



Cerba Research's  
**Multi-Omics Approaches**  
in Hematological  
Malignancies

# 40+ Years Running Successful Oncology Trials

Hematological malignancies originate from the uncontrolled growth of hematopoietic and lymphoid tissues. These biologically and clinically heterogeneous disorders account for 6.5% of all cancers around the world, for approximately 9.5% of newly diagnosed cancers every year.<sup>1</sup>

Due to the high level of heterogeneity in terms of cytogenetic, genetic, epigenetic, transcriptional, post-transcriptional, and metabolic alterations of hematological diseases, integrated multi-omics analyses are needed to improve clinical outcomes.

At Cerba Research, we aim to bring a multi-modal approach to precision medicine to disease. From discovery to clinical development, we provide world-class teams and capabilities worldwide to help you in your quest of novel treatment against hematological malignancies.



## Oncology Highlights:



40+

Years of expertise



190+

Oncology trials in past 5 years



75%

Trials include speciality testing



55+

Countries



3000+

Clinical sites

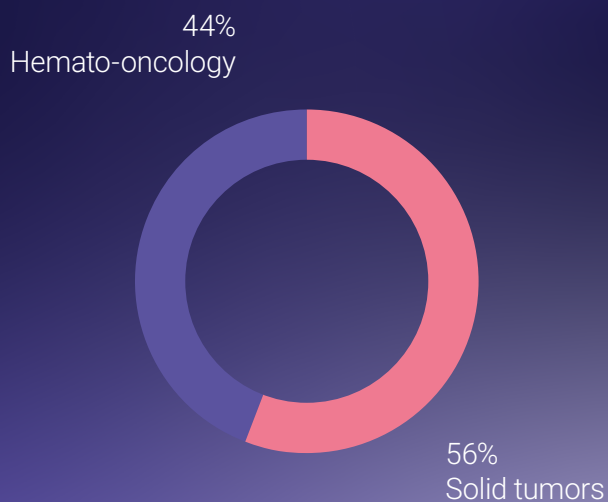


CAP, CLIA, ISO & FDA-Registered  
Years of expertise

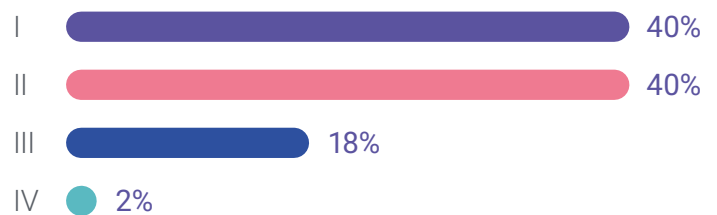
1. Epidemiology of Hematologic Malignancies in Real-World Settings: Findings From the Hemato-Oncology Latin America Observational Registry Study. Vania Tietsche de Moraes Hungria et al. J Glob Oncol. 2019

# A Look from the Past **5 Years**

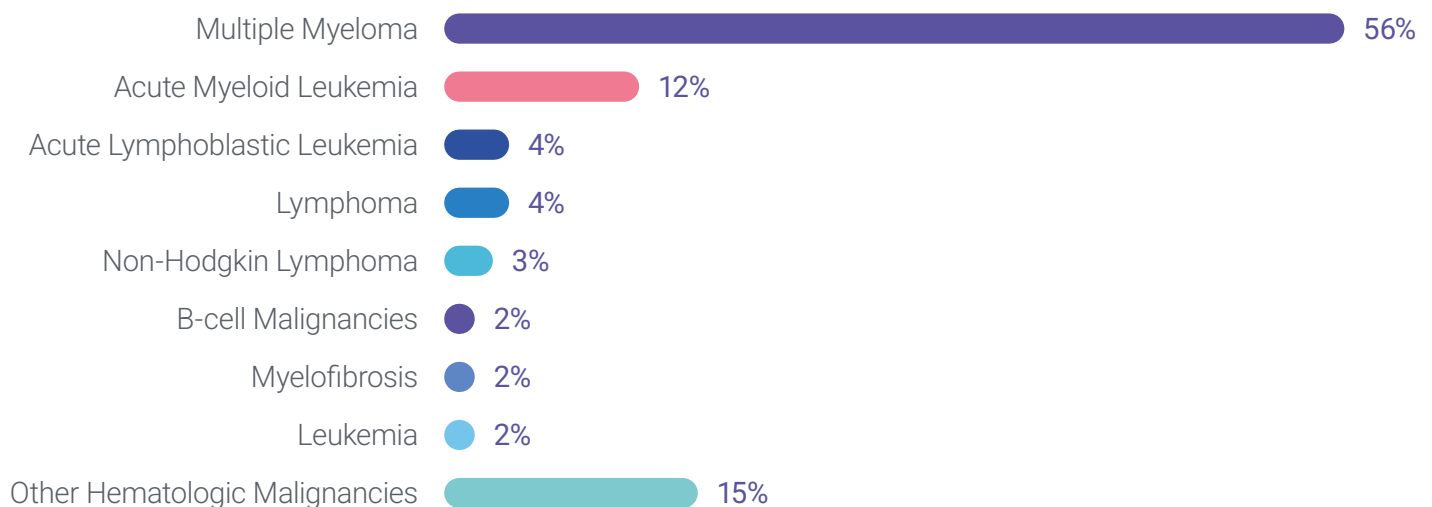
44% of our oncology trials are hemato-oncology-related:



Clinical trial phases overview:



% Hemato-Oncology trials by indication:



# Simplifying Hematological Malignancy Profiling

Expertise, customization, fast turnaround times



## DNA

NGS

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Karyotype

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qPCR, ddPCR

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FISH

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Sequencing: whole genome/whole exome

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SNP-array

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## RNA

NGS

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RNAseq (fusion genes)

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RT-PCR, RT-qPCR

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Gene expression profiling (Nanostring)

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## Routine

Coagulation

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Hematology

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Biochemistry

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Serologies

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Urinalysis

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## Tissue

Biorepository - wide range of healthy & pathological tissues

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Immuno-onco simplex & multiplex IHC panels

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Spatial analysis in the tumor microenvironment

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FISH, ISH

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Myelogram

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Biobanking

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## Cell

Flow cytometry

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Receptor occupancy

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MRD detection

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Immunophenotyping (including intra-cellular markers)

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CAR-T cell enumeration

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CAR-T cell phenotyping

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Intra-cellular cytokine detection

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## Protein

Multiplex cytokine profiling (37-plex)

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50+ ligand binding assays - ELISA, MSD

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Free light chain assay

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sPEP, uPEP

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# Comprehensive **Genomic Analysis** for Hematological Malignancies

## Digital PCR

JAK2

V617F

MYD88

## Karyotype/FISH

All hematological  
malignancies

## Fragment Analysis

B/T clonality

AML/MPNs analysis

## Sanger Sequencing

Confirmation analysis

## Dedicated NGS panels

Myelo proliferative neoplasms

Chronic myelomonocytic  
leukemia and myelodysplastic  
syndroms

Acute myeloblastic leukemia

Lymphoid malignancies

## qPCR

BCR-ABL

AML1-ETO/  
RUNX1 – RUNX1T1

PML-RARA

CBFB – MYH11

These lists are not exhaustive.

Please contact us for further information  
on any specific biomarker or panel.

# Detailed Proteomic View with a Range of **Assay Technologies**

## 37-Plex Panel MSD (Matrix : EDTA Plasma/Serum)

Proinflammatory	Chemokine	Cytokine	Angiogenesis	Vascular
TNF- $\alpha$	Eotaxin	GM-CSF	VEGF-A	SAA
IFN- $\gamma$	Eotaxin-3	IL-5	VEGF-D	CRP
IL-1 $\beta$	MIP-1 $\alpha$	IL-7	Tie-2	VAM-1
IL-2	MIP-1 $\beta$	IL-12/IL23p40	Flt-1	ICAM-1
IL-4	IL-10	IL-15	PlGF	
IL-6	MCP-1	IL-16	bFGF	
IL-8	MCP-4	IL-17A		
IL-10	MDC	TNF- $\beta$		
IL-12p70	TARC			
IL-13				

MSD = meso scale discovery

## Detailed insight into cell populations & subpopulations with our validated flow cytometry panels

Panel name	Antigen markers	Matrix	Location
Standard TBNK BD FACSLyric / Canto	Tube 1: CD3, CD4, CD8, CD16, CD56, CD19, CD45	Blood & BMA	US, EU, AU, TW, CN
Expanded TBNKM Cytek Aurora	Tube 1: CD3, CD4, CD8, CD14, CD16, CD19, CD25, CD27, CD45, CD56, CD127, CD45RA, CCR7, IgD, Viability	PBMCs	US, EU
MM MRD (EuroFlow) RUO only BD FACSLyric	Tube 1: CD19, CD27, CD38, CD45, CD56, CD81, CD117, CD138 Tube 2: CD19, CD27, CD38, CD45, CD56, CD81, Cylgkappa, CylgLambda	BMA	US, EU, AU

BMA = bone marrow aspirate

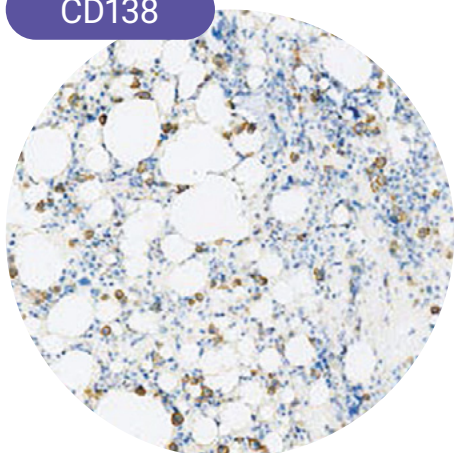
\*BD FACS Canto - 8-color Flow cytometer

\*BD FACS Lyric - 12-color Flow cytometer

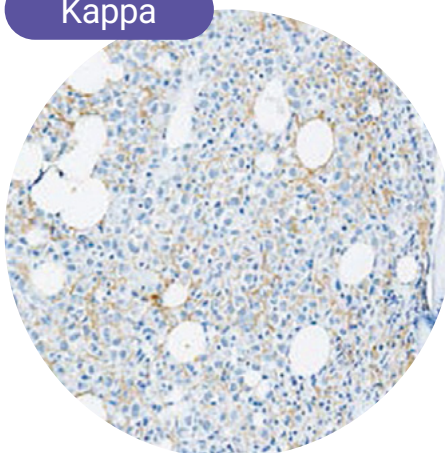
\*Cytek Aurora - 40+ color, Spectral Flow cytometer

# Diagnosis Based on Immunohistological Assessment: CD138+ **Plasma Cells Quantification** Including Kappa/Lambda Clonality

CD138



Kappa



Lambda



## Specimen

Bone Marrow FFPE

## Validation level

Bone Marrow FFPE

## Ab

CD138 (B-A38, Roche)  
Kappa (rabbit polyclonal, Roche)  
Lambda (rabbit polyclonal, Roche)

## Platform

Bone Marrow FFPE

## Validated tissue

Bone Marrow FFPE

## Clinical value

CD138 IHC can be used to identify normal and abnormal (multiple myeloma) plasma cells. The clonality of the plasma cells is determined through Kappa and Lambda IHC

These lists are not exhaustive.

Please contact us for further information on any specific biomarker or panel.

## Where to Find Us?

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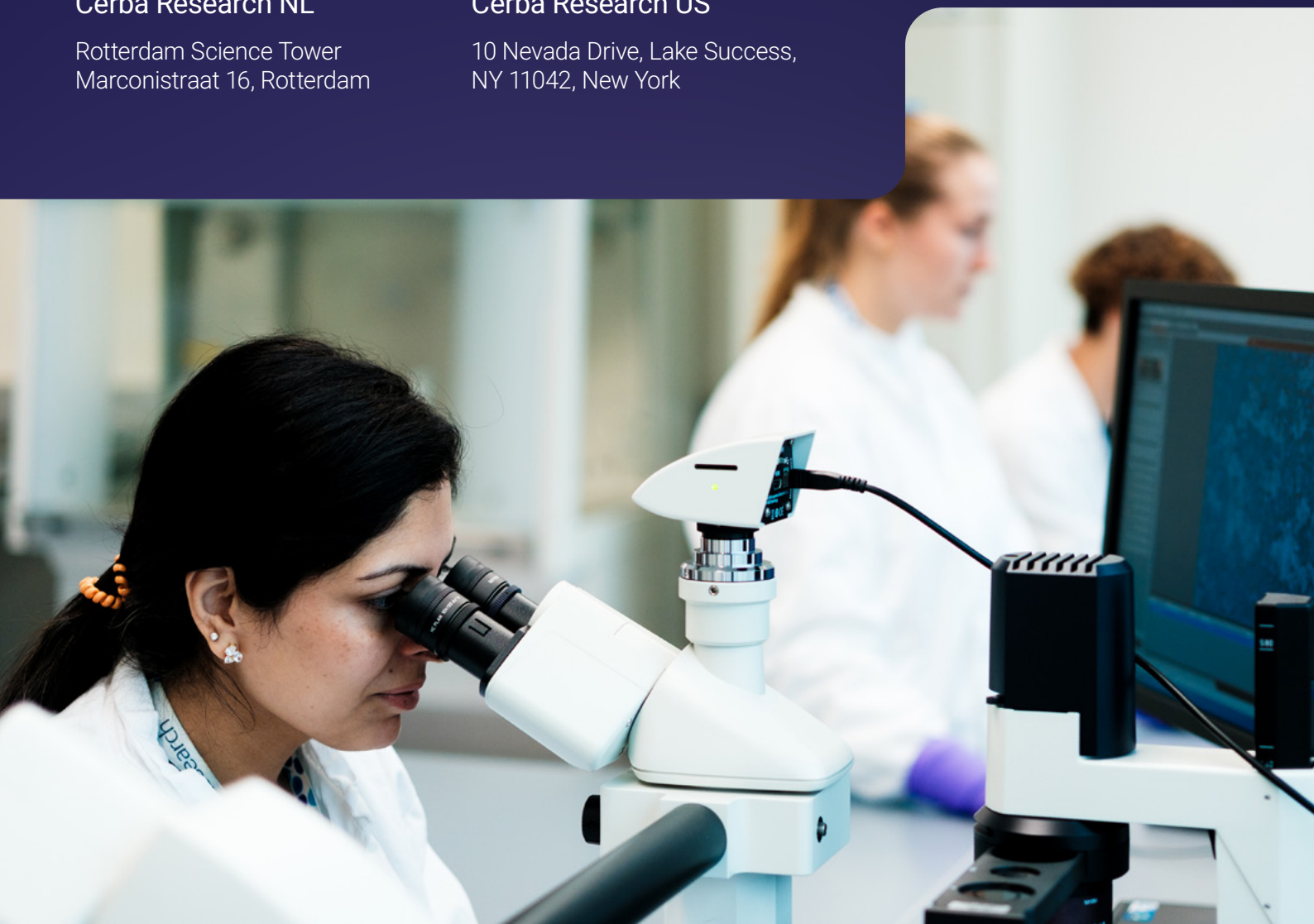
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# Interested in How We Can Shape Your **Laboratory Strategy** for Better Outcomes?

Get in touch today and see how Cerba Research  
will support your next program.

[cerbaresearch.com](https://cerbaresearch.com)

