504
Notch1	MHN1-519
Podoplanin	LpMab-17
Vista	MIH65.rMAb

*SMART-titrated targets

Fewer sequencing reads consumed by CD44, CD45 and HLA-A,B,C and more reads allocated to lowly expressed markers

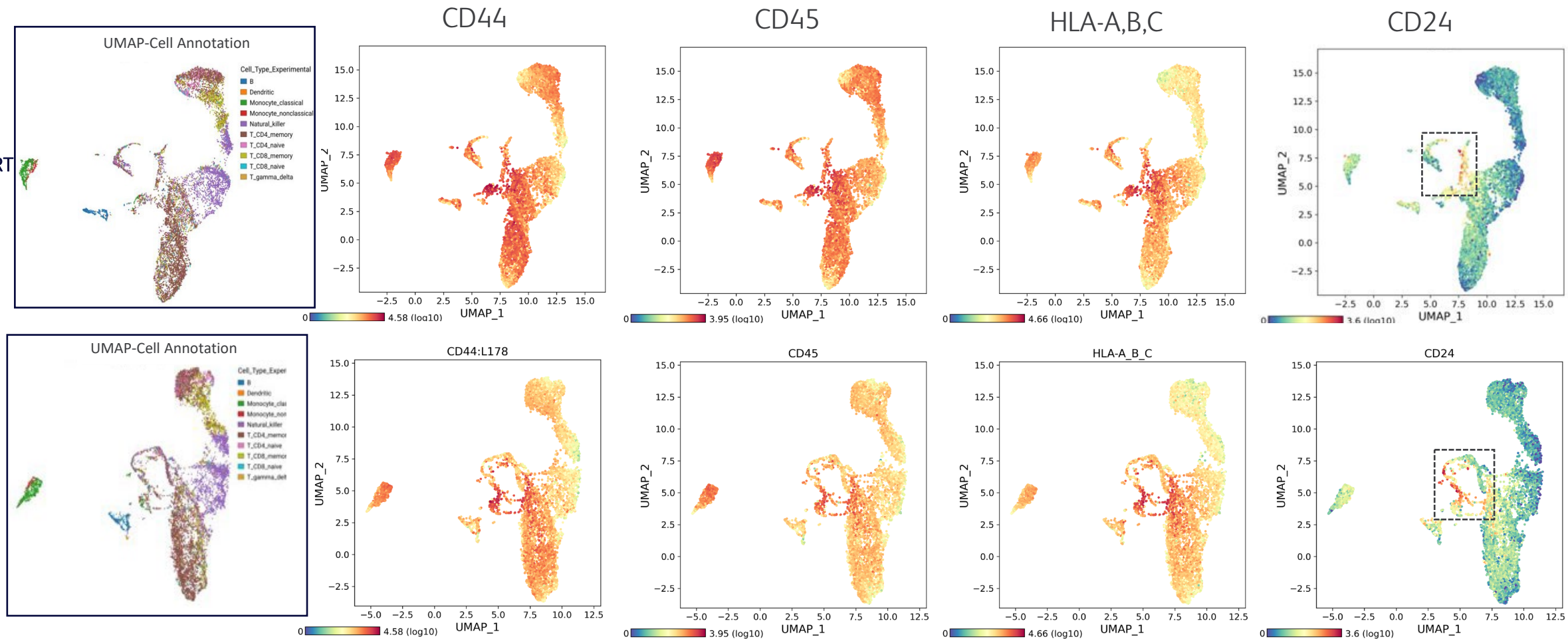
Percent of Total Sequencing Reads Consumed		
Markers	Without SMART panel design	With SMART panel design
Reduction of sequencing reads allocated to primary markers ▼		
CD44	35.47	19.23
HLA-A,B,C	18.41	15.14
CD45	10.48	5.03
Read re-allocation to lowly expressed markers ▲		
CD54	7.83	14.72
CD47	4.58	4.68
CD34	3.46	4.13
EGFR	2.04	3.64
CD58	2.02	3.00
CD66	1.75	2.70
CD279	1.65	2.69
Podoplanin	1.24	2.54
CD155	1.13	2.04
CD24	1.00	2.04
CD29	0.84	1.78

Percent of Total Sequencing Reads Consumed		
Markers	Without SMART panel design	With SMART panel design
CD31	0.84	1.70
CD274	0.79	1.67
CD117	0.78	1.62
CD26	0.75	1.58
CD324	0.73	1.54
Notch1	0.73	1.46
CD227	0.66	1.24
EphB2	0.52	1.15
CD90	0.47	0.96
Integrin β7	0.43	0.90
c-MET	0.37	0.70
CD326	0.32	0.67
Vista	0.30	0.60
CD133	0.20	0.38
CD325	0.19	0.37
CD146	0.04	0.13

CD44, CD45 and HLA-A,B,C detection is not compromised, while better resolution of low expressors is found with SMART panel design

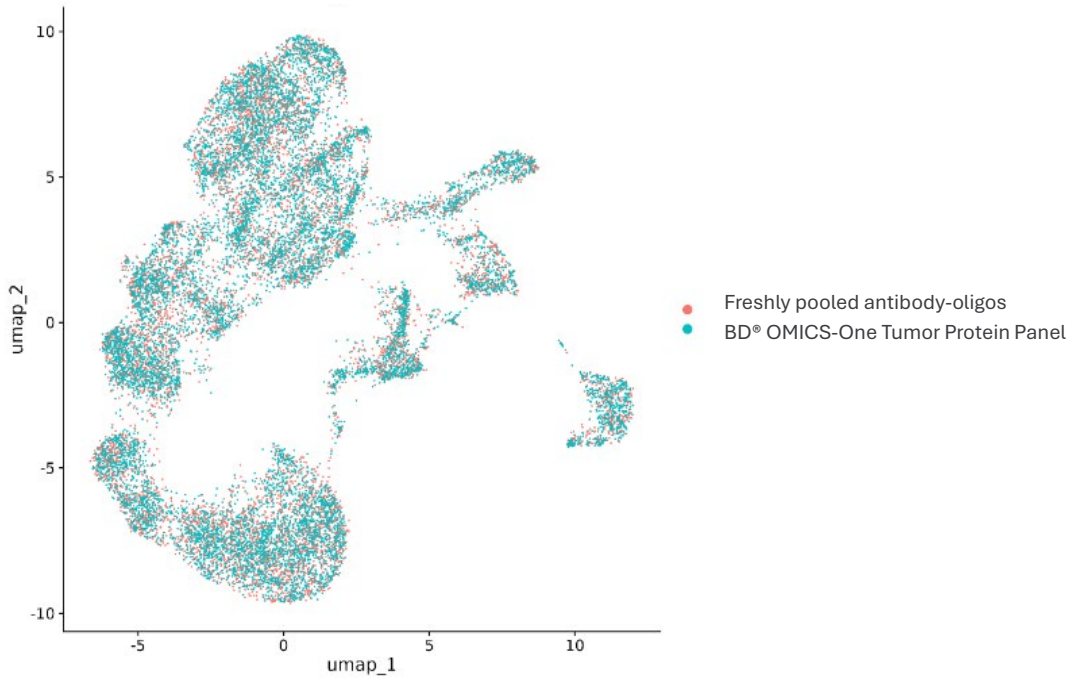
Without SMART panel design

With SMART panel design

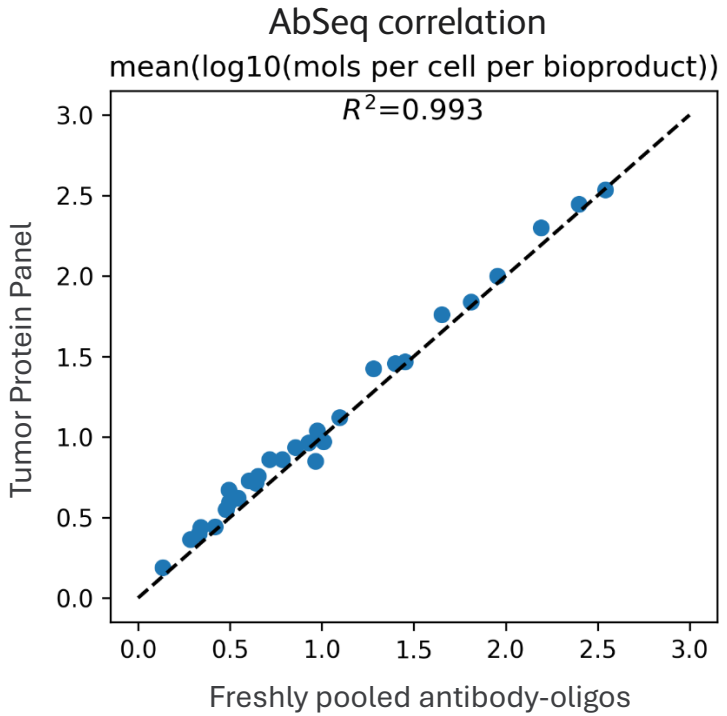


Comparable performance of the lyophilized panel to freshly pooled BD® AbSeq Antibody-Oligo Reagents

A.

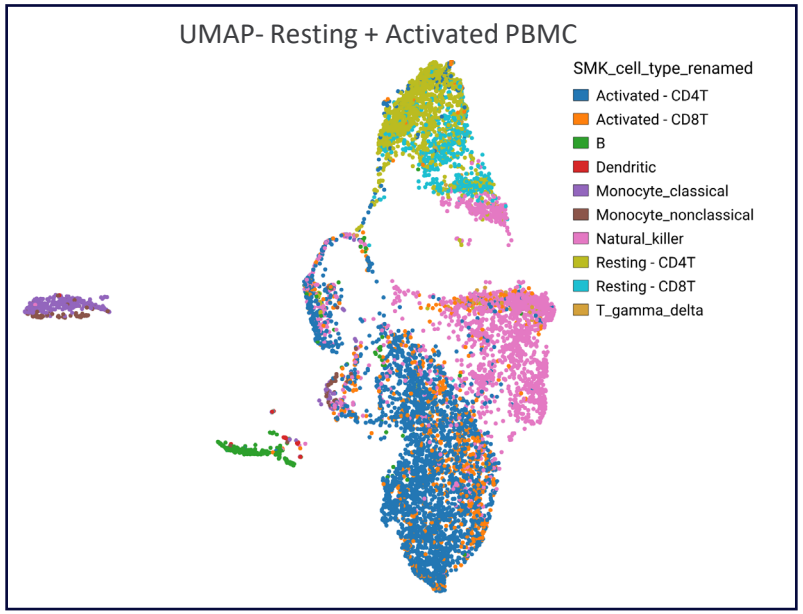


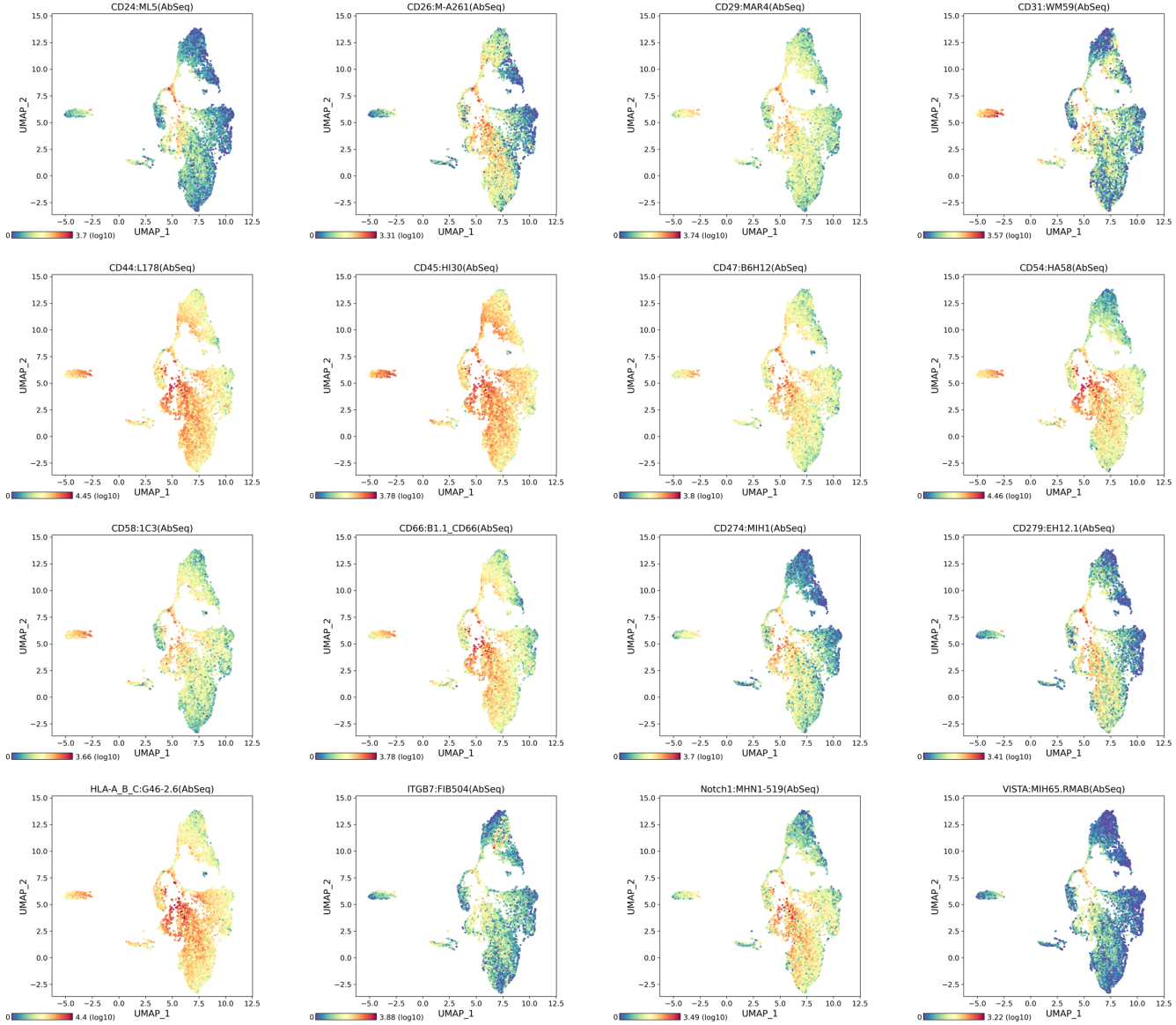
B.



Detect 30 critical tumor markers in your samples with confidence

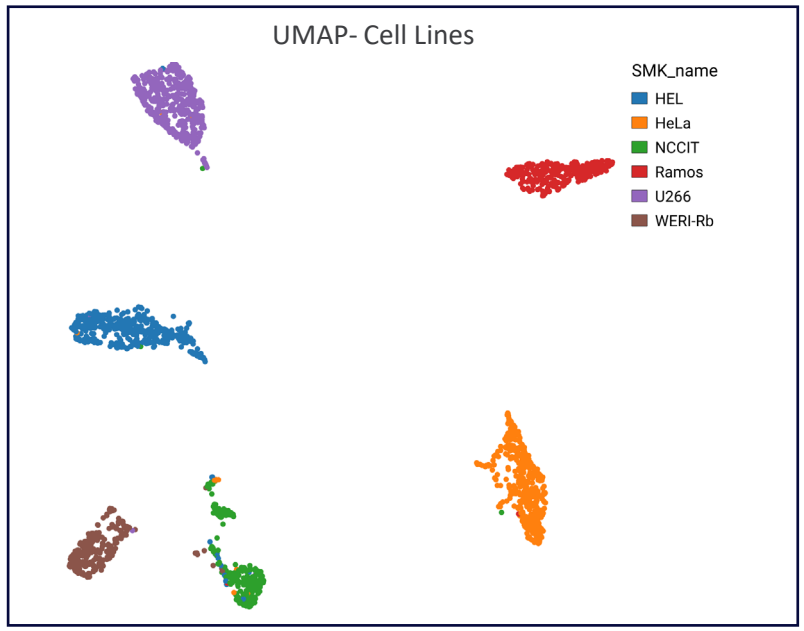
A.

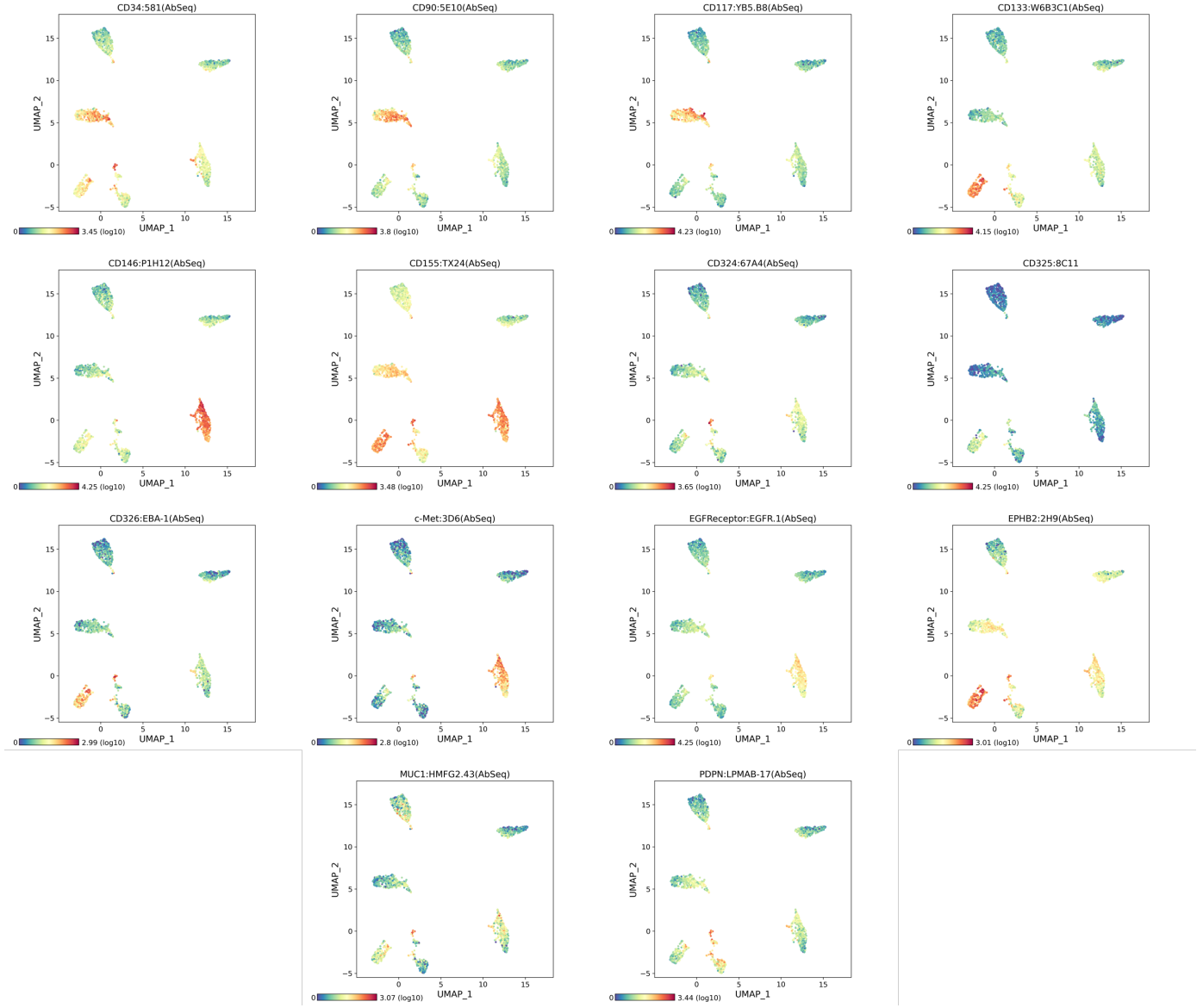




Detect 30 critical tumor markers in your samples with confidence

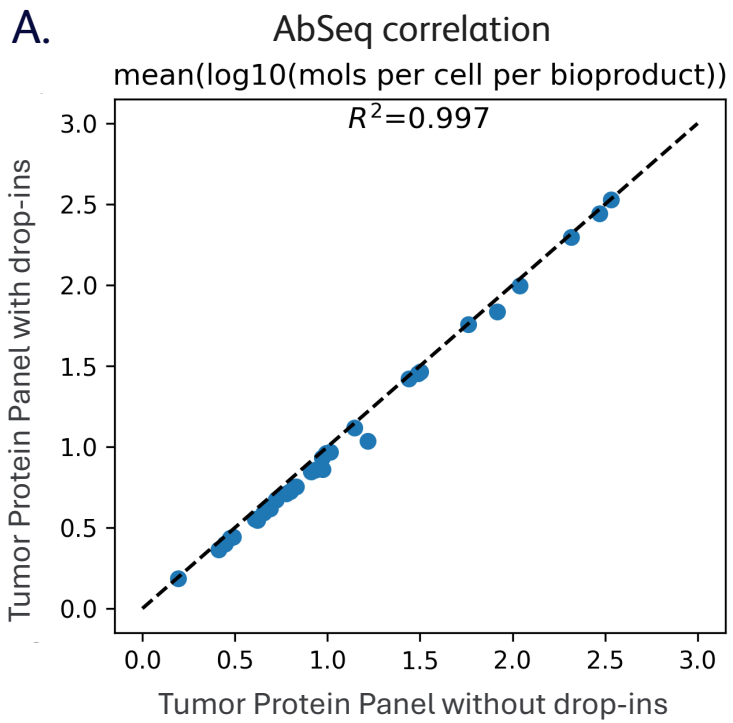
B.





Add additional specificities of interest to the BD® OMICS-One Tumor Protein Panel without compromising performance

A.



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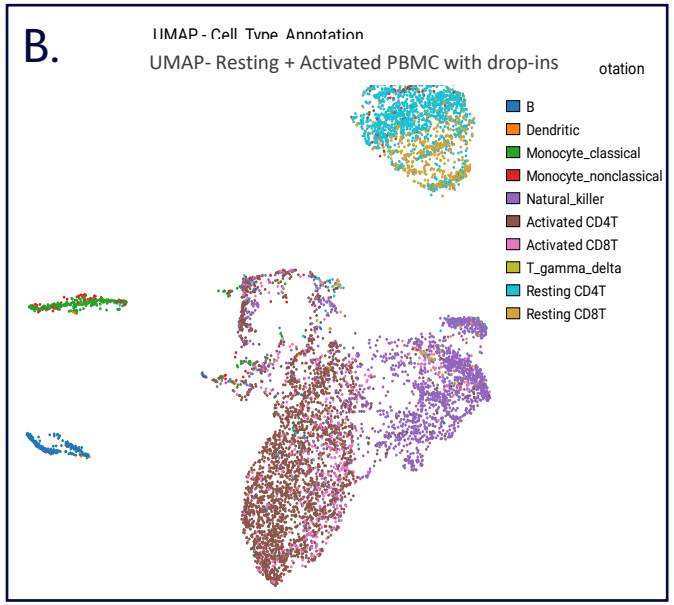
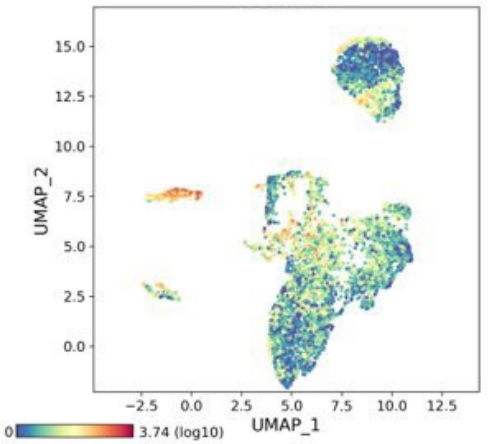
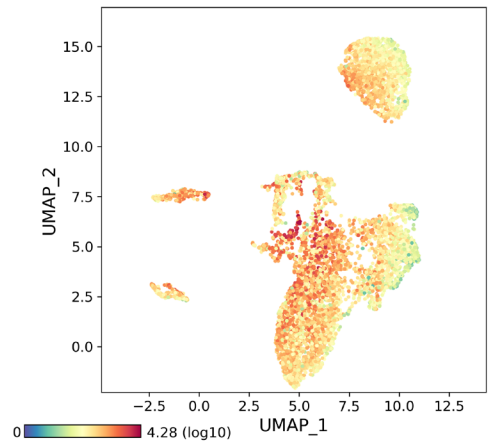


Specificities in the BD® OMICS-One Tumor Protein Panel

CD31

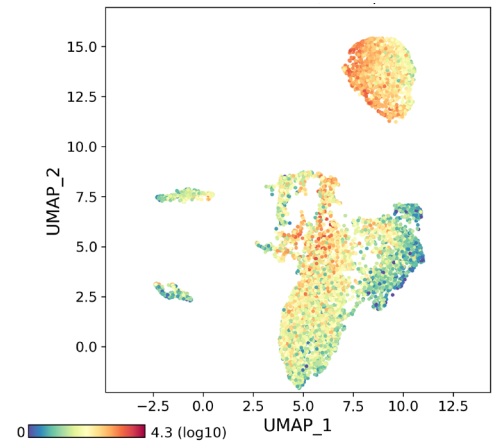


CD44

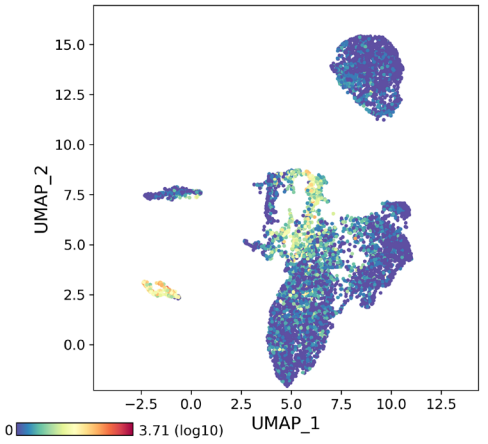


Three single-vial BD® AbSeq Antibody-Oligo drop-ins

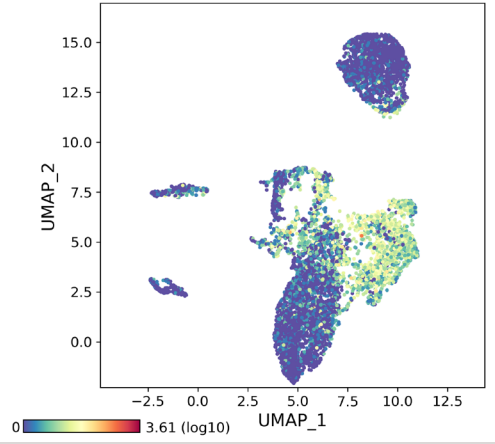
CD3



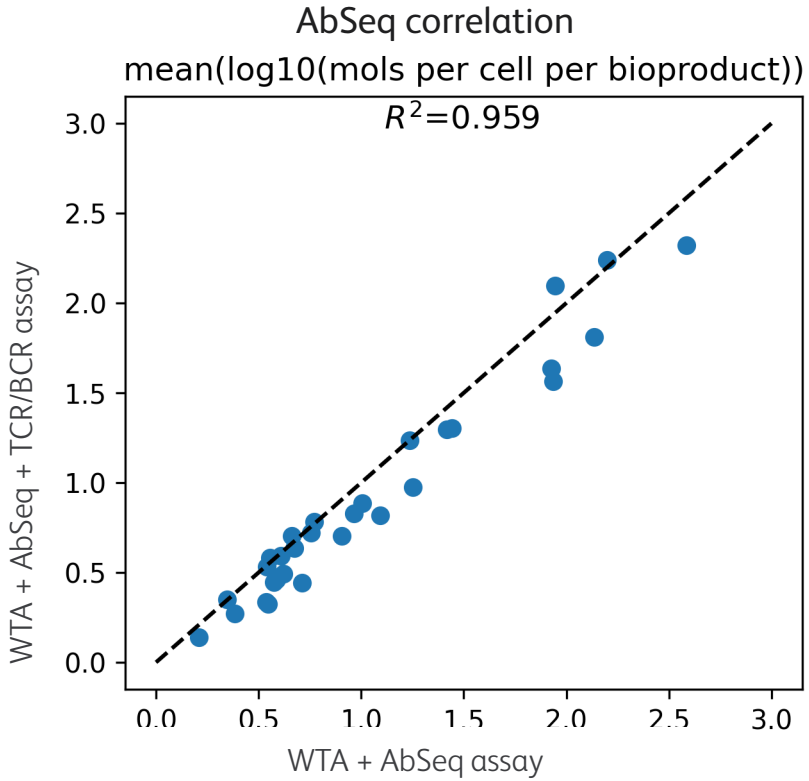
CD19



CD56



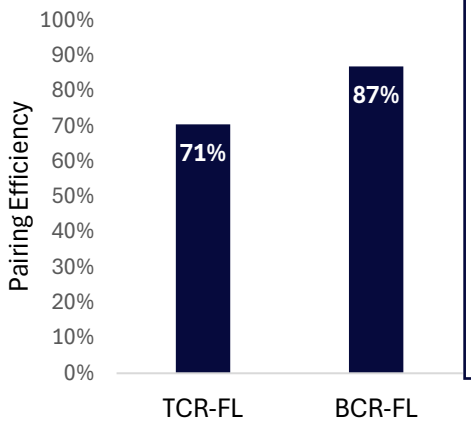
Multiomics enabled: BD® OMICS-One Tumor Protein Panel is designed to work with WTA and TCR/BCR assays



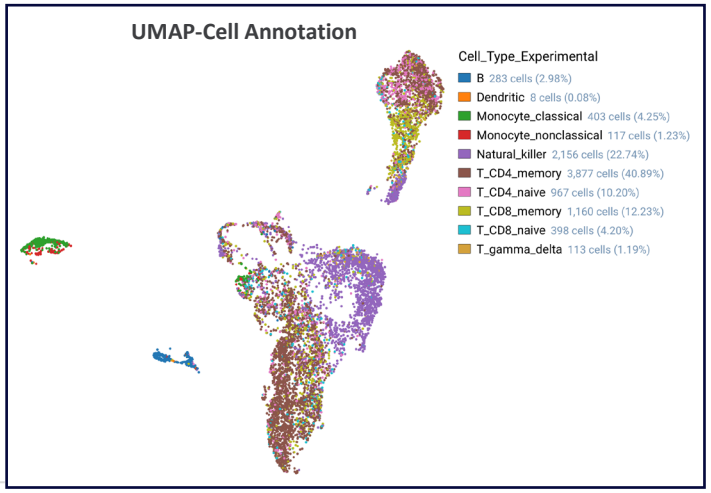
The addition of BD Rhapsody™ TCR/BCR Next Assay does not impact BD® OMICS-One Tumor Protein Panel performance

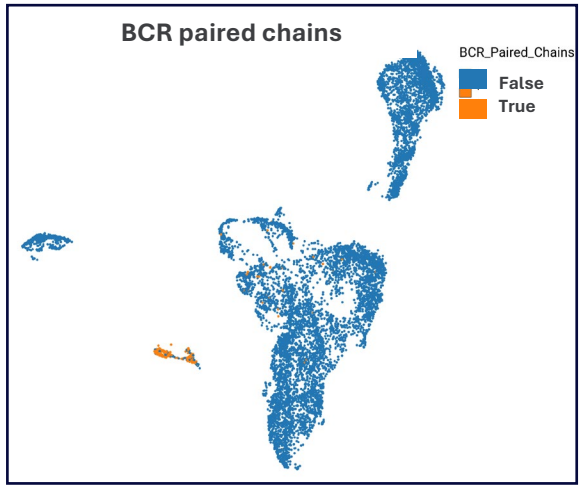
Multiomics enabled: BD® OMICS-One Tumor Protein Panel is designed to work with WTA and TCR/BCR assays

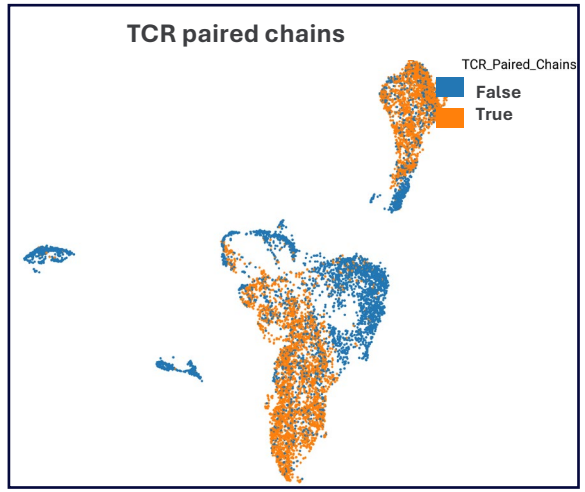
A.



B.







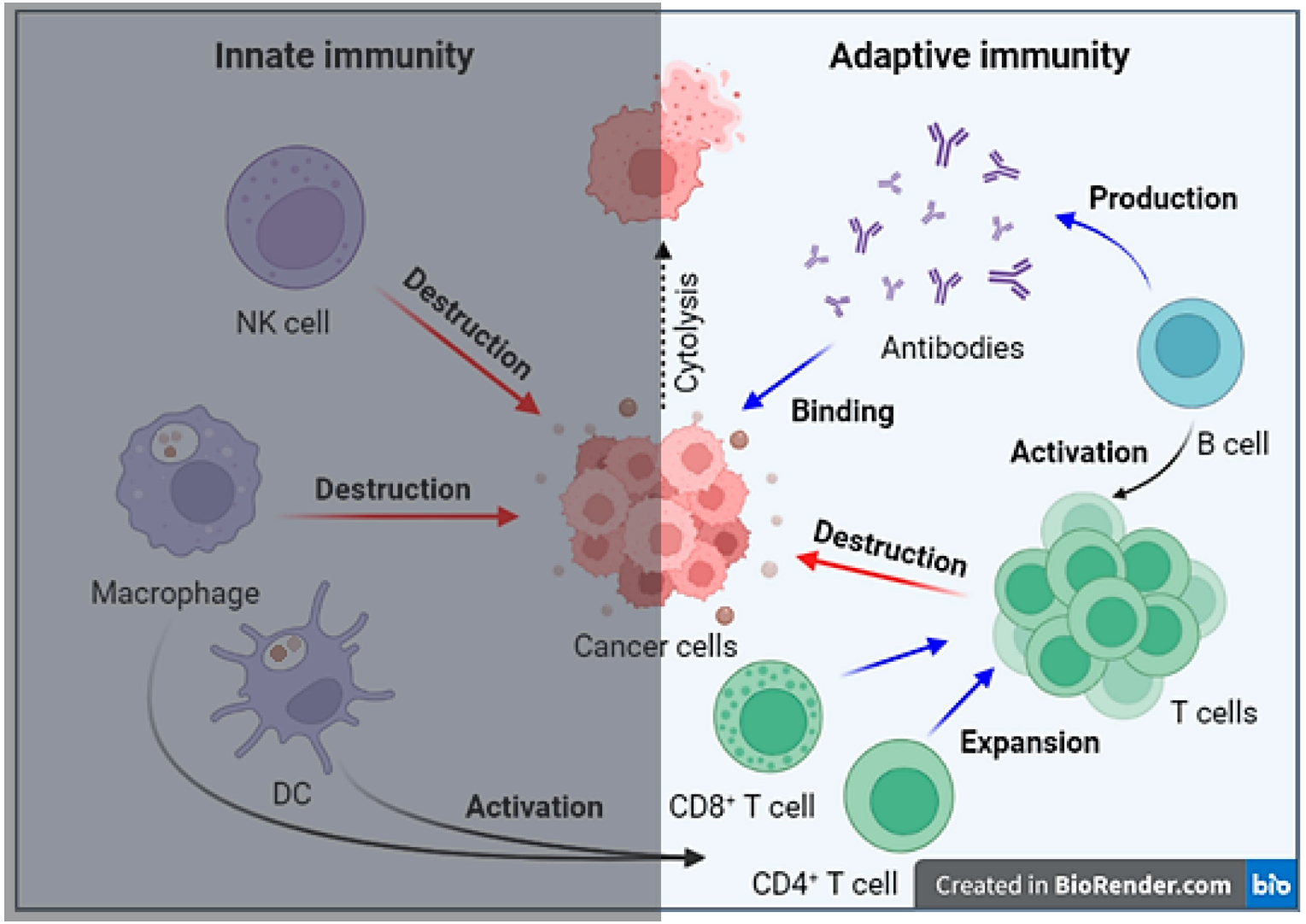
C.

●FWR1 ●CDR1 ●FWR2 ●CDR2 ●FWR3 ●CDR3 ●FWR4

Cell Index	TCR/BCR Chain	VDJ Translation Trimmed
15598	TCR_Alpha	VTSLSAYSPILIVQKGGISIINCAYE NTAFDY FPWYQQFPGKGPALLIA IRPDVSE KKEGRFTISFNKSAKQFSLHIMDSQPGDSATYFC AARNTGGFKTI FGAGTRLFVKA
15598	TCR_Beta	AAGVIQSPRHLIKEKRETATLKCYPI PRHDT VYWYQQGPGQDPQFLIS FYEKMQ SDKGSIPDRFSAQQFSDYHSELNMSSLELGDSALYFC ASSQTGHGDTDTQY FGPGTRLTVL
17194	TCR_Alpha	DQQVKQNSPSLSVQEGRISILNCDYT NSMFDY FLWYKKYPAEGPTFLIS ISSIKDK NEDGRFTVFLNKSAKHLSLHIVPSQPGDSAVYFC AAHNAGNMLT FGGGTRLMVKP
17194	TCR_Beta	KAGVTQTPRYLIKTRGQQVTLSCSPI SGHRS VSWYQQTPGQGLQFLFE YFSETQ RNKGNFPGRFSGRQFSNSRSEMNVSTLELGDSALYLC ASSLRTGLRGGGTDTQY FGPGTRLTVL
22191	TCR_Alpha	DQQVKQNSPSLSVQEGRISILNCDYT NSMFDY FLWYKKYPAEGPTFLIS ISSIKDK NEDGRFTVFLNKSAKHLSLHIVPSQPGDSAVYFC AATFYGGATNKLI FGTGTLLAVQP
22191	TCR_Beta	NAGVTQTPKFRVLKTGQSMTLLCAQD MNHEY MYWYRQDPGMGLRLIHY SVGEGT TAKGEVPDGYNVSRLKKQNFLLGLESAAPSQTSVYFC ASSYSRQTQY FGPGTRLTVL
23264	IG_Heavy	EVQLVESGGGLVKPGGSLRLSCAAS GFTFSSYS MNWVRQAPGKGLEWVSS ISSSSSYI YYADSVKGRFTISRDNAKNSLYLQMNSLRAEDTAVYYC AREKVYCSGGSCYSLGAFDI WGQGTMVTVSS
23264	IG_Kappa	AIRMTQSPSSFSASTGDRVTITCRAS QGISSY LAWYQQKPGKAPKLLIY AAS TLQSGVPSRFSGSGSGTEFTLTISSLQPDDFATYYC QQYNSLER SAKGPRWKS
31565	TCR_Alpha	KQEVTQIPAALSVPEGENLVLNCSFT DSAIYN LQWFRQDPGKGLTSLLL IQSSQRE QTSGRLNASLDKSSGRSTLYIAASQPGDSATYLC AVSKVAGNQFY FGTGTSLTVIP
31565	TCR_Beta	NAGVTQTPKFRVLKTGQSMTLLCAQD MNHEY MYWYRQDPGMGLRLIHY SVGEGT TAKGEVPDGYNVSRLKKQNFLLGLESAAPSQTSVYFC ASRTDRRYSETQY FGPGTRLLVL

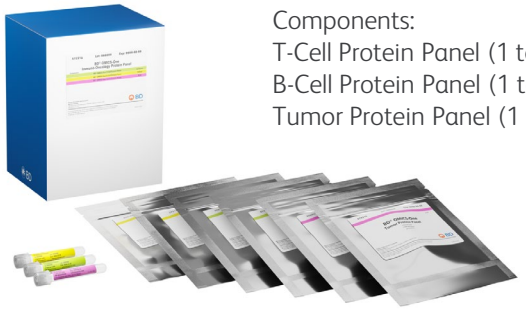
BD® OMICS-One Immuno-Oncology Protein Panel

Tumor and adaptive immune system interaction



https://www.mdpi.com/1467-3045/46/1/11

BD® OMICS-One Immuno-Oncology Protein Panel specificities



Components:
T-Cell Protein Panel (1 test/pouch, 2 pouches)
B-Cell Protein Panel (1 test/pouch, 2 pouches)
Tumor Protein Panel (1 test/pouch, 2 pouches)

Specificity	Clone
CD1d	CD1d42
CD3	UCHT1
CD4*	SK3
CD5	UCHT2
CD8	SK1
CD9	M-L13
CD10	HI10a
CD19	SJ25C1
CD20	2H7
CD21	B-ly4
CD22	HIB22
CD23	EBVCS-5
CD24**	ML5
CD25	2A3
CD26	M-A261
CD27	M-T271
CD28	L293
CD29	MAR4
CD30	BERH8
CD31 (PECAM-1)	WM59
CD34**	581
CD38	HIT2
CD40	5C3
CD43*	1G10
CD44*/**	L178
CD45*	HI30
CD45RA	HI100
CD45RO	UCHL1
CD47	B6H12

Specificity	Clone
CD54	HA58
CD58	1C3
CD62L	DREG-56
CD66	B1.1/CD66
CD69	FN50
CD73	AD2
CD79b	CB3-1
CD80	L307.4
CD90	5E10
CD95**	DX2
CD103	Ber-ACT8
CD117	YB5.B8
CD126	M5
CD127	HIL-7R-M21
CD133	W6B3C1
CD134 (OX40)	ACT35
CD137	4B4-1
CD138	MI15
CD146	P1H12
CD154	TRAP1
CD155	TX24
CD161 (KLRB1)	HP-3G10
CD183	1C6/CXCR3
CD184 (CXCR4)	12G5
CD185 (CXCR5)	RF8B2
CD194 (CCR4)	1G1
CD196 (CCR6)	11A9
CD197 (CCR7)	2-L1-A
CD223 (LAG-3)	T47-530

Specificity	Clone
CD227 (MUC1)	HMFG2
CD268 (BAFF-R)	11C1
CD272	J168-540
CD274 (PD-L1)	MIH1
CD275	2D3/B7-H2
CD278	DX29
CD279 (PD-1)**	EH12.1
CD324 (E-Cad)	67A4
CD325 (N-Cad)	8C11
CD326 (EpCAM)	EBA-1
CD357 (GITR)	V27-580
CD366 (TIM-3)	7D3
c-MET	3D6
EGFR	EGFR.1
EphB2	2H9
HLA-A,B,C*	G46-2.6
HLA-DR*	G46-6
IgD	IA6-2
IgG	G18-145
IgM	G20-127
Integrin β7	FIB504
Notch1	MHN1-519
Podoplanin	LpMab-17
TCR Vα24-Jα18	6B11
TCRγ/δ	11F2
TIGIT	TgMab-2
Vista	MIH65.rMAb

*SMART-titrated antibodies
**The BD® OMICS-One Immuno-Oncology Protein Panel comprises three individual lyophilized 30-plex protein panels—the BD® OMICS-One T-Cell, B-Cell and Tumor Protein Panels; these are overlapping specificities in the three protein panels.

Fewer sequencing reads consumed by CD4, CD43, CD44, CD45, HLA-DR and HLA-A,B,C and more reads allocated to lowly expressed markers

Percent of Total Sequencing Reads Consumed		
Markers	Without SMART panel design	With SMART panel design
Reduction of sequencing reads allocated to primary markers ▼		
CD44	27.14	8.80
HLA-DR	13.42	8.74
CD43	6.07	3.37
HLA-A,B,C	5.61	4.45
CD4	2.10	1.47
CD45	3.19	1.48
Read re-allocation to selected lowly expressed markers ▲		
CD34	3.23	3.40
CD54	2.38	4.33
CD69	3.37	6.90
CD5	2.04	3.25
CD20	0.46	1.21
CD27	1.44	2.07
CD19	0.43	0.75
CD25	1.32	2.72

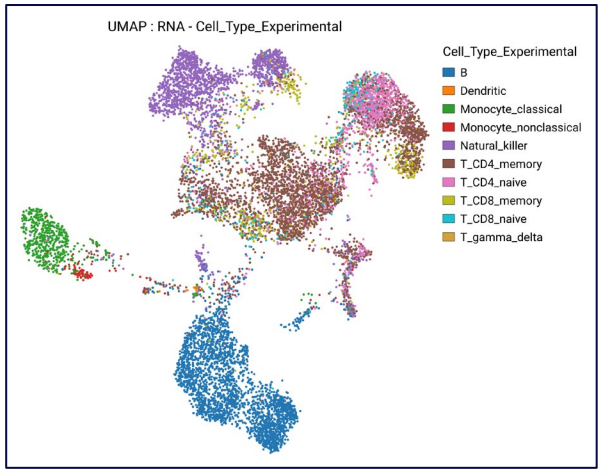
Percent of Total Sequencing Reads Consumed		
Markers	Without SMART panel design	With SMART panel design
CD279	1.16	1.76
CD79b	0.98	1.45
CD196	0.94	1.51
CD95	0.91	1.30
CD73	0.83	1.28
CD3	0.81	1.54
CD38	0.76	1.23
CD194	0.69	1.37
CD366	0.64	1.23
CD9	0.62	1.00
CD47	0.62	1.07
CD155	0.62	0.88
CD23	0.61	0.96
CD272	0.61	1.21
IgM	0.61	0.99
CD275	0.60	1.42

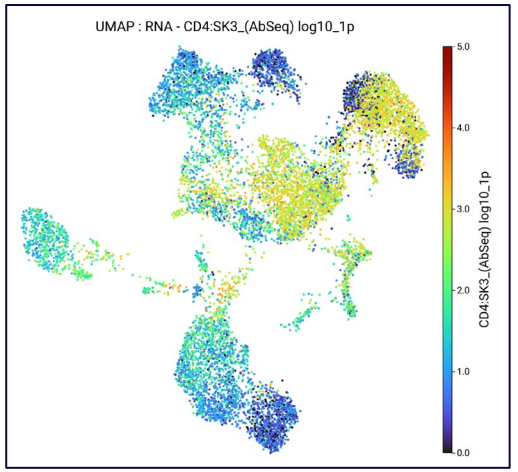
CD4, CD43, CD44, CD45, HLA-DR and HLA-A,B,C detection is not compromised

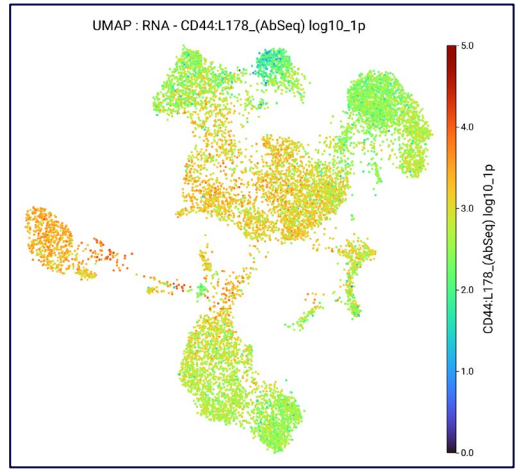
CD4

CD44

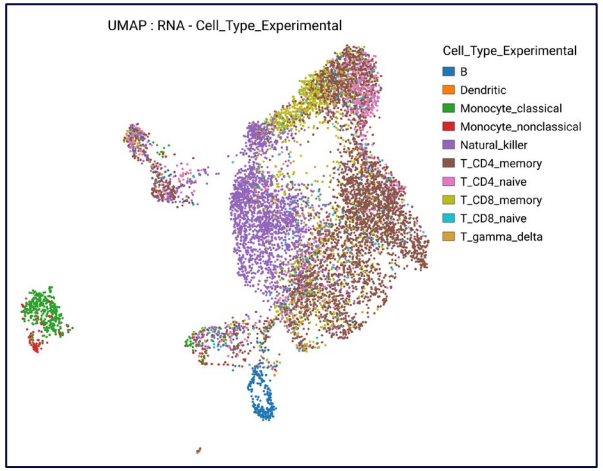
Without SMART panel design

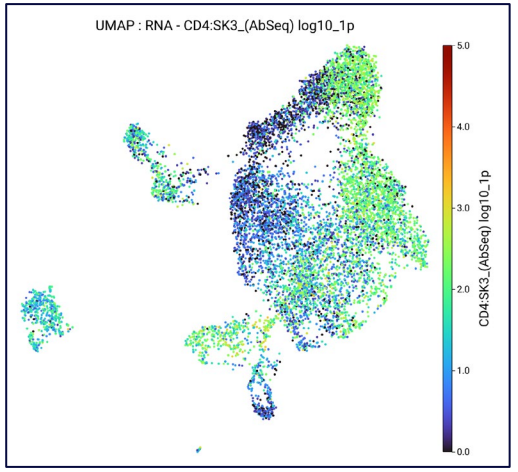


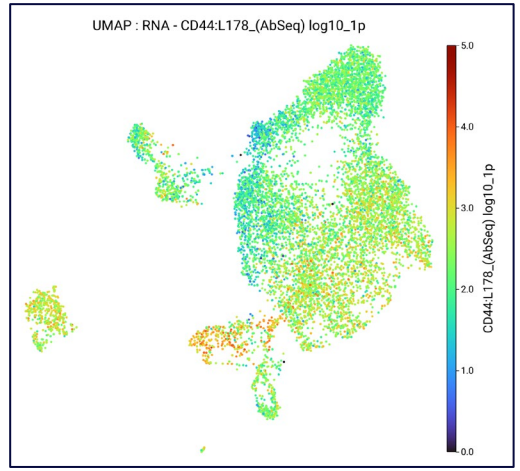




With SMART panel design







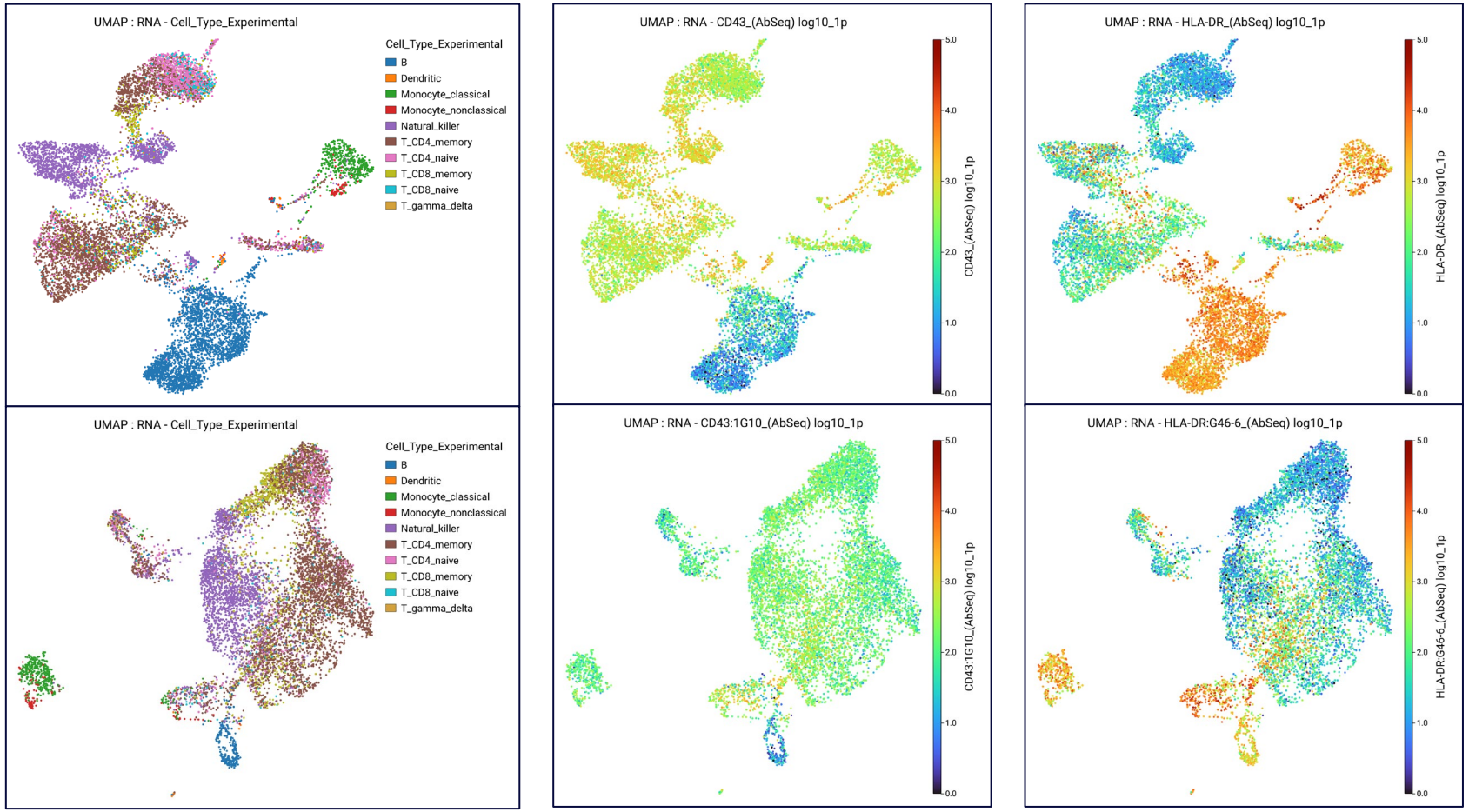
CD4, CD43, CD44, CD45, HLA-DR and HLA-A,B,C detection is not compromised

CD43

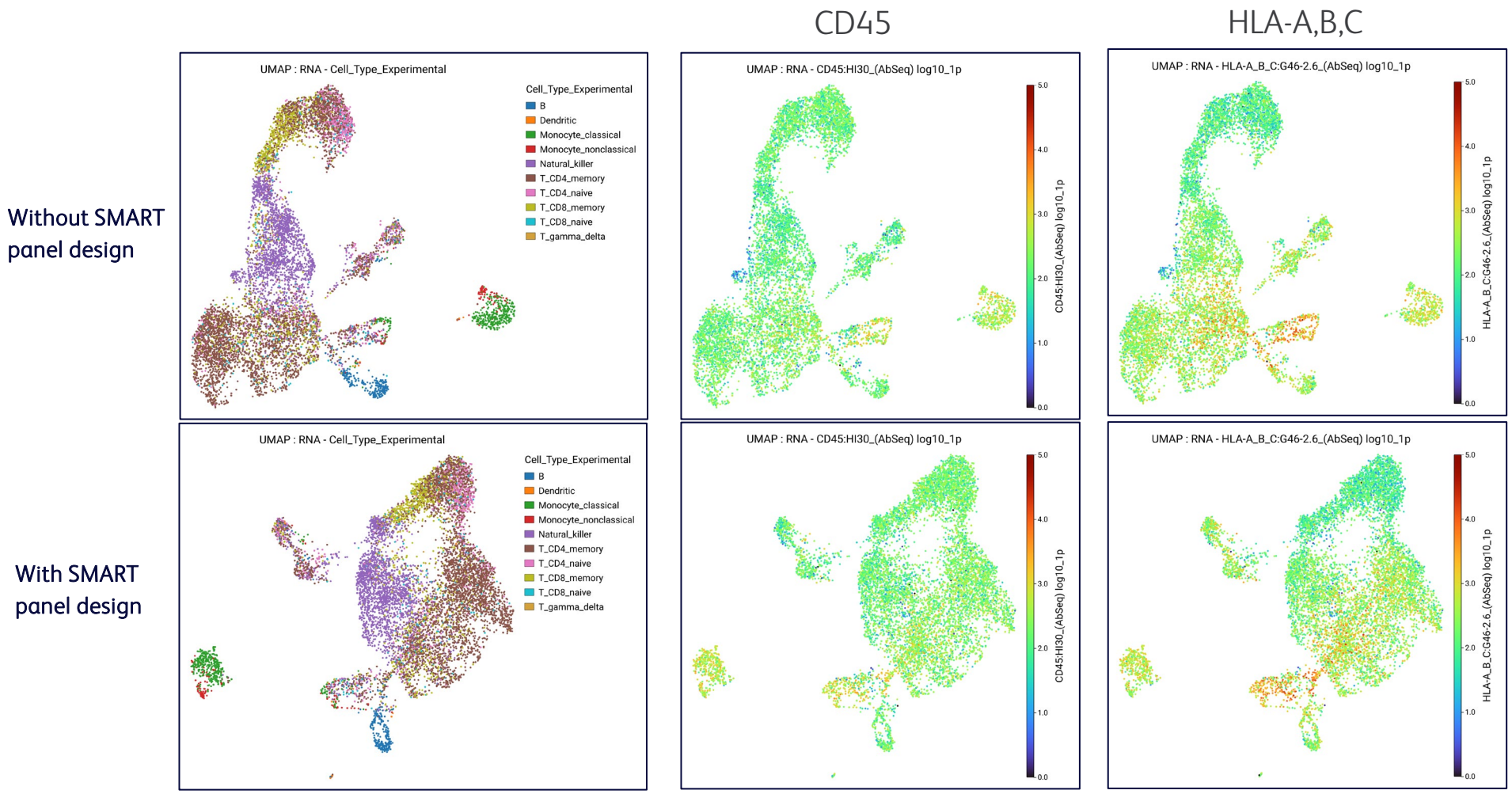
HLA-DR

Without SMART panel design

With SMART panel design



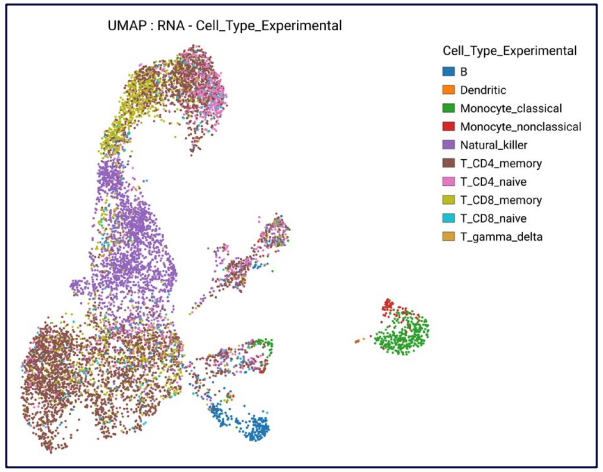
CD4, CD43, CD44, CD45, HLA-DR and HLA-A,B,C detection is not compromised

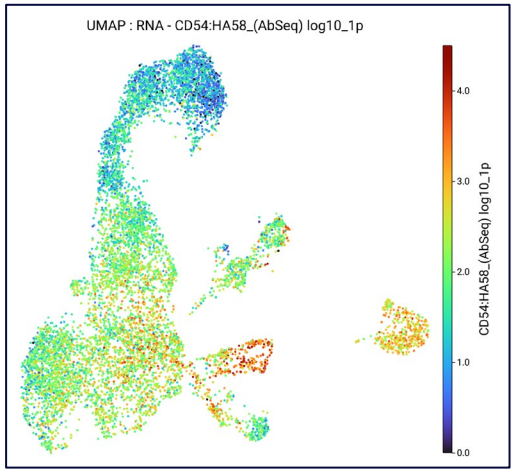


Better resolution of low expressors is found with SMART panel design

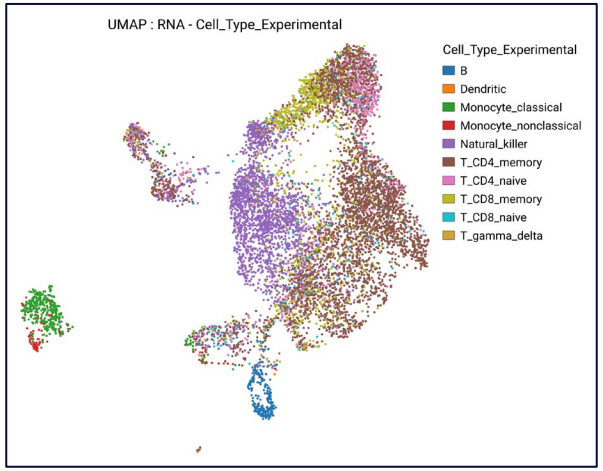
CD54

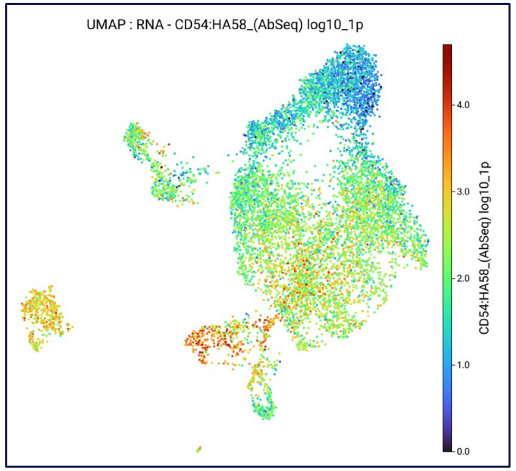
Without SMART panel design





With SMART panel design

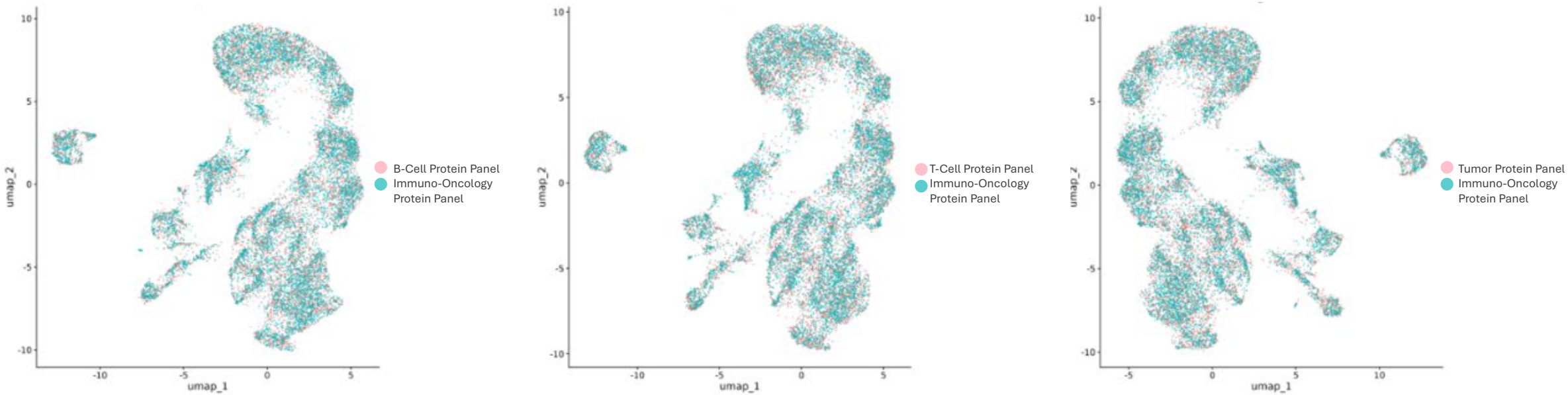




Scalable high-plex protein profiling solution with modular panel design

A.

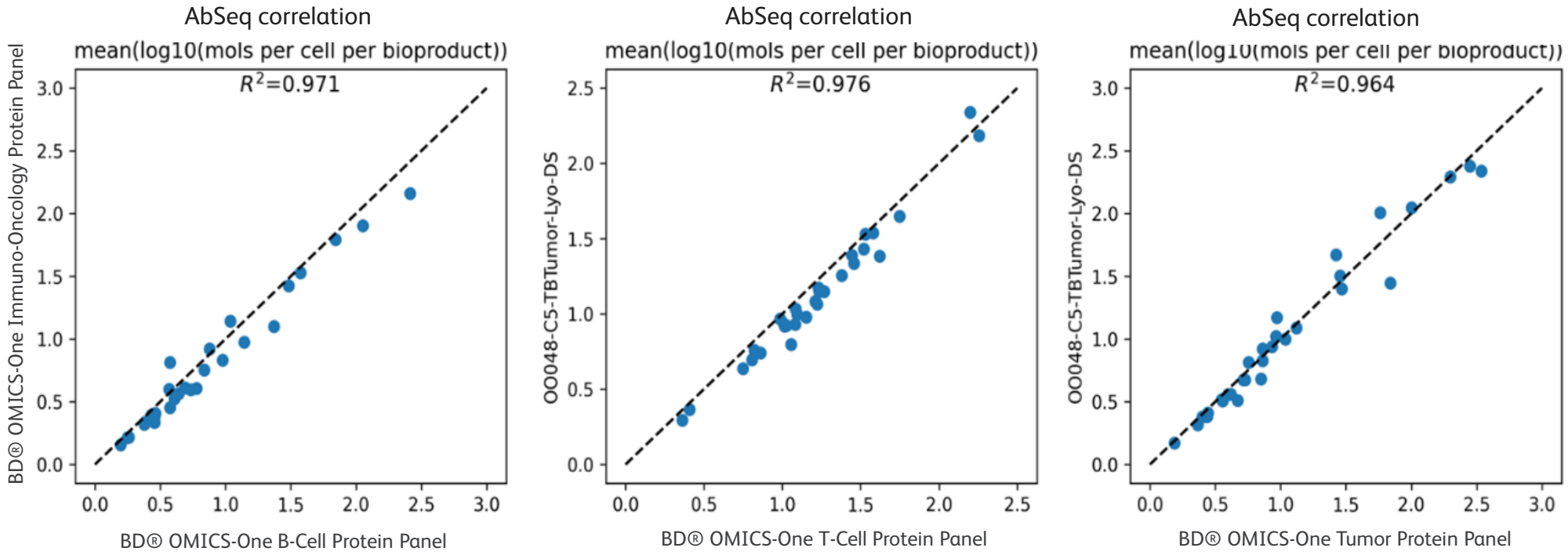
Similar mRNA detection performance between the lyophilized BD® OMICS-One Immuno-Oncology Protein Panel versus each lyophilized component panel.



Scalable high-plex protein profiling solution with modular panel design

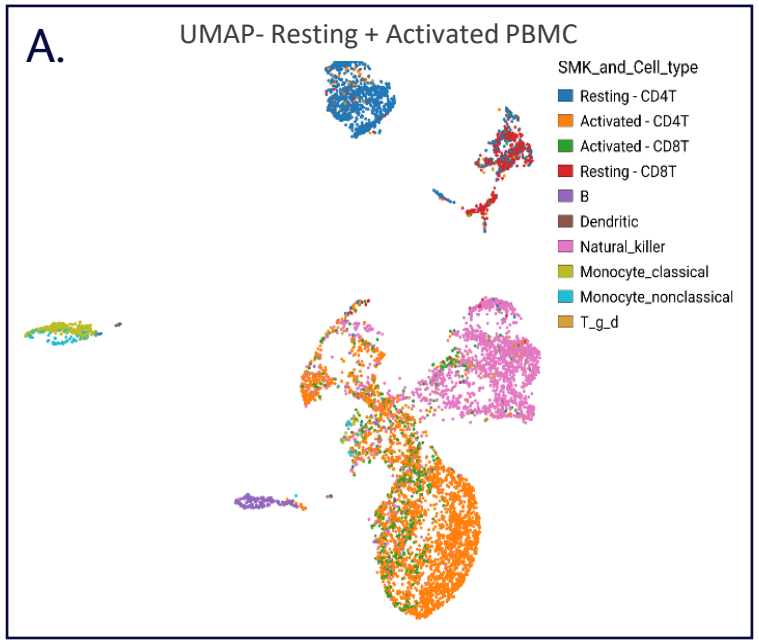
B.

Similar protein detection performance between the lyophilized BD® OMICS-One Immuno-Oncology Protein Panel versus each lyophilized component panel.



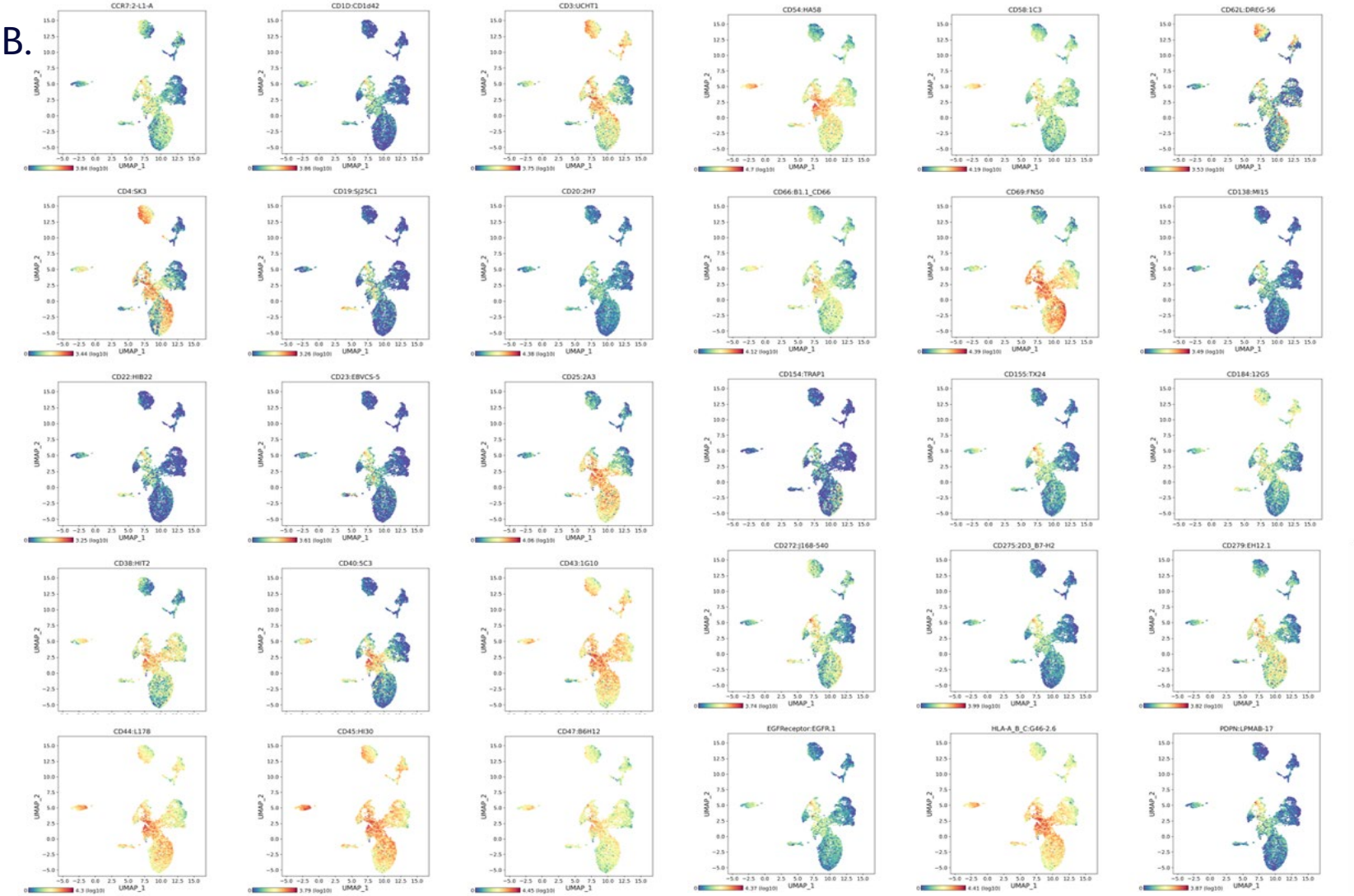
Detect 85 critical adaptive immune and tumor markers in your samples with confidence

A.

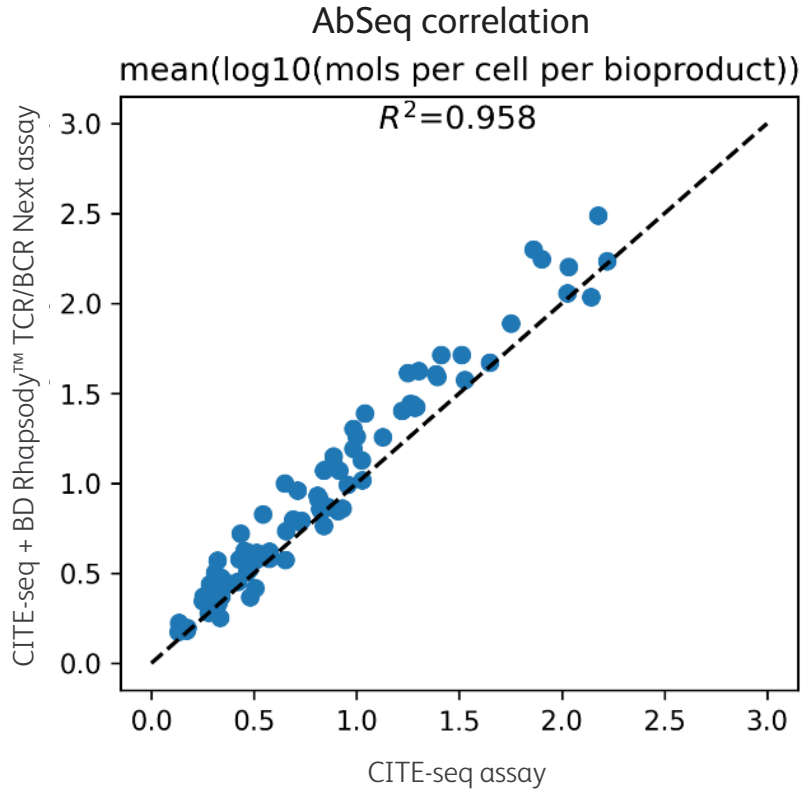


B.

Performance of 30 selected specificities included in the BD® OMICS-One Immuno-Oncology Protein Panel



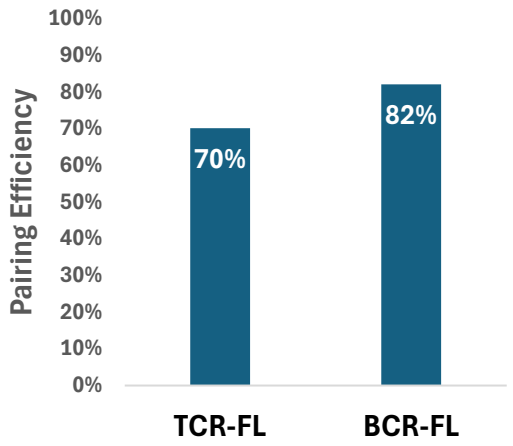
Multiomics enabled: BD® OMICS-One Immuno-Oncology Protein Panel is designed to work with WTA and TCR/BCR assays



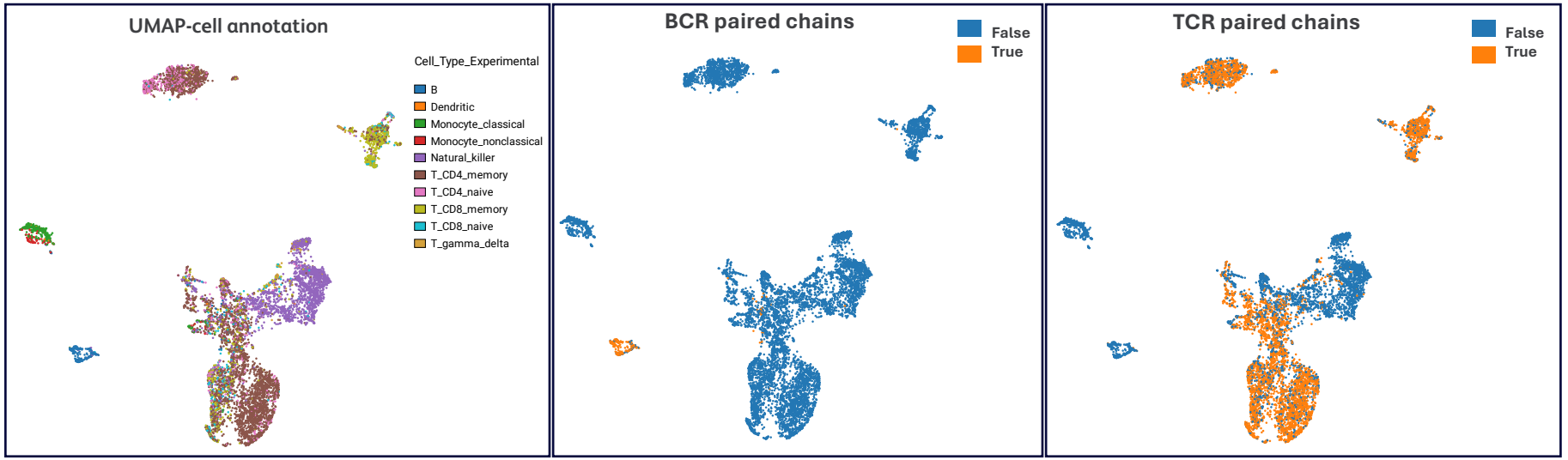
The addition of BD Rhapsody™ TCR/BCR Next Assay does not impact BD® OMICS-One Immuno-Oncology Protein Panel performance

Multiomics enabled: BD® OMICS-One Immuno-Oncology Protein Panel is designed to work with WTA and TCR/BCR assays

A.



B.



C.

●FWR1 ● CDR1 ● FWR2 ● CDR2 ● FWR3 ● CDR3 ● FWR4

Cell Index	TCR/BCR Chain	VDJ Translation Trimmed
2937	IG_Heavy	EVQLVESGGGLVKPGGSLRLSCAAS GFAFSTYN MNWVRQAPGKGLEWVSS IGSSTSYT YYAESVKGRFTISRDNAKNSLYLQMTSLRAEDTAVYYC ARDLTNWNDGISGDY WGQGTVVTVSS
2937	IG_Kappa	DIQMTQSPSSLSASLGDRVTITCRAS QSISRF LNWYQQKPGKAPKLLIY SAS NLQSGVPSRFSGSGSGTDFTLTISNLQPEDFATYYC QKSYSFPHT FGQGTKLEIK
13092	TCR_Alpha	TQLLEQSPQFLSIQEGENLTVYCNSS SVFSS LQWYRQEPGEGPVLLVT VVTGGEV KKLKRLTFQFGDARKDSSLHITAAQPGDTGLYLC AGAAGTSYGKLT FGQGTILTVHP
13092	TCR_Beta	DGGITQSPKYLFRKEGQNVTLSCEQN LNHDA MYWYRQDPGQGLRLIYY SQIVND FQKGDIAEGYSVSREKKESFPLTVTSAQKNPTAFYLC ASTRRGVTEAF FGQGTRLTVV
43771	TCR_Alpha	QQPVQSPQAVILREGEDAVINCSSS KALYS VHWYRQKHGEAPVFLMI LLKGGEQ KGHEKISASFNEKKQQSSLYLTASQLSYSGTYFC GTANTNAGKST FGDGTTLTVKP
43771	TCR_Beta	WLGVWVTSSHQVAQMGQEVILRCVPI SNHLY FYWYRQILGQKVEFLVS FYNNEI SEKSEIFDDQFSVERPDGSNFTLKIRSTKLEDSAMYFC ASRSAVYNSPLH FGNGTRLTVT
55572	TCR_Alpha	DAKTTQPNSMESNEEEPVHLPCNHS TISGTDY IHWYRQLPSQGPEYVIH GLTSN VNNRMASLAIAEDRKSSTLILHRATLRDAAVYYC ILRGIIQGAQKLV FGQGTRLTINP
55572	TCR_Beta	EAGVAQSPRYKIIEKRQSVAFWCNPI SGHAT LYWYQQILGQGPKLLIQ FQNNGV VDDSQLPKDRFSAERLKGVDSTLKIQPAKLEDSAVYLC ASSLAEYGNNEQF FGPGTRLTVL
72959	TCR_Alpha	DAKTTQPTSMDCAEGRAANLPCNHS TISGNEY VYWYRQIHSQGPQYIIH GLKNN ETNEMASLIITEDRKSSTLILPHATLRDTAVYYC IVSYEKLT FGTGTRLTIIP
72959	TCR_Beta	GAGVSQTPSNKVTEKGKDVELRCDPI SGHTA LYWYRQSLGQGLEFLIY FQGNSA PDKSGLPSDRFSAERTGGSVSTLTIQRTQQEDSAVYLC ASSLGQGSFNEQY FGPGTRLTVT
79323	TCR_Alpha	GENVEQHPSTLSVQEGDSAVIKCTYS DSASNY FPWYKQELGKRPQLIID IRSNVGE KKDQRIAVTLNKTAKHFSLHITETQPEDSAVYFC AASYFGNEKLT FGTGTRLTIIP
79323	TCR_Beta	DTGVSQDPRHKITKRGQNVTFRCDPI SEHNR LYWYRQTLGQGPEFLTY FQNEAQ LEKSRLLSDRFSAERPKGSFSTLEIQRTEQGDSAMYLC ASSSAQGGNEQF FGPGTRLTVL

Thank you

For Research Use Only. Not for use in diagnostic or therapeutic procedures.

Ordering information

Cat. no.	Product description	Config (Size)	List price (USD)	Shelf life
572178	BD® OMICS-One T-Cell Protein Panel	2 tests/kit	$600	3 years
572179	BD® OMICS-One B-Cell Protein Panel	2 tests/kit	$600	3 years
572241	BD® OMICS-One Adaptive Protein Panel	2 tests/kit	$1,100	3 years
572310	BD® OMICS-One Tumor Protein Panel	2 tests/kit	$600	3 years
572316	BD® OMICS-One Immuno-Oncology Protein Panel	2 tests/kit	$1,600	3 years

Required and recommended companion products

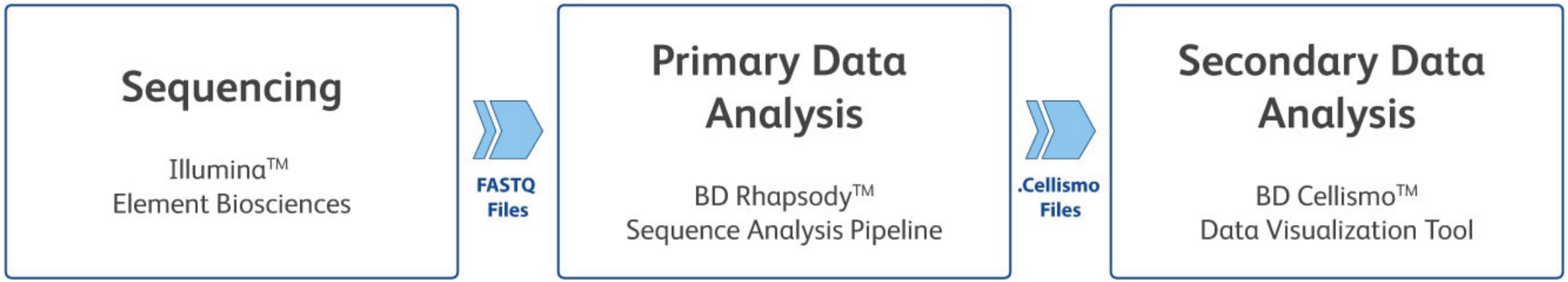
Required companion products

Cat. No.	Product description
554656	BD Pharmingen™ Stain Buffer (FBS)
633801	BD Rhapsody™ Whole Transcriptome Analysis (WTA) Amplification Kit
633773	BD Rhapsody™ cDNA Kit
666262	BD Rhapsody™ 8-lane cartridge
667052	BD Rhapsody™ Enhanced Cartridge Reagent V3
666625	BD Rhapsody™ HT Xpress Package

Recommended companion products

Cat. No.	Product description
667058	BD Rhapsody™ TCR/BCR Next Amplification Kit
633774	BD Rhapsody™ Targeted mRNA and AbSeq Amplification Kit
564220	BD Pharmingen™ Human BD Fc Block
633781	BD® Human Single-Cell Multiplexing Kit
633849	BD® Flex Single-Cell Multiplexing Kit A, Flex Sample Tag 1-6
633850	BD® Flex Single-Cell Multiplexing Kit A, Flex Sample Tag 7-12
633851	BD® Flex Single-Cell Multiplexing Kit A, Flex Sample Tag 13-18
633852	BD® Flex Single-Cell Multiplexing Kit A, Flex Sample Tag 19-24
633701	BD Rhapsody™ Scanner
570742	BD Rhapsody™ Intracellular AbSeq Buffer Kit
570911	BD® OMICS-Guard Sample Preservation Buffer
570750	BD® AbSeq Enhancer
570751	BD® RNase Inhibitor

Sequencing and data analysis



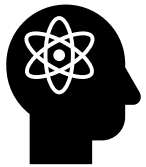
- Recommended sequencing depth for BD® OMICS-One Protein Panels: 300 read pairs/specificity per cell
- Read length: Minimum of 51 × 71 bp

- Get access to the BD Rhapsody™ Sequence Analysis Pipeline on the Seven Bridges Genomics Platform or on a local installation
- Acquire the AbSeq reference file (.fasta) from the BD AbSeq Panel Generator
- Set up analysis following the *BD Rhapsody ™ Sequence Analysis Pipeline User's Guide* (Doc ID: 23-24580)

- Navigate to the BD Cellismo™ Data Visualization Tool landing page
- Provide your information*
- Select your operating system
- Install the BD Cellismo™ Data Visualization Tool and agree to the end-user license agreement (EULA)

*Will be used to notify you of updates and bug fixes

Supporting you with your single-cell experiments



Getting help from single-cell experts

Visit us at scomix.bd.com to view our resource library, learning center and FAQs

In need of technical support

BD technical service support is here to help with instrument support. Contact us **email** at scomix@bd.com or online at https://scomix.bd.com/hc/en-us/requests/new to submit a ticket

Ordering BD® OMICS-One Protein Panels

To request a quote or place an order, visit bdbiosciences.com/OMICSOnePanels, email scomix@bd.com or contact your local BD sales representative.

Part of a complete single-cell multiomics solution