

# BD<sup>®</sup> OMICS-One B-Cell Protein Panel

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

Deep dive into B-cell biology using a validated panel that simplifies the CITE-seq workflow and minimizes your sequencing cost. As part of the family of BD<sup>®</sup> OMICS-One Protein Panels, this focused panel targets 30 key markers to uncover B-cell populations of interest. Use this panel on its own or paired with other assays from our single-cell multiomics portfolio to explore B-cell populations and uncover their activation or suppression states with ease.



**Flexible:** Compatible with other BD<sup>®</sup> OMICS-One Protein Panels or drop-ins from growing library of more than 470 single-vial BD<sup>®</sup> AbSeq Antibody-Oligo Reagents



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

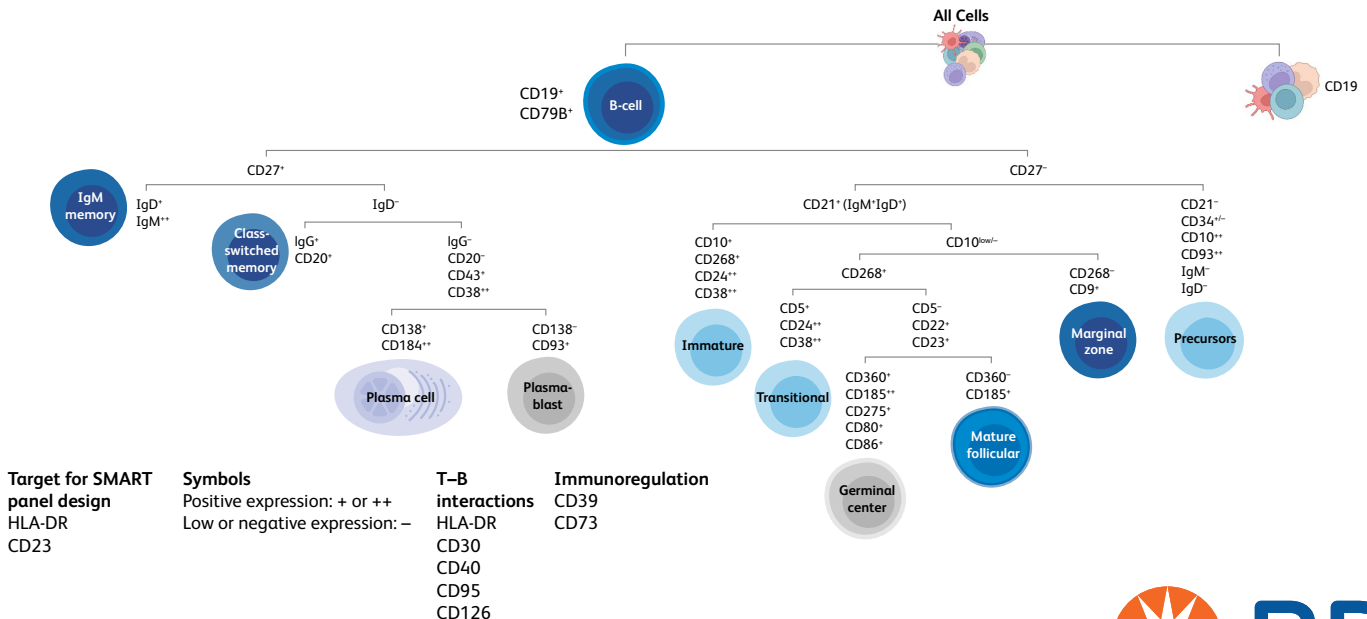


**Multiomics enabled:** Optimized to work with whole transcriptome, targeted and TCR/BCR profiling RNA-seq assays for multiomics studies

## Panel content

Specificity	Clone	Specificity	Clone	Specificity	Clone
CD1d	CD1d42	CD27	M-T271	CD126	M5
CD5	UCHT2	CD30	BERH8	CD138	MI15
CD9	M-L13	CD34	581	CD184	12G5
CD10	HI10A	CD38	HB7	CD185	RF8B2
CD19	SJ25C1	CD40	5C3	CD268	11C1
CD20	2H7	CD43*	1G10	CD275	2D3/B7-H2
CD21	B-LY4	CD73	AD2	HLA-DR*	G46-6
CD22	HIB22	CD79b	CB3-1	IgD	IA6-2
CD23	EBVCS-5	CD80	L307.4	IgG	G18-145
CD24	ML5	CD95	DX2	IgM	G20-127

\*Targets for SMART panel design

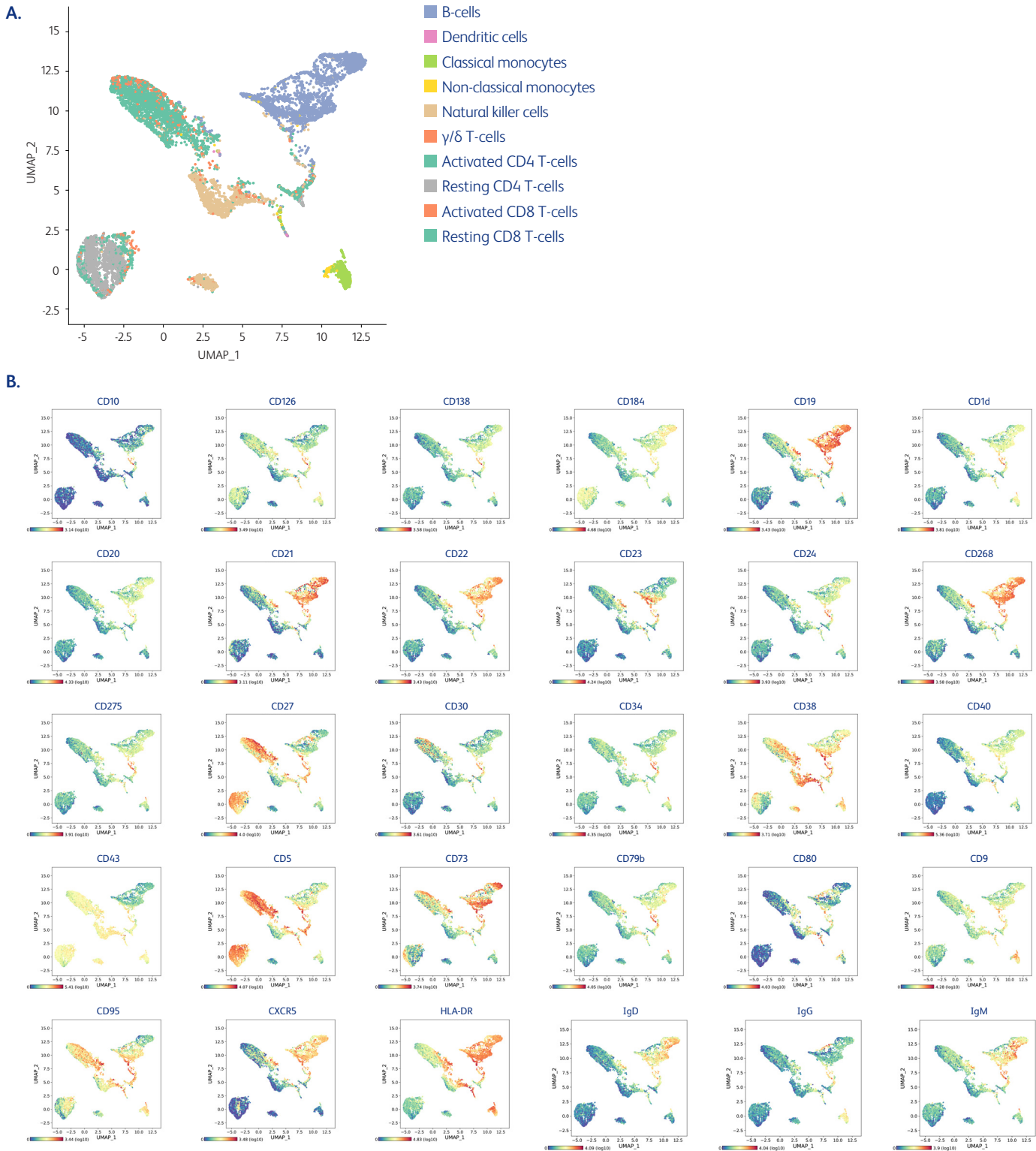


B-cell populations and activation states monitored by this panel.



# Reliably detect 30 key B-cell activation and suppression markers

Performance of all 30 markers included in the BD® OMICS-One B-Cell Protein Panel is optimized for detection in each cell type.



# Manage sequencing costs and improve detection sensitivity with SMART panel design

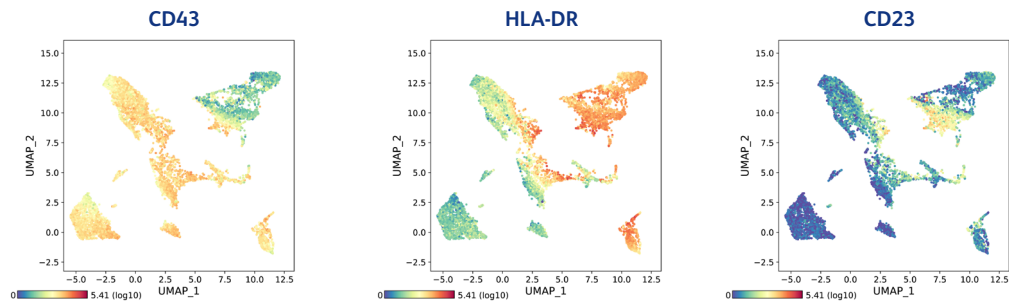
SMART panel design helps lower sequencing cost while increasing data resolution by using pre-titrated, optimal concentrations of antibody-oligos against select high-expressing primary markers in the panel. This allows re-allocation of sequencing reads otherwise allotted to these high expressers to now detect secondary and tertiary cell surface markers expressed at lower levels.

The two specificities selected for SMART panel design in the BD® OMICS-One B-Cell Protein Panel are CD43 and HLA-DR.

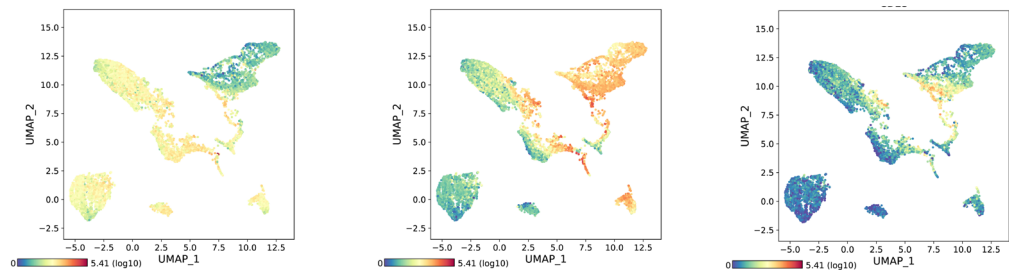
## A. Allocation of sequencing reads

Percent of Total Sequencing Reads Consumed			Percent of Total Sequencing Reads Consumed		
Markers	Without SMART panel design	With SMART panel design	Markers	Without SMART panel design	With SMART panel design
<b>Reduction of sequencing reads allocated to primary markers ▼</b>			IgM	1.71	2.63
CD43	17.09	8.92	CD10	0.21	0.31
HLA-DR	37.76	23.13	CD126	0.51	0.81
<b>Read re-allocation to lowly expressed markers ▲</b>			CD1d	0.81	1.37
CD5	5.74	8.61	CD21	0.56	0.84
CD9	1.76	2.64	CD22	0.91	1.50
CD19	1.22	1.97	CD24	1.49	2.21
CD20	1.28	3.19	CD268	1.31	1.98
CD23	1.72	2.53	CD275	1.70	3.76
CD27	4.05	5.47	CD30	0.73	1.14
CD38	2.14	3.27	CD34	6.13	5.79
CD40	0.93	2.10	CD73	2.34	3.39
CD138	0.41	0.79	CD79b	2.76	3.85
CD184	0.88	2.30	CD80	0.44	0.60
IgD	0.87	1.41	CD95	1.38	1.66
IgG	0.66	1.01	CD185	0.37	0.72

## B. Without SMART panel design



## C. With SMART panel design



**CD43 and HLA-DR detection is not compromised, while better resolution of low expressors is achieved with SMART panel design.** A. Percentage of reads taken up by highly expressed markers like CD43 and HLA-DR are significantly reduced with SMART panel design. More importantly, lowly expressed markers like CD23 are now detected at a better resolution as they have a higher percentage of sequencing reads allotted. B. and C. CD43 and HLA-DR detection with SMART panel design is not compromised compared to a regular antibody-oligo panel without SMART panel design. Meanwhile, lowly expressed protein CD23 is better resolved with the BD® OMICS-One B-Cell Protein Panel bearing the SMART panel design approach compared to a freshly pooled antibody-oligo panel.

## Part of a complete single-cell multiomics solution

Epigenomics      Transcriptomics      Immune Profiling      CITE-Seq Protein Panels      Multiomics

**Million-Cell Throughput**      **Validated Multiomic Kits and Protocols**      **Simple and Free Bioinformatics**

## Ordering information

Description	Cat. No.
BD® OMICS-One B-Cell Protein Panel	572179



Visit [bdbiosciences.com/PanelBcell](https://bdbiosciences.com/PanelBcell) to learn more about this panel and review complete performance data.

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BD Life Sciences, Milpitas, CA 95035, U.S.

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