EUROFLOW™ ANTIBODY PANELS

cytognos — Flow Cytometry Solutions

EuroFlow

Entry boxes

- High suspicion of acute leukemia
- Sustained monocytosis / Unexplained cytopenia / Unexplained eosinophilia
- Atypical lymphocytes / Splenomegaly / Lymphocytosis / Lymph node enlargement
- Monoclonal component
- Suspicion of lymphoma / Localization in "small cell number" simples, e.g. CSF, vitrous biopsies
- Monoclonal component non-IgM / Bone lesions / BM plasmacytosis

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ALOT
Acute Leukemia Orientation Tube

Pacific Blue™	OC515™*	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
CyCD3	CD45	CyMPO	CyCD79a	CD34	CD19	CD7	SmCD3

LST
Lymphoid Screening Tube

Pacific Blue™	OC515™*	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
CD20 and CD4	CD45	CD8 and SmIgλ	CD56 and SmIgκ	CD5	CD19 and TCRγδ	CD3	CD38

SST
Small Sample Tube

Pacific Blue™	OC515™*	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
CD20	CD45	CD8 and SmIgλ	CD56 and SmIgκ	CD4	CD19	CD3 and CD14	CD38

PCST
First Tube of PCD

Branches: Other | Clonal → Reactive/Polyclonal

Intermediate decision boxes
- Reactive/Polyclonal
- Clonal/Aberrant
- Reactive/Polyclonal

AML/MDS
Acute Myeloid Leukemia / Myelodysplastic Syndromes

Tube	Pacific Blue™	OC515™*	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
AML/MDS								
1	HLA-DR	CD45	CD16	CD13	CD34	CD117	CD11b	CD10
2	HLA-DR	CD45	CD35	CD64	CD34	CD117	CD300e	CD14
3	HLA-DR	CD45	CD36	CD105	CD34	CD117	CD33	CD71
4	HLA-DR	CD45	NuTdT	CD56	CD34	CD117	CD7	CD19
AML								
5	HLA-DR	CD45	CD15	NG2	CD34	CD117	CD22	CD38
6	HLA-DR	CD45	CD42a and CD61	CD203c	CD34	CD117	CD123	CD4
AML-M7								
7	HLA-DR	CD45	CD41	CD25	CD34	CD117	CD42b	CD9

Aim: Tube 1: Diagnosis and subclassification of AML and PNH especially focused on neutrophilic lineage. **Tube 2:** Diagnosis and subclassification of AML and PNH especially focused on monocytic lineage. **Tube 3:** Diagnosis and subclassification of AML especially focused on erythroid lineage. **Tube 4:** Aberrant expression of lymphoid associated markers and abnormal lymphoid maturation. **Tube 5:** Aberrant expression of markers, Detection of stem cells. **Tube 6:** Diagnosis and subclassification of AML especially focused on megakaryocytic, basophilic, and plasmacytoid dendritic lineages. **Tube 7:** Characterization of AML-M7, mastocytosis.

B-CLPD
B-Cell Chronic Lymphoproliferative Disorders (CORE)

Tube	Pacific Blue™	OC515™*	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
Limited								
1	CD20 and CD4	CD45	CD8 and SmIgλ	CD56 and SmIgκ	CD5	CD19 and TCRγδ	CD3	CD38
2	CD20	CD45	CD23	CD10	CD79b	CD19	CD200	CD43
Complete								
3	CD20	CD45	CD31	CD305	CD11c	CD19	SmIgM	CD81
4	CD20	CD45	CD103	CD95	CD22	CD19	CD185	CD49d
5	CD20	CD45	CD62L	CD39	HLA-DR	CD19	CD27	-

Aim: Tube 1: LST tube; Detection of B-CLPD. **Tube 2:** Identification of CLL vs other B-CLPD cases, when combined with LST. **Tube 3, 4, and 5:** Further subclassification of non-CLL BCLPD (e.g. HCL, MCL, FL, MZL, LPL, DLBCL and other B-CLPD).

PCD
Plasma Cell Dyscrasias

Tube	Pacific Blue™	OC515™*	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
1	CD45	CD138	CD38	CD56	β2micro	CD19	CyIgκ	CyIgλ
2	CD45	CD138	CD38	CD28	CD27	CD19	CD117	CD81

Aim: Tube 1: Detection of aberrant and clonal plasma cells. **Tube 2:** Complementary phenotypic characterization and evaluation of markers with potential prognostic impact.

Monitoring of MM

MM MRD
Multiple Myeloma Minimal Residual Disease

Tube	BV-421	BV-510	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
1	CD138	CD27	CD38	CD56	CD45	CD19	CD117	CD81
2	CD138	CD27	CD38	CD45	CD45	CD19	CyIgκ	CyIgλ

Aim: MM MRD: Bone marrow MRD measurement in MM.

CTPC
Circulating Tumour Plasma Cell

Tube	BV-421	BV-510	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
1	CD138	CD27	CD38	CD56	CD45	CD19	CD117	CD81
2	CD138	CD27	CD38	CD56	CD45	CD19	CyIgκ	CyIgλ

Aim: CTPC: Monitoring of Circulating Tumour Plasma Cells in peripheral blood

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T-ALL
T-Cell Acute Lymphoblastic Leukemia

Tube	Pacific Blue™	OC515™*	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
1	CyCD3	CD45	NuTdT	CD99	CD5	CD10	CD1a	SmCD3
2	CyCD3	CD45	CD2	CD117	CD4	CD8	CD7	SmCD3
3	CyCD3	CD45	TCRγδ	TCRαβ	CD33	CD56	CyTCRβ	SmCD3
4	CyCD3	CD45	CD44	CD13	HLA-DR	CD45RA	CD123	SmCD3

Aim: Tube 1: Diagnosis of T-ALL, classification of T-ALL, and determine the maturation stage of arrest; Identification of LAP markers. **Tube 2:** Diagnosis of T-ALL, classification of T-ALL, and determine the maturation stage of arrest; Identification of LAP markers. **Tube 3:** Diagnosis of T-ALL and determine the maturation stage of arrest; Identification of LAP markers. **Tube 4:** Subclassification of T-ALL.

NK-CLPD
NK-Cell Chronic Lymphoproliferative Disorders

Tube	Pacific Blue™	OC515™*	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
1	CD2	CD45	CD7	CD26	CD3	CD56	CD5	CD19
2	CD16	CD45	CD57	CD25	CD3	CD56	CD11c	CD19
3	HLA-DR	CD45	CyPerforin	CyGranzymeB	CD3	CD56	CD94	CD19

Aim: Tube 1: Detection of aberrant NK cell phenotype. **Tube 2:** Detection of aberrant NK cell phenotype. **Tube 3:** Detection of aberrant NK cell phenotype; Assessment of cytotoxic effector phenotype.

BCP-ALL
B-Cell Precursor Acute Lymphoblastic Leukemia (CORE)

Tube	Pacific Blue™	OC515™*	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
1	CD20	CD45	CD58	CD66c	CD34	CD19	CD10	CD38
2	SmIgκ	CD45	CyIgμ	CD33	CD34	CD19	SmIgM and CD117	SmIgλ
3	CD9	CD45	NuTdT	CD13	CD34	CD19	CD22	CD24
4	CD21	CD45	CD15 and CDw65	NG2	CD34	CD19	CD123	CD81

Aim: Tube 1: Diagnosis and classification of BCP-ALL; Detection of LAP markers; Detection of phenotypes associated with molecular aberrations. **Tube 2:** Diagnosis and classification of BCP-ALL. **Tube 3:** Diagnosis and classification of BCP-ALL; Detection of phenotypes associated with molecular aberrations; Detection of LAP markers. **Tube 4:** Subclassification of BCP-ALL; Detection of LAP markers; Detection of phenotypes associated with molecular aberrations. (LAP= Leukemia-associated phenotypes).

T-CLPD
T-Cell Chronic Lymphoproliferative Disorders

Tube	Pacific Blue™	OC515™*	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
1	CD4	CD45	CD7	CD26	CD3	CD2	CD28	CD8
2	CD4	CD45	CD27	CD197	CD3	CD45RO	CD45RA	CD8
3	CD4	CD45	CD5	CD25	CD3	HLA-DR	CyTCL1	CD8
4	CD4	CD45	CD30	CD30	CD3	-	CD11c	CD8
5	CD4	CD45	CyPerforin	CyGranzymeB	CD3	CD16	CD94	CD8
6	CD4	CD45	-	CD279	CD3	-	-	CD8

Aim: Tube 1: Phenotypic characterization; Identification of Sézary syndrome. **Tube 2:** Phenotypic characterization; Assessment of maturation stage. **Tube 3:** Phenotypic characterization; Identification of T-PLL. **Tube 4:** Phenotypic characterization; Cytotoxic phenotype and identification of anaplastic T-cell lymphoma. **Tube 5:** Phenotypic characterization; Assessment of cytotoxic associated phenotypes; Identification of T-LGL. **Tube 6:** Identification of lymphomas derived from follicular helper T cells (angioimmunoblastic T-cell lymphomas).

Monitoring of BCP-ALL

BCP-ALL MRD
BCP-ALL Minimal Residual Disease

Tube	Pacific Blue™	OC515™*	FITC	PE	PerCP-Cy5.5	PE-Cy7	APC	APC-C750™*
1	CD20	CD45	CD81	CD66c and CD123	CD34	CD19	CD10	CD38
2	CD20	CD45	CD81	CD73 and CD304	CD34	CD19	CD10	CD38

REFERENCES:

1. van Dongen JJM, et al. on behalf of the EuroFlow Consortium (EU-FP6, LSHB-CT-2006-018708). EuroFlow antibody panels for standardized n-dimensional flow cytometric immunophenotyping of normal, reactive and malignant leukocytes. Leukemia. 2012 Sep; 26:1908–75.

2. Theunissen P, et al. Standardized flow cytometry for highly sensitive MRD measurements in B-cell acute lymphoblastic leukemia. Blood. 2016 Jun; 129(3): 347-57.

3. Flores-Montero J, et al. Next Generation Flow for highly sensitive and standardized detection of minimal residual disease in multiple myeloma. Leukemia. 2017 Oct; 31(10):2094-103.

4. Sanoja-Flores L, et al. Next generation flow for minimally-invasive blood characterization of MGUS and multiple myeloma at diagnosis based on circulating tumor plasma cells (CTPC). Blood Cancer J. 2018 Nov; 8(12):117.

KIT — ALOT (ref. CYT-ALOT), LST (ref. CYT-LST), SST (ref. CYT-SST), PCST (ref. CYT-PCST), BCP-ALL MRD (ref. CYT-BCP-ALL-MRD), MM MRD (ref. CYT-MM-MRD), CTPC (ref. CYT-CTPC)

CORE — Mature B cell core (ref. CYT-MBC-CORE), Precursor B cell core (ref. CYT-PBC-CORE)

EuroFlow™ databases available in Infinicyt™ for LST, ALOT, MM MRD and CTPC

Cytognos offers antibodies and pre-mixed combinations according to EuroFlow™ guidelines.

* Or equivalent fluorochrome

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