

The background is a solid purple color. On the left side, there are several large, bright yellow geometric shapes: a horizontal bar with a pointed right end, and several other shapes that are triangles or quadrilaterals with one or two sides cut off, creating a jagged, abstract pattern. In the center-right, the text 'bespark * bio' is written in a bold, lowercase, sans-serif font. The asterisk is a stylized, multi-pointed star shape. Below the main title, the subtitle 'The Evolution of Process Development' is written in a smaller, bold, lowercase, sans-serif font.

bespark * bio

The Evolution
of Process Development

Advanced Process Development Solutions

To Transform Concepts into Production-Ready Processes

Viral Vectors & ATMPs



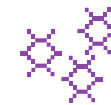
AAV & lentivirus
Oncolytic viruses
Vaccines

Biologics



Antibody modalities
Recombinant proteins

Bionanoparticles



VLPs
Extracellular vesicles

Core Services

We Empower Novel Biotherapeutics Throughout The Development Cycle



CMC STRATEGIES



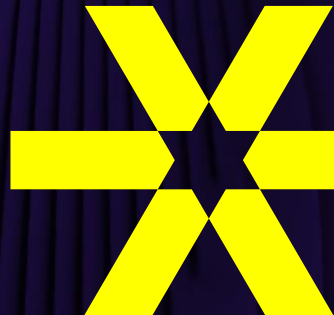
PROCESS
DEVELOPMENT



PROCESS
ANALYTICS

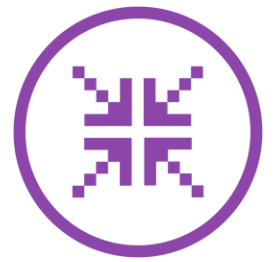


GMP
SUPPORT



CMC Strategies

We Define How Your Product will be Manufactured and Controlled



Roadmaps

- Integrated CMC roadmaps
- Development plans tailored to phase & modality
- Regulatory alignment

Process Control

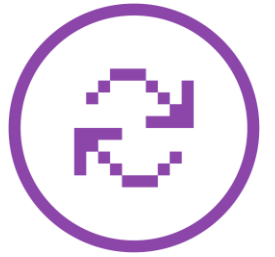
- Quality by Design (QbD) implementation
- Design of Experiments (DoE) for process optimization
- Control strategy design & implementation

Risk Mitigation

- Risk assessments
- Risk Management Plans

Process Development

We Design, Develop and Optimize your Manufacturing Process



Upstream

- Cell line selection, development & optimization
- Media screening & feed strategy definition
- Seed train & bioreactor process development

Downstream

- Clarification
- Purification
- Polishing

Optimization

- Yield, productivity & purity enhancement
- Robustness & scalability studies
- Data-driven modeling for large-scale performance

Characterization

- Establishment of scale-down models
- Data models for tech transfer
- Comparability studies & PPQ support

Scale-Up

- Static cultures (T flasks, cell stacks, etc)
- Suspension systems (shaker flasks, spinner flasks,)
- Bioreactor systems for suspension & microcarrier (0,1 to 50 L)

Production Cell Lines & Tailored Vectors

We Deliver Solutions Across Various Viral Families and Expression Platforms



Cell Lines

- HEK 293 (adherent & suspension) & CHO
- Vero, MDCK & MRC-5
- Additional immortalized cell lines on request
- Primary cell lines for cell therapy
- Insect cell lines (Sf9, HighFive, Tnms42)

Viruses

- DNA viruses
 - AAV, HSV, Vaccinia, MVA, Adenovirus, etc.
- RNA viruses
 - Rota virus, Measles, Influenza, NDV, VSV, Lentivirus, etc.
- Baculovirus platforms
 - Bac-to-Bac, MultiBac, BaculoGold

Bespoke Services

- Viral vector design (cassette design, safety features, payload optimization)
- Custom cell line generation (adherent, microcarrier, suspension)
- Production of non-GMP virus & protein material
- GMP starting material (cell banks, seed stocks)

Process Analytics

We Develop & Perform the Right Tests to Measure and Control Your Product



Product Characterization

- Identity, purity, potency, safety
- Full/empty capsid quantification
- Viral particle concentration
- Infectivity assays

Process Characterization

- Process impurities
(DNA, protein, host cell proteins, residuals)

Cell-Based Analytics

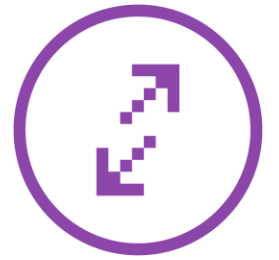
- Cell morphology & viability
- Metabolite profiling
- Intracellular & surface markers

Comparability & Stability

- Comparability studies (pre-/post-scale-up)
- Non-GMP stability & hold-time studies
- Analytical packages for tech transfer

GMP Support

We Provide a CDMO Network and Bridge to GMP Manufacturing



CDMO Selection

- Existing network of pre-qualified CDMOs
- Matching appropriate CDMOs to project needs (capacity, technology, regulatory scope)

Tech Transfer

- Technology transfer packages for GMP manufacturing (process descriptions, batch records, testing plans, etc)
- Interface between client & CDMO

On-site Support

- Manufacturing oversight
- Support during scale-up & deviations
- Trouble-shooting

State-of-the Art Infrastructure

We Guarantee Next-Level Process Development



200 m² BSL-2 process development suite

Capability to produce sterile, non-GMP pilot batches up to 50 L under controlled conditions

Capabilities in Upstream Bioprocessing

Large Capacity Reach-in CO₂ Incubator

CellSTACKs, orbital shakers, spinner flasks



Small Parallel Bioreactor System

4 x 0,35 - 1 L working volume



Medium Parallel Bioreactor System

2 x 0,35 - 10 L working volume



Large System Bioreactor System

13 - 50 L working volume



Capabilities in Downstream Bioprocessing

ÄKTA Go Purification System

Inside a BSC for
aseptic processing



ÄKTA Pure 150 Purification System

Including fraction
collector



Äkta Flux TFF System

Semiautomated
crossflow filtration



Alfa Wassermann PKII Ultracentrifuge

Pilot scale ultracentrifuge
(via partner)



Sample Projects

We Provide Tailored Solutions Across Different Development Stages

BIOTECH

CMC strategy development.

Purification process for Fc-fusion protein.

Upstream process for hybridoma cell line/CHO cell line.

Upstream & downstream process for oncolytic virus.

PHARMA

Scale-down models (100–1000 L) for antibody upstream process.

Evaluation of predictive process performance.

Robust scale translation.

CDMO

Proof-of-concept of a novel plasmid set for AAV production.

SUPPLIER

Proof-of-concept evaluation of a media additive in viral vector vaccine manufacturing process.

We Are More Than a Service Provider

What Our Clients Say



‘A snapshot of executional excellence’

Working with bespark*bio was a clear win. Their structured approach, robust analytics, and seamless communication turned a complex experimental setup into a smooth, insightful process.

Linda Gombos, Vice President MSAT, Biomay AG



‘A development partner who understands tech-driven scale-up’

Their ability to extract meaningful data and engage critically with our engineering concepts made them a standout partner. For any biotech innovating at the intersection of process and technology, bespark*bio is a team you want on your side.

Manfred Satzer, CEO & Peter Satzer, CTO, p4b GmbH



‘A forward-thinking and collaborative partnership’

Partnering with bespark*bio was a seamless extension of our innovation-driven work. Insights and technical discussions beyond what would typically be obtained from a service provider – this is bespark*bio. A true R&D collaborator, combining start-up agility with industry scientific rigor.

Francois Taute, Head of Technology, CellulaREvolution Ltd.



‘A critical thinking partner in CMC’

For us, CMC isn’t just about compliance – it is about building the foundation for real product development. bespark*bio didn’t offer off-the-shelf answers; they helped us shape a strategy tailored to our stage, our risks, and our ambitions.

Jochen Stritzker CSO/interim CEO & Simona Neubauer, COO, LoopLab Bio

The Team

Fundamental Pharma & Biotech Expertise



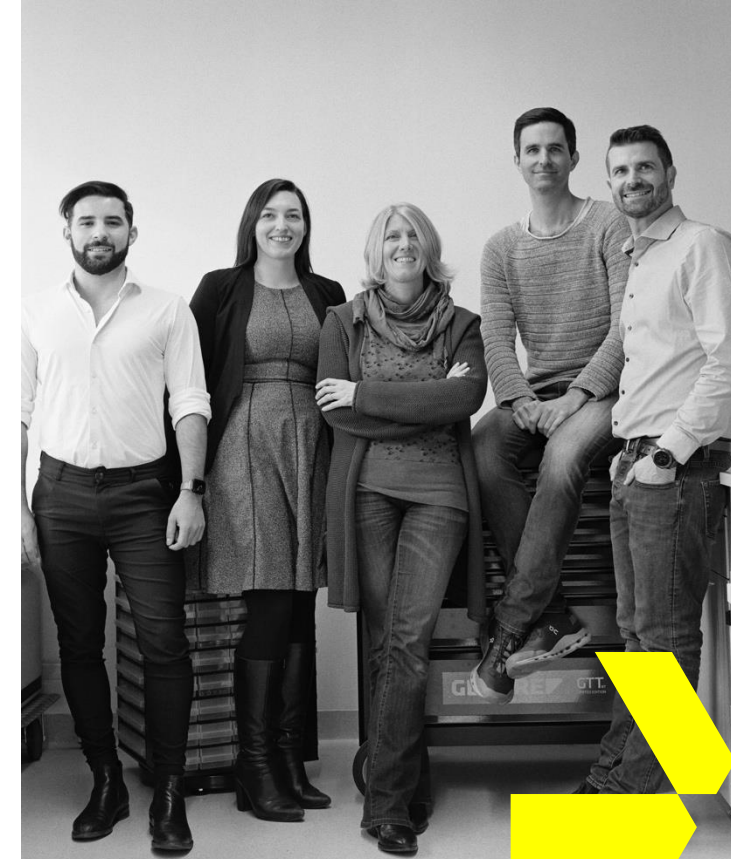
**Dr. Matthias
Müllner**
CEO



**Dr. Monika
Mangold**
COO



**Dr. Dieter
Palmberger**
CTO



22+ years

Process development
for biotherapeutics

10+ years

Commercialization
strategies

20+

Biotherapeutic
development projects
accomplished

6

Products brought to clinical
development
- one to phase III readiness

Thank You!

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