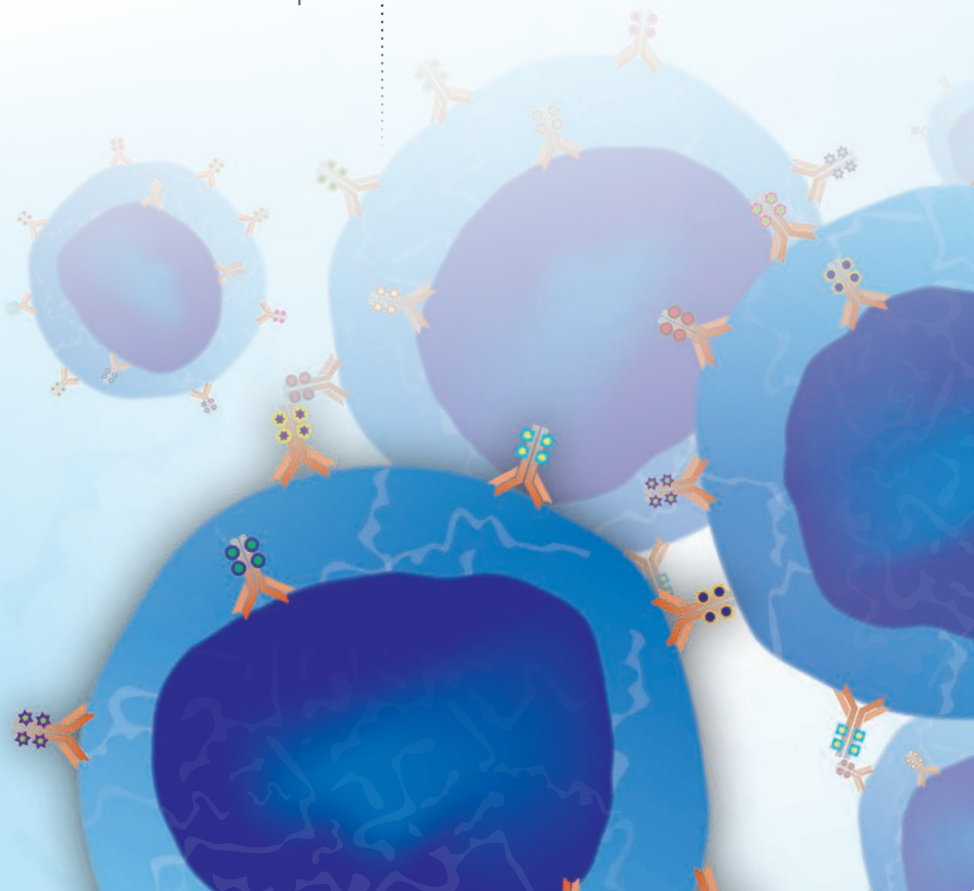


# EXBIO

**Antibodies**

## Mass Cytometry

Principles · Validated Antibodies





# EXBIO Praha

## Dedicated to Superior Cytometry Reagents

### Mission

EXBIO Praha strives to exceed the most demanding customer expectations in the field of analytical cytometry by providing a comprehensive range of high quality products and services at affordable prices.

EXBIO Praha is a dynamic privately-owned European biotechnology company focused on design, development, manufacture and sale of monoclonal antibodies and other reagents for research and clinical applications.

### Who we are

EXBIO Praha was established at the beginning of 1999 and soon became a trusted and reliable OEM supplier to all leading antibody vendors. Our flow cytometry antibodies have become widely recognized reagents among life science researchers and diagnostic laboratories. In addition to OEM supplies, we distribute our products worldwide under the EXBIO trademark through a network of experienced local distributors.

## Our portfolio

**Flow cytometry validated antibodies** for a broad range of research applications (immunology, hematology, cancer research, etc.) available in many colors and formulations (suitable for 8-color immunophenotyping).

**Pre-mixed antibody conjugate cocktails for *in vitro* diagnostic (CE IVD)** applications (immunophenotyping of white blood cells).

**Flow cytometry assays (FlowEx® Kits)** for comprehensive diagnosis and analysis of patient health status: **FagoFlowEx® Kit (CE-IVD)** and **IngoFlowEx® Kit (RUO)** for examination of **phagocytosis**, **BasoFlowEx® Kit (CE-IVD)** for analysis of **allergy specificity**, **NKFlowEx® Kit (RUO)** for analysis of **NK cell activation**, **CD34 QuantiFlowEx® Kit (CE-IVD)** for quantification of **CD34+ stem cells**, **TregFlowEx® Kit (RUO)** for detection of **regulatory T cells**, **SpermFlowEx® Kit (RUO)** for evaluation of human **semen quality**, **ApoFlowEx® FITC Kit (RUO)** for detection of **apoptosis**, and **BrdUFlowEx® FITC Kit (RUO)** and **CellCycleFlowEx® Kit (RUO)** for analysis of **proliferation**.

**Other monoclonal antibodies** for applications such as Western blotting, immunohistochemistry, immunoprecipitation, ELISA or functional *in vivo* studies. Antibodies to cytokeratins, betaIII-tubulin, sHLA-G and IgE belong to our best sellers.

**sHLA-G ELISA kit** for determination of soluble forms of Human Leukocyte Antigen-G (sHLA-G) in amniotic fluid, cell culture supernatant, plasma and serum.

EXBIO products are offered under the following brands:



### Antibodies

Monoclonal and polyclonal antibodies and kits for research applications.



### Diagnostics

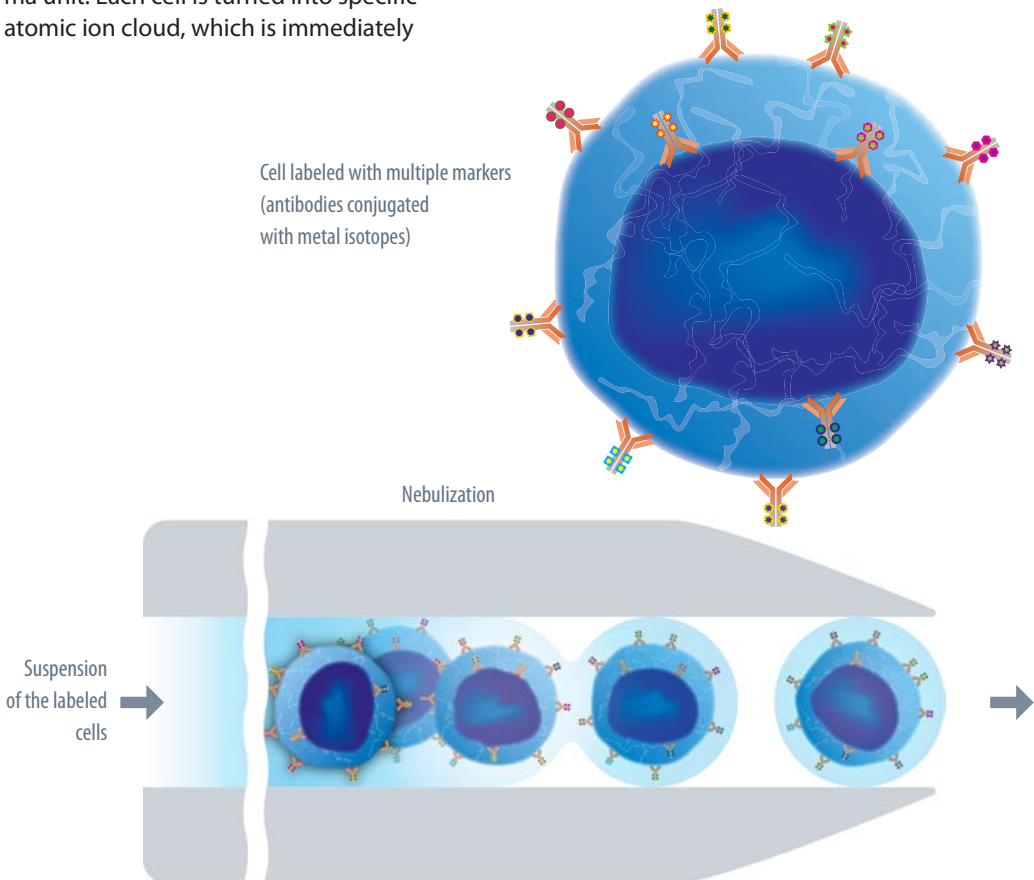
Reagents and kits for flow cytometry-based *in vitro* diagnostic applications:

- Immunophenotyping
- Examination of allergy
- Examination of phagocytosis

# The principle of mass cytometry

Mass cytometry, also known as CyTOF (cytometry by time-of-flight) is a high-throughput technology suitable for analysis of multiple cellular antigens. It combines flow cytometry technique with mass spectrometry. Particular antigens are detected using specific antibodies conjugated with a variety of metal isotopes (e.g. the lanthanides). The labeled cells pass through the nebulizer, and the droplets with individual cells are one by one atomized by inductively coupled plasma unit. Each cell is turned into specific atomic ion cloud, which is immediately

transferred into the high vacuum. Heavy elements (the markers) are filtered from overly abundant ions by a quadrupole time-of-flight instrument, and are analysed by mass spectrometer. Therefore, for each cell there is available around 40 or more parameters to be measured with minimal spillover. Mass cytometry is thus suitable e.g. for mapping phenotypic heterogeneity of leukemias, or uncovering mechanisms of cellular reprogramming.



# Mass cytometry **validated antibodies**

Here we indicate list of antibodies that were validated for mass cytometry at the CLIP laboratory of Department of Paediatric Haematology and Oncology, Charles University and University Hospital Motol.

The current portfolio of mass cytometry validated antibodies is available at our web [www.exbio.cz](http://www.exbio.cz) (search for „mass cytometry“).

Antigen	Clone	Host	Isotype	Reactivity
CD3	UCHT1	Mouse	IgG1	Human, Primates
	MEM-57	Mouse	IgG2a	Human
CD4	MEM-241	Mouse	IgG1	Human
CD8	MEM-31	Mouse	IgG2a	Human
CD9	MEM-61	Mouse	IgG1	Human
CD15	MEM-158	Mouse	IgM	Human
CD24	SN3	Mouse	IgG1	Human
CD32	3D3	Mouse	IgG1	Human
CD33	WM53	Mouse	IgG1	Human, Primates
CD45RA	MEM-56	Mouse	IgG2b	Human
CD73	AD2	Mouse	IgG1	Human
CD99	3B2/TA8	Mouse	IgG2a	Human
CD105	MEM-226	Mouse	IgG2a	Human, Rat
CD116	4H1	Mouse	IgG1	Human
CD271	NGFR5	Mouse	IgG1	Human, Primates, Cat, Rabbit
Drebrin	DBN-N-03	Mouse	IgG2b	Human
GCPII / PSMA	GCP-05	Mouse	IgG1	Human
HLA-Class I	W6/32	Mouse	IgG2a	Human, Primates, Cat, Cow
Lysozyme	LZ598-10G9	Mouse	IgG1	Human

Atomization  
(ionization)

Clearing of heavy ions

Detection and analysis  
of each individual cell



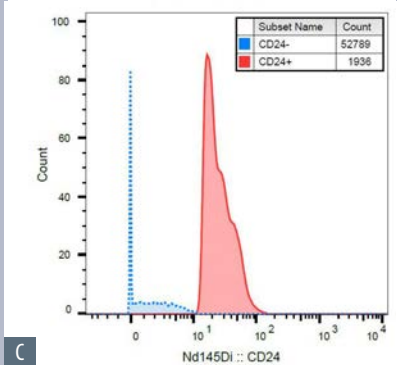
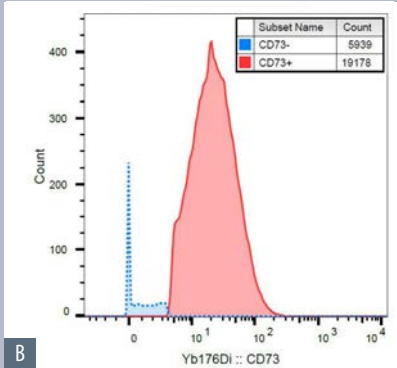
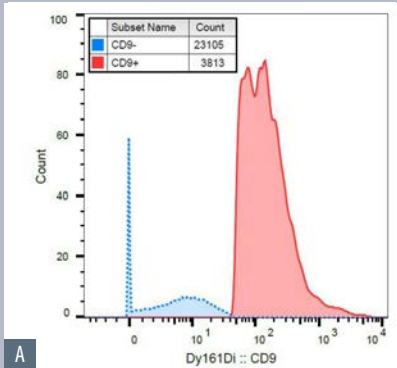
## Example Data

Mass cytometry analysis of human PBMC after Ficoll-Paque separation and surface staining using:

**A** anti-CD9 clone **MEM-61** conjugated with  $^{161}\text{Dy}$

**B** anti-CD73 clone **AD2** conjugated with  $^{176}\text{Yb}$

**C** anti-CD24 clone **SN3** conjugated with  $^{145}\text{Nd}$



We would like to thank Tomáš Kalina's group at the CLIP Laboratory of Department of Paediatric Haematology and Oncology, Charles University and University Hospital Motol for excellent collaboration.



Daniel Thürner with CyTOF 2 Mass Cytometer (DVS Sciences/Fluidigm) in the CLIP laboratory.

## Quality statement

EXBIO Praha, a.s. is dedicated to its customers and to providing them with the products and services that are of the highest quality and that facilitate successful research. Our company has been assessed and certified as meeting the requirements of ISO 9001:2008, ISO 14001:2004, and ISO 13485:2003 for the following activities:

- Design, development and production of biotechnological products for research use.
- Design, development and production of *in vitro* diagnostics for cell and protein analysis.

## Regulatory Notes

- **CE-IVD** reagents are intended for *in vitro diagnostic use in laboratories outside USA and Canada*. These CE-IVD reagents conform to the **European In Vitro Diagnostic Medical Device Directive 98/79/EC**.



- **RUO** reagents are intended for *research use only*. Not for use in diagnostic or therapeutic procedures.





## Antibodies

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