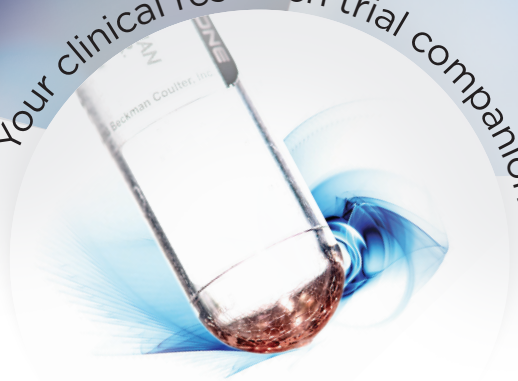
DURACLONE RE

THERE ARE EVENTS YOU CANNOT AFFORD TO MISS

Your clinical research trial companion



VISUALIZE
the possibilities.

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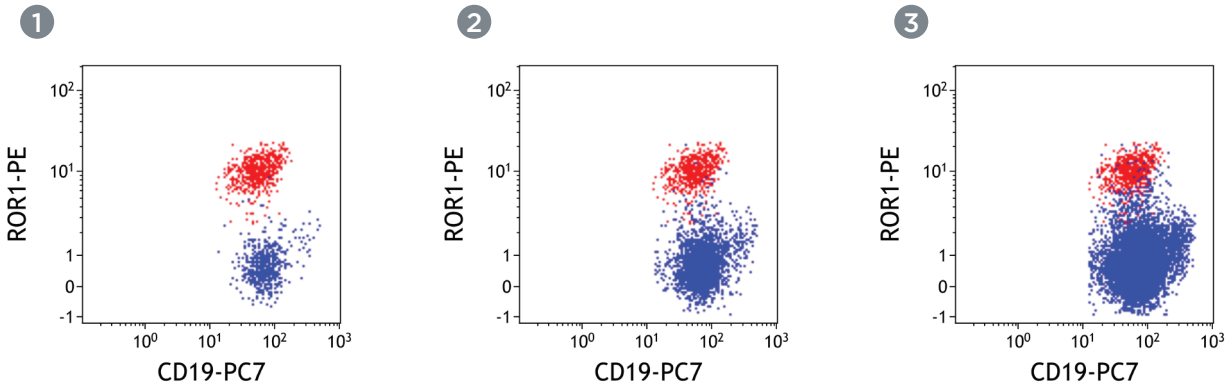
BECKMAN COULTER
Life Sciences

THERE ARE EVENTS YOU CANNOT AFFORD TO MISS

Rare event cytometry has emerged as a powerful and important tool in clinical research of blood disorders. Sensitive and specific detection of just a few dozens of abnormal target cells among millions of normal cells is one of the most challenging applications in flow cytometry. The DURAClone RE kits have been optimized to accommodate either large sample volume or high cellular concentrations to achieve high sensitivity for rare populations.



PLOT #	NORMAL B CELLS (# OF EVENTS)	ABNORMAL B CELLS (# OF EVENTS)
1	588	582
2	3,103	582
3	16,882	582

Data was acquired from a whole blood sample using a Navios Cytometer. Kaluza 1.5a analysis software was used to create digitally mixed data sets with different proportions of normal and abnormal B cells.

Antigen expression patterns of greatly abundant normal populations may overlap with the expression patterns of rare abnormal cell populations. To ensure discrimination of abnormal from normal cells a carefully selected combination of antibodies is needed.

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DURACLONE RE PANELS

Antibody combinations for rare event detection in clinical research of blood disorders

The DURAClone RE Tubes are dry pre-formulated antibody panels optimized for the identification and characterization of rare abnormal cells in human whole blood or bone marrow.

- Pre-formulated 4-8 color antibody panels
- Unitized dry Beckman Coulter proprietary format
- Expert-proven marker combinations
- Compensation solution included

	405 nm		488 nm					633 nm					
Product	PB	KrO	FITC	PE	ECD	PC5.5	PC7	APC	AF647	AF700	APC-AF700	APC-AF750	Quality standard
RE CLB Tube B80393 (25 tests RUO)	CD20	CD45	CD81	ROR-1	-	CD79b	CD19	CD5	-	-	-	CD43	ISO9001 - 2008
RE PC Tube B80394 (25 tests RUO)	CD38	CD45	CD81	CD27	-	CD19	CD200	CD138	-	-	-	CD56	
RE ALB Tube C00163 (25 tests RUO)	-	CD45	CD58	-	CD34	CD10	CD19	-	-	-	CD38	CD20	
RE CTC Tube C75112 (15 tests RUO)	DAPI	-	Cyto-keratin	-	-	-	CD45	CD326/ EpCAM	-	-	-	-	

Usage of identical tandem dye-labeled antibodies in the compensation kits and the assay tubes ensures accurate and easy compensation.

PB: Pacific Blue[§]
KrO: Krome Orange
AF647: Alexa Fluor[§] 647

AF700: Alexa Fluor[§] 700
AF750: Alexa Fluor[§] 750
APC-AF700: APC-Alexa Fluor[§] 700

APC-AF750: APC-Alexa Fluor[§] 750

[§] Alexa Fluor and Pacific Blue are registered trademarks of Molecular Probes, Inc.

HIGHLY DOSED ANTIBODY COMBINATIONS TO FIND THE FEW AMONG THE MILLIONS

The achievable sensitivity in rare event analysis is mainly determined by the acquired cell number. For the DURAClone RE panels we have worked with leading expert labs to ensure both sensitivity and specificity through state-of-the-art panel configurations with elevated antibody dosing.

DURACLONE PANEL	TARGET POPULATION	PANEL FEATURES	AMOUNT OF SAMPLE / TEST
RE CLB	Abnormal rare CD5+ mature B cells	Inclusion of ROR-1 [1], 8 colors	300 µL of whole blood
RE PC	Abnormal rare plasma cells	Inclusion of CD200 [2], 8 colors	Up to $5x10^6$ leucocytes in 100-200 µL suspension
RE ALB	Abnormal rare immature B cells	Maximal drop-in options by open PE and APC slots, 7 colors	Up to $2x10^6$ leucocytes in 100-200 µL suspension
RE CTC	Circulating Tumor Cells (CTCs)	Synchronous staining of extra- and intracellular antigens*, no compensation required [3]	Up to 5mL of whole blood*

* For use with PerFix CTC (C75118)

1. Orphan receptor tyrosine kinases ROR1 and ROR2 in hematological malignancies. Daneshmanesh AH, Porwit A, Hojjat-Farsangi M, Jeddi-Tehrani M, Tamm KP, Grandér D, Lehmann S, Norin S, Shokri F, Rabbani H, Mellstedt H, Österborg A.Leuk Lymphoma. 2013 Apr;54(4):843-50.

2. Expression profiles of novel cell surface molecules on B-cell subsets and plasma cells as analyzed by flow cytometry. Llinàs L, Lázaro A, de Salort J, Matesanz-Isabel J, Sintes J, Engel P. Immunol Lett. 2011 Jan 30;134(2):113-21.

3. Sensitive and easy screening for circulating tumor cells by flow cytometry. Lopresti A, Malergue F, Bertucci F, et al. JCI Insight. 2019;5(14):e128180.

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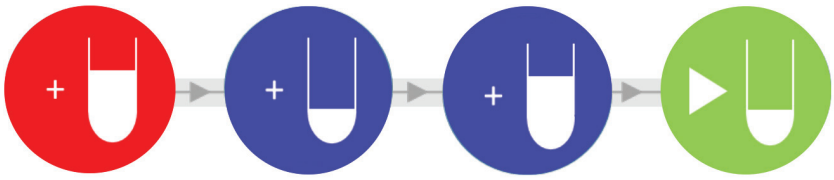
STREAMLINE YOUR WORKFLOW WITH DURACLONE RE

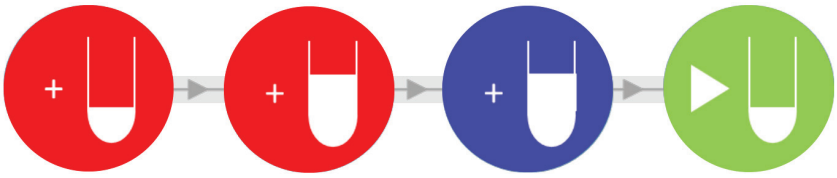
In the DURAClone RE kits every assay tube contains a layer with the dried-down antibody panel. The elimination of antibody pipetting shortens the turnaround time and minimizes human error sources as well as reagent aging effects.

Workflow for RE PC and RE ALB Panels



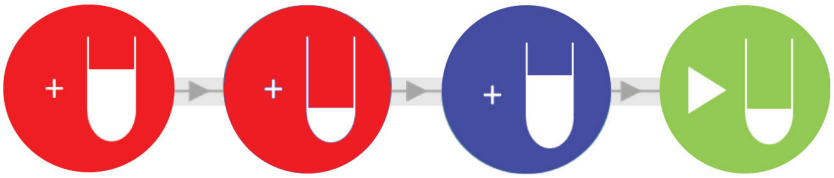
Sample bulk Lysis & adjust cell count → Add to DURAClone & incubate → Wash → Acquire

Workflow for the RE CLB Panel



Add sample to DURAClone & incubate → Lysis → Wash → Acquire

Workflow for the RE CTC Panel



Sample Fixation/ Permeabilization → Spin-down step, discard supernatant → Add to DURAClone & incubate, + 1mL buffer → Acquire

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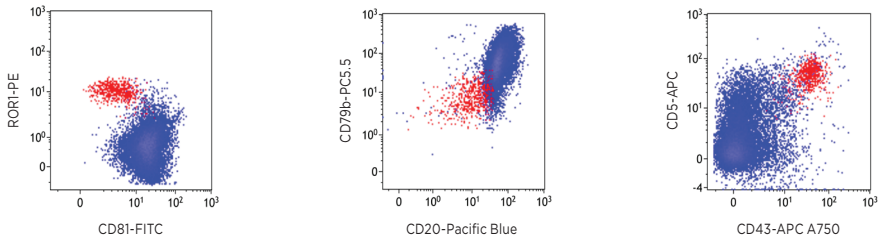
DURACLONE RE DATA EXAMPLES

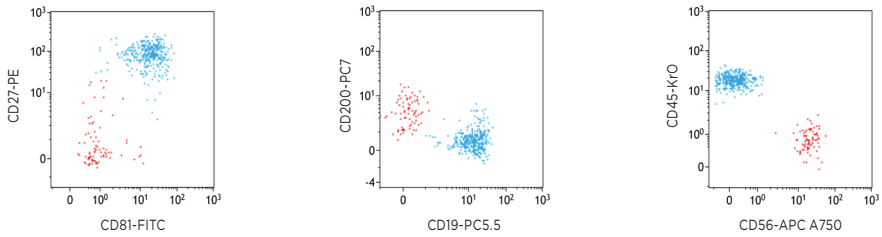
RE CLB



16,742 normal B cells
577 abnormal B cells
= 0.070%
of CD45+ (826,000)

Detection of $CD45^{+}CD19^{+}ROR\text{-}1^{+}CD5^{++}CD43^{++}CD81^{dim}CD20^{dim}CD79b^{dim}$ B cells										
DURAClone RE CLB Tube	PB	KrO	FITC	PE	ECD	PC5.5	PC7	APC	APC-AF700	APC-AF750	Quality Standard
B80393 (25 tests RUO)	CD20	CD45	CD81	ROR-1	-	CD79b	CD19	CD5	-	CD43	ISO 9001-2008

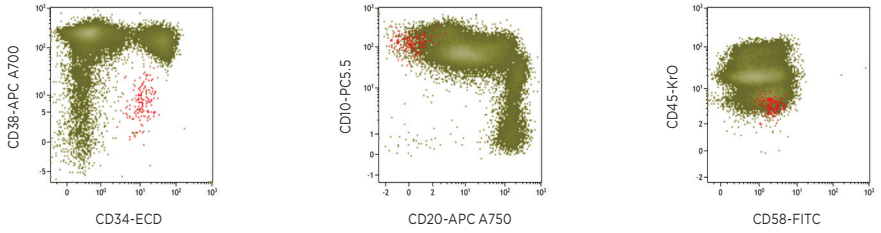
RE PC



380 normal plasma cells
84 abnormal plasma cells
= 0.004%
of CD45+ (2,099,000)

Detection of $CD45^{dim}CD38^{+}CD138^{+}CD56^{+}CD200^{+}CD19^{dim}CD27^{dim}CD81^{dim}$ plasma cells										
DURAClone RE PC Tube	PB	KrO	FITC	PE	ECD	PC5.5	PC7	APC	APC-AF700	APC-AF750	Quality Standard
B80394 (25 tests RUO)	CD38	CD45	CD81	CD27	-	CD19	CD200	CD138	-	CD56	ISO 9001-2008

RE ALB



39,898 normal B cells
132 abnormal B cells
= 0.011 %
of CD45+ (1,228,000)
(merged data sets)

Detection of immature B cells with abnormal pattern of CD10, CD20, CD34, CD38, CD58										
DURAClone RE ALB Tube	PB	KrO	FITC	PE	ECD	PC5.5	PC7	APC	APC-AF700	APC-AF750	Quality Standard
C00163 (25 tests RUO)	-	CD45	CD58	-	CD34	CD10	CD19	-	CD38	CD20	ISO 9001-2008

Open PE and APC slots for maximal drop-in choice

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MORE DURACLONE PANELS

DURAClone IM for Immune System Research

The DURAClone IM antibody panels provide a comprehensive image of the immune system applying dry expert-proven antibody combinations that are easy to implement.

		405 nm		488 nm					633 nm					
	Product	PB	KrO	FITC	PE	ECD	PC5.5	PC7	APC	AF647	AF700	APC-AF700	APC-AF750	Quality Standard
ONE STUDY Designed by expert labs from	IM Phenotyping Basic Tube B53309 (25 tests RUO)	-	CD45	CD16	CD56	CD19	-	CD14	CD4	-	CD8	-	CD3	ISO 9001-2015
	IM B Cell Tube B53318 (25 tests RUO)	IgM	CD45	IgD	CD21	CD19	-	CD27	CD24	-	-	-	CD38	
	IM T Cell Subsets Tube B53328 (25 tests RUO)	CD57	CD45	CD45RA	CCR7	CD28	CD279 (PD-1)	CD27	CD4	-	CD8	-	CD3	
	IM Dendritic Cells Tube B53351 (25 tests RUO)	HLA-DR	CD45	CD16	Lineage*	-	CD1c	CD11c	CD370 (Clec9A)	-	-	CD123	-	
	IM TCRs Tube B53340 (25 tests RUO)	TCRVδ2	CD45	TCRγδ	TCRαβ	HLA-DR	-	TCRVδ1	CD4	-	CD8	-	CD3	
	IM Treg Tube B53346 (25 tests RUO)	Helios	CD45	CD45RA	CD25	-	CD39	CD4	-	FoxP3	-	-	CD3	
	IM Granulocytes Tube B88651 (25 tests RUO)	CD15	CD45	CD294 (CRTH2)	-	CD16	CD33	CD11b	CD274 (PD-L1)	-	-	Lineage**	CD62L	
	IM Count Tube C00162 (25 tests RUO)	-	-	CD45	Counting Beads		7-AAD	-	-	-	-	-	-	
	IM Innate Lymphoid Cells tube C96081 (25 tests RUO)	-	CD45	CD294 (CRTH2)	Lineage***	-	CD117	CD335 (NKp46)	CD127	-	-	-	CD161	

* CD3 / CD14 / D19 / CD20 / CD56
** CD3 / CD14 / CD19 / CD56
*** CD1a / CD3 / CD14 / CD16 / CD19 / CD34 / CD94 / CD123 / TCRαβ / TCRγδ / FCεR1a

DURAClone IF For Immune Function

The DURAClone IF antibody panels reveal immune function at the single cell level utilizing a streamlined and simplified intracellular staining workflow.

	405 nm		488 nm					633 nm				
Product	PB	KrO	FITC	PE	ECD	PC5.5	PC7	APC	AF647	AF700	AF750	Quality Standard
IF T Activation B88649 (25 tests RUO)	CD4	-	IFNγ	TNFα	-	-	IL-2	-		CD8	CD3	ISO 9001-2008
IF T Helper Cell C04666 (25 tests RUO)	IL-17	-	IFNγ	-	-	-	IL-4	CD4		-	CD3	
IF Monocytes Activation C21858 (25 tests RUO)	CD14	CD45	-	HLA-DR	-	-	-	-		TNFα	-	
IF Basophil Activation C23406 (25 tests RUO)	CD63	CD45	-	CD203c	-	-	CD3	-	CD294 (CRTH2)	-	-	

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Choose Beckman Coulter for Benchmark Expertise and Innovation

For over 80 years Beckman Coulter has driven innovation. We remain committed to shaping flow cytometry technology to fit seamlessly into your lab's workflow and to provide an optimal user experience. When you choose a Beckman Coulter solution you receive a high level of expertise, innovation, and quality assurance.

Contact your sales representative

or visit http://www.beckman.com/reagents/coulter-flow-cytometry/antibodies-and-kits/duraclone-panels

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