

Parean

Biotechnologies

Deep immune Phenotyping & multi-omics Data science for Precision Medicine

AFSSI Webinar
Dec 7th 2023



Our mission

**Decipher the power
of the immune system,
to support the development of
immune biomarkers and
TCR-based therapies**

Our strategic objectives

**Be the preferred partner for Biotechs & Academics
in the immune repertoire and multi-omics
data analysis and interpretation**

**Be at the forefront of innovation,
by building a cutting-edge
TCR-Drug and TCR Biomarkers engine**

**Constantly develop our technological platform
to meet evolving client needs,
in particular in Single Cell and AI**

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Management Team



Roles & Backgrounds



Marwan TOUATI
Chief Executive Officer

m.touati@pareanbiotech.fr
+33 (0) 6 77 50 56 27

Co-founder - leads corporate strategy, commercial & marketing initiatives, and partnerships.

PharmD, graduated from ESCP-Europe. Previously advisor to general management at Sanofi in Balkans, global strategic planning director at Ipsen HQ, and regional commercial Director managing 7 hospital reps in oncology at Ipsen France.



Valentin QUINIOU
Chief Science Officer

v.quiniou@pareanbiotech.fr
+33 (0) 6 61 23 32 29

Co-founder - leads wet lab operations, biomarkers and biology R&D.

PharmD, PhD in Immunology, and APHP ex-Interne & pathologist. Previously academic research programs leader, expert in immune repertoire and deep immune phenotyping, in the field of auto-immune diseases and in immuno-oncology, and cell therapies quality control.



Hang-Phuong PHAM
Chief Data Science Officer

hp.pham@pareanbiotech.fr
+33 (0) 6 98 95 28 10

Co-founder - leads data science operations, statistical models development and artificial intelligence R&D.

M.Sc in Applied Mathematics and Statistics, Ph.D in Computational biology. Previously academic research programs leader and lead data scientist within a biotech startup company. Expert in biostatistics models and multi-omics data analysis & integration, in immunology and microbiota.

... and supported by seasoned executives in Preclinical and Clinical Research, Biotech and Pharma

Advisory Board



Pr Harry SOKOL

MD Gastro-Enterologist,
Sorbonne University and
Saint-Antoine Hospital, APHP

Pr SOKOL is an expert in inflammatory bowel diseases and gut microbiota fields. Top tier gastro-enterologist in France, Clinician and researcher, Pr Sokol ran various clinical studies. Those studies involved as well multi-omics data generation, jointly with clinical data in human.



Dr Claude BERNARD

PharmD, Qualified Person,
Etablissement Pharmaceutique
APHP

Dr Claude BERNARD is a senior pharmacist, expert in pharmaceutical operations at hospitals. In various departments, Claude BERNARD set up the operations for clinical studies. One of his roles is to guarantee that clinical studies are run properly, in compliance with pharmaceutical standards.



Alexis Vandier

Seasoned Pharma Executive
Pharma & Biotech

Alexis VANDIER gained 20+ year of experience at Sanofi and Ipsen. He is as well board secretary at LEEM. His background includes senior roles in Strategy, BD, Marketing, General Management and VC Advisors.

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Our Services

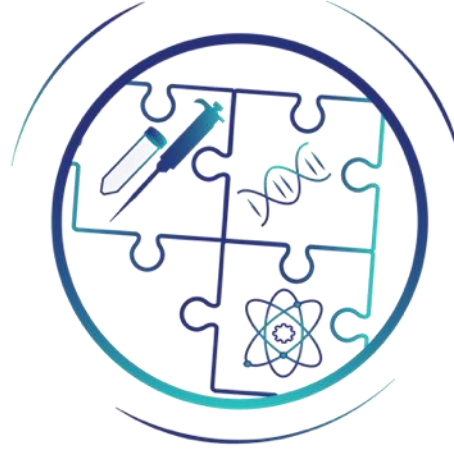


In a nutshell, Parean offers end-to-end and tailored deep immune analysis services to ensure fast & efficient drug development



**Multidisciplinary
expertise platform**

Experts in immunology
wetlab **AND** Datascience



**Fully integrated
in-house solution**

One Stop Shop
fresh or frozen tissue, to cutting
edge datascience



**Multi-Omics
data analysis**

ScaleUp your data
Combine different datasets,
and compare to public
signatures

in a holistic manner, from Discovery to Early Clinical, Parean leverages Wetlab & Datascience in immunology

By combining Wetlab and Datascience dedicated to immunology, for both data generation & analysis, Parean enables researchers to decode the immune system at different levels in the same assay

Discovery

Preclinical

Early Clinical



In vitro & in vivo target validation

Immune response, functionality and specificity

Access to internal TCR & BCR* database

Plan Next Clinical Phases



Develop biomarkers for Efficacy & Toxicity prediction

Build tailored and data driven protocols

Challenge findings on existing clinical & NGS data

Clients



Hospitals & Academics



Biotechs

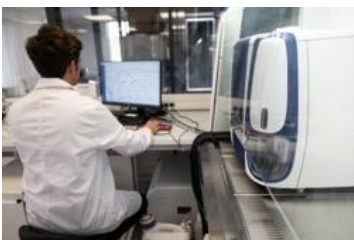
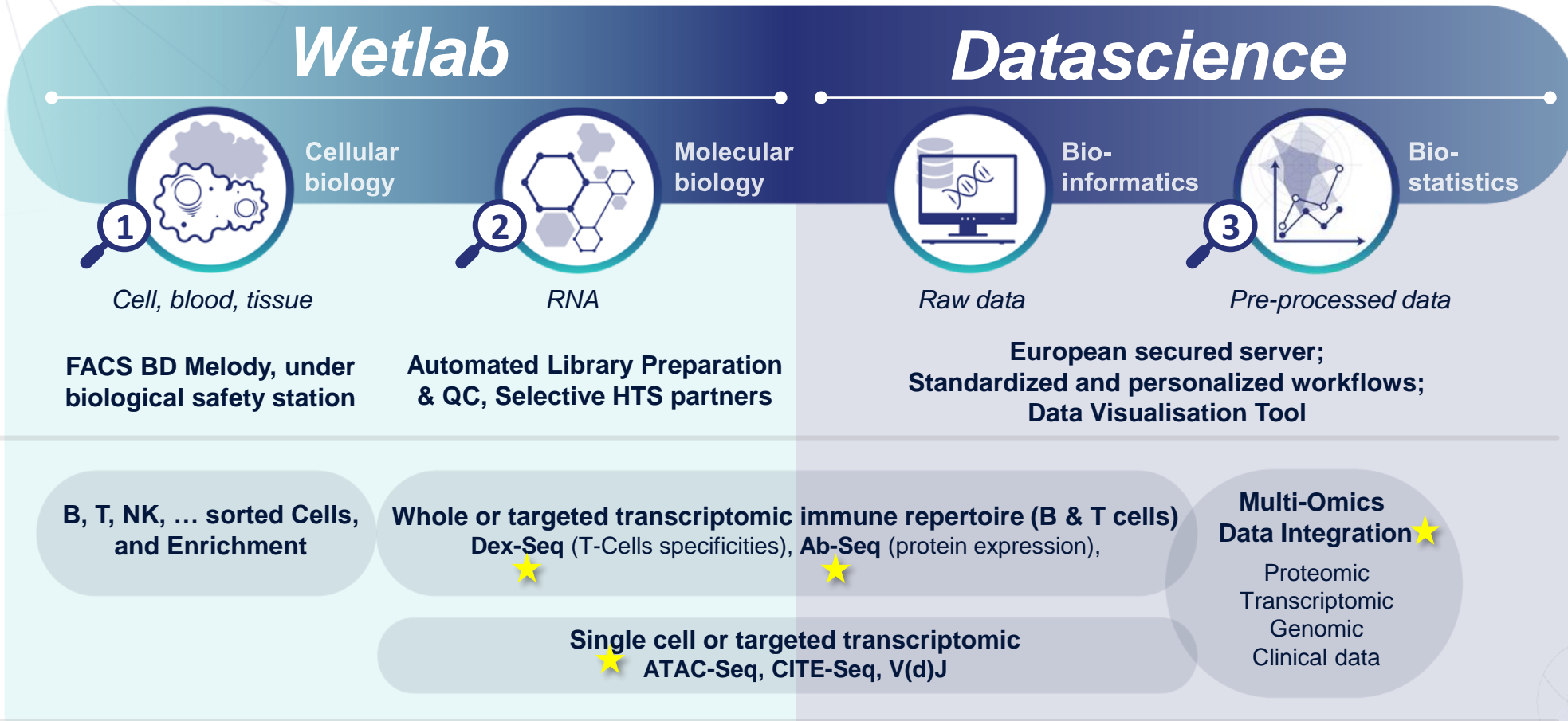


Big Pharma



CROs

Parean's offer leverages a large panel of internal cutting-edge tools and expertise focused on Immunology



...with key missions conducted recently

HEGP Pr TARTOUR



Topic: Tumoral infiltration Lymphocyte scRNA-Seq data analysis & public datasets

(Clinical Cancer Research Sept 2022, AACR)

Parean Contribution:

- Datascience, expert level, on singlecell data
- literature screening

HORUS Project



Topic: New biomarkers and target, transplanted patients

17 partners, CMV+ and LT Gamma & Delta

(Budget: 7 Million €)

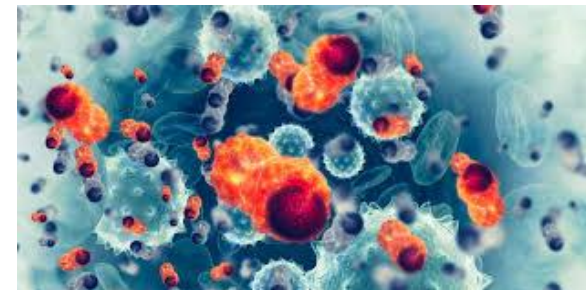
Parean: bio-informatics, biostatistics, data integration, data visualization tools

CarT-Reg Project (Biotech Undisclosed)

CarT : single cell CITE-Seq data, for transduction and activation signals, CarT Pharmacokinetic (PreClinical & Early Clinical Phase)

Client Needs (Parean Contribution)

- Consulting: tailored protocols and pilot studies
- Wetlab: Cell sorting by dextramers and scCITEseq libraries generation
- Full ISO Management
- Bioinformatics & Biostatistics



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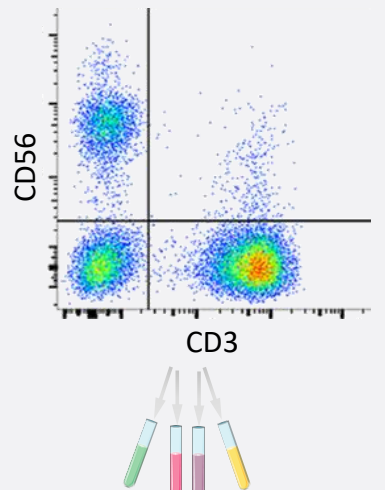
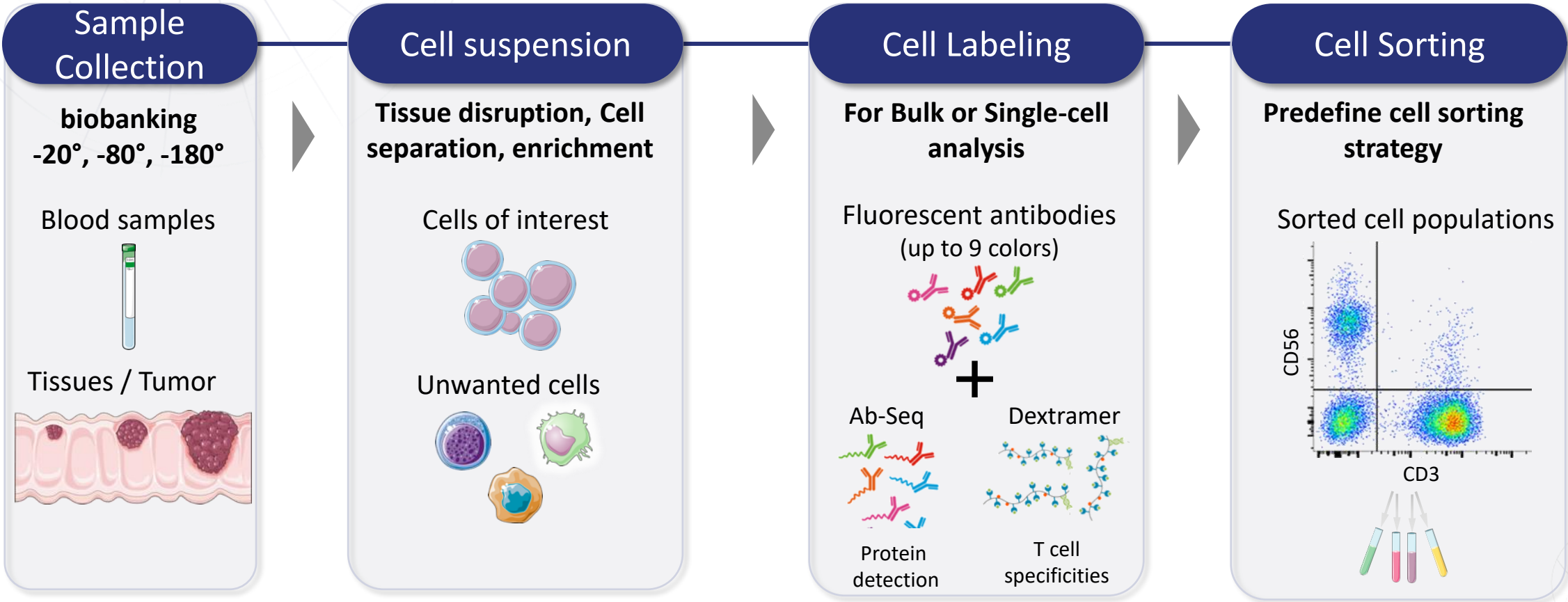
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WetLab

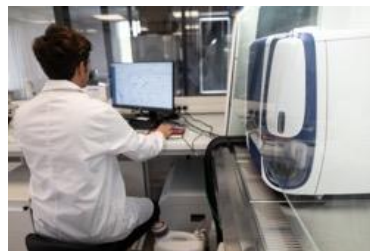




1



FACS BD Melody, under biological safety station
(Cytometer & Sorter)

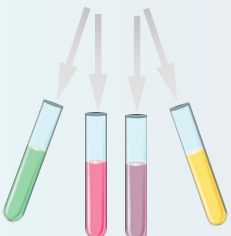
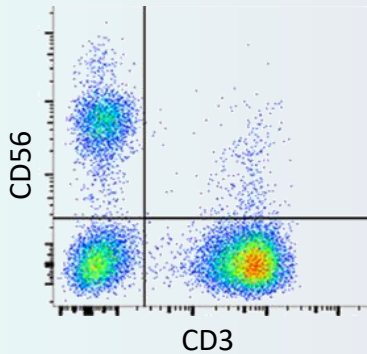


Standardized & Custom Panel



2

From sorted cells...



Bulk or single cell (10X genomics) protocols

...to high quality and relevant NGS data

Immune repertoire (V(d)J): B and T cells

RNAseq: whole and targeted, small-RNA

Ab-Seq and CITE-Seq: RNA & Cell surface protein

ATAC-Seq: epigenetics

Dex-Seq: T cells populations specificities



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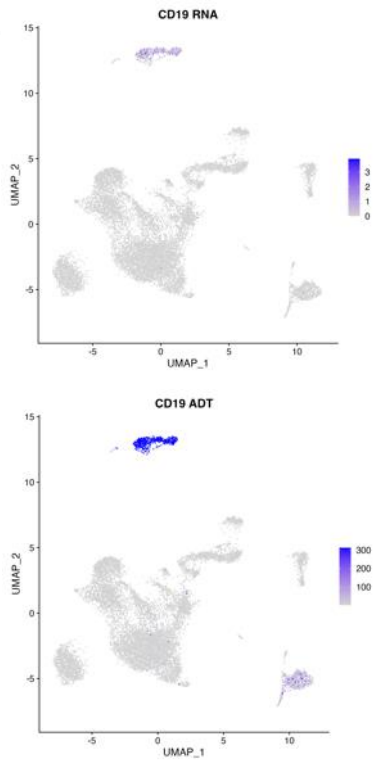
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Datascience

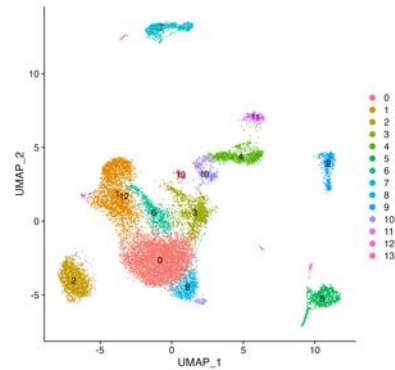




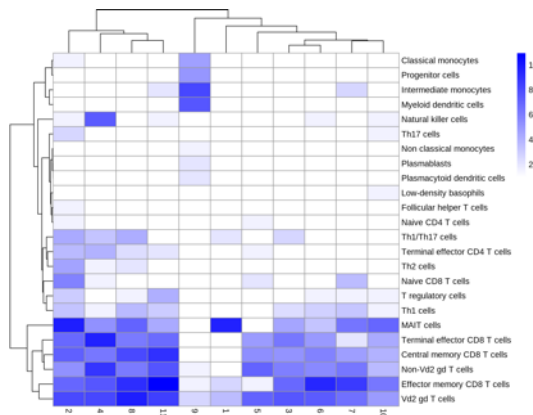
Visualisation



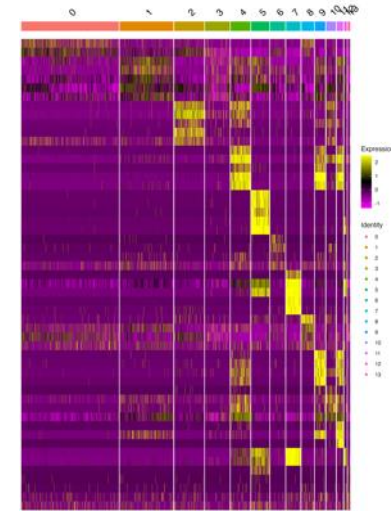
Cell clustering



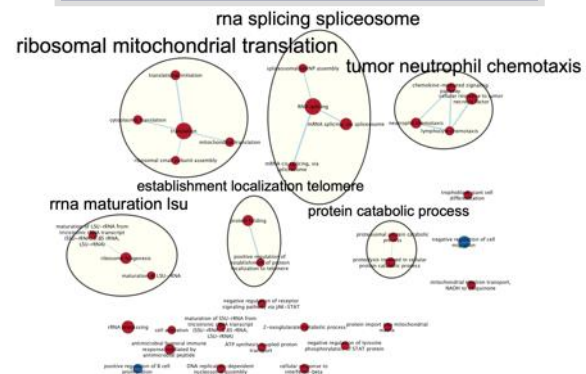
Cell labelling



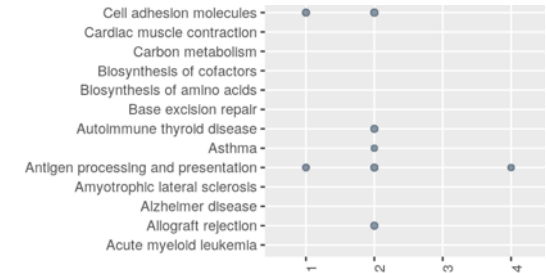
Differential analysis



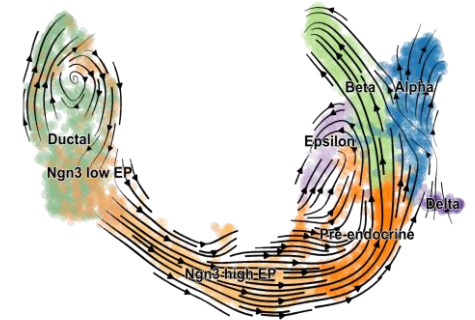
Gene Set Analysis



Functional analysis



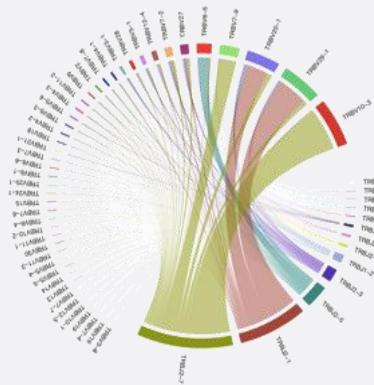
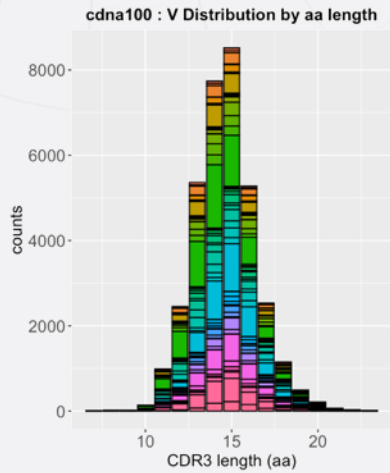
Pseudotime



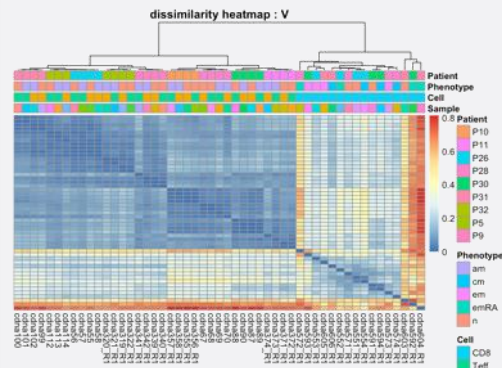
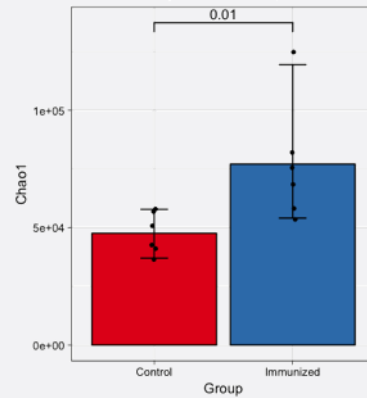


Structure analysis

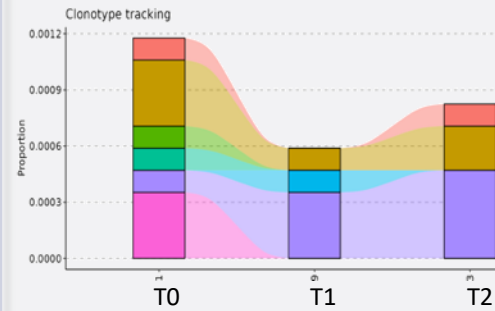
Spectratype



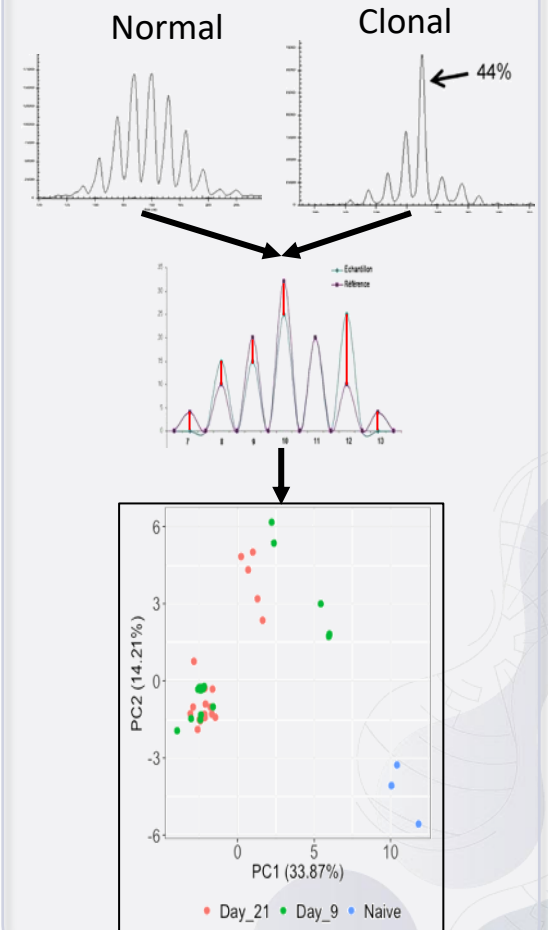
Diversity analysis



Clonotype tracking



Perturbation



How we work

We are a trusted partner for collaboration or research outsourcing

**Flexible
partnership**



Commercial Service Contract

Classic contract with customers
CRO respective subcontracting and/or co-marketing



AdHoc Collaboration

1-6 months service co-development



Extended Collaboration

Academic or Biotech Contracts
Resources synergies, corporate stake or Research Programs

Alliances & CRO Partnerships

keyrus
life science

PEPPERPRINT
A NEW DIVERSITY

BioLizard

*Proteomic
(undisclosed)*

PEPPERPRINT
A NEW DIVERSITY

*Phage Display
(undisclosed)*

*Organoids
(undisclosed)*

BIOTRIAL

A significant track record since the company inception in 2021...

- 10 publications 2021-2023, incl. Clinical Cancer Research in Renal Cancer
 - > €900 k grants secured; > €800K cash raising (dilutive and non dilutive)
 - Support from Paris Biotech Santé, a renowned incubator

Institutional support



Technological partners



Recent Missions & partners



Parean Biotechnologies

Thank you



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