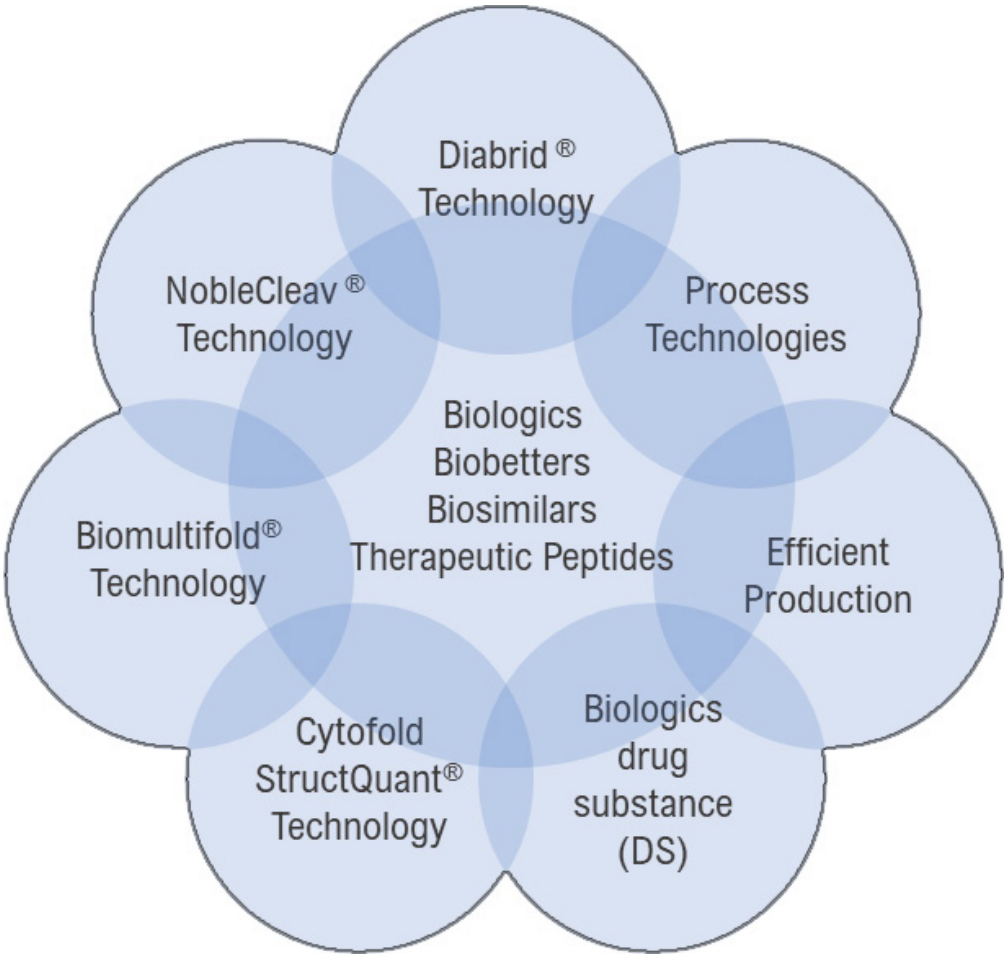
Paras Biopharmaceuticals Finland Oy

Paras Biopharmaceuticals Finland Oy

(Microbial Biologics CDMO, Biosimilars & Bioprocess Enzymes)



About
Paras Biopharmaceuticals Finland Oy

Paras Biopharmaceuticals is a fast-growing biopharmaceutical technology development company. Paras Biopharmaceuticals has successfully developed the propriety Diabrid® Technology Platform for the high-level expression of novel biologics/biosimilars and long therapeutic peptides in specially designed genetically stable clones.

Paras Biopharmaceuticals is specialized in design, development, and optimization of manufacturing technologies for therapeutic peptides and soon to be off patent biologics. The company is building a robust portfolio of propriety technologies and has developed extensive intellectual property. Paras Biopharmaceuticals engages in the development and improvement of biological processes and expression of recombinant proteins in *E. coli*, *P. pastoris*, and *S. cerevisiae*.

Paras Biopharmaceuticals is a venture started in 2012 by a team of scientists and technologists who have extensive research experience and skills in the development of biologics and biosimilar technologies. Paras Biopharmaceuticals generate value from innovative ideas based on scientific and technological excellence to achieve quality products.

Paras Biopharmaceuticals concept

Paras Biopharmaceuticals was established with the vision of using active synergy of academic expertise with proven industrial experience in bringing commercial scale protein production to market. Paras Biopharmaceuticals aims to bring workable innovative solutions to a range of problems. The business model for Paras Biopharmaceuticals is based on technology development for biosimilars and their out- licensing and work together in collaboration.

In Paras Biopharmaceuticals R&D we work on the principle “Why have complications, you can avoid?” Rational design of processes combining academic and industrial expertise means increased efficiency without compromising quality. At Paras Biopharmaceuticals, our ultimate objective is to use innovative scientific ideas to make healthcare more affordable.

Paras Biopharmaceuticals novel technologies

Paras Biopharmaceuticals has developed multiple novel technologies.

1. Diabrid® Technology
2. Noble Cleav® Technology
3. Biomultifold® Technology
4. Cytofold StructQuant® Technology

Paras Biopharmaceuticals biologics candidates / technologies offerings

Paras Biopharmaceuticals Finland is developing a number of product candidates under the following categories.

- Osteoporosis
- Rheumatoid Arthritis
- Metabolic Disorders (Diabetes)
- Oncology products

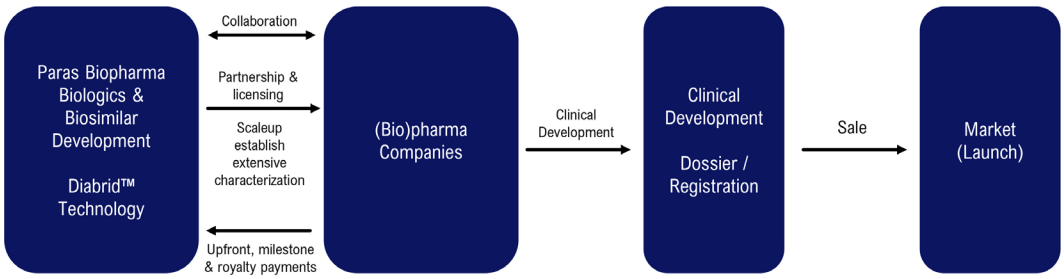
Paras Biopharma products are in an advanced stage of development. These include Teriparatide (osteoporosis), Anakinra (rheumatoid arthritis), and rapid acting insulin (Insulin Aspart). There are other products in the Paras Biopharmaceuticals’ pipeline.

Efficient production of biologics

Paras Biopharmaceuticals is using highly efficient production hosts including *E. coli*. Sales of proteins produced in prokaryotes e.g. *E. coli* have continued to increase. There are several advantages to use *E. coli* as host organism.

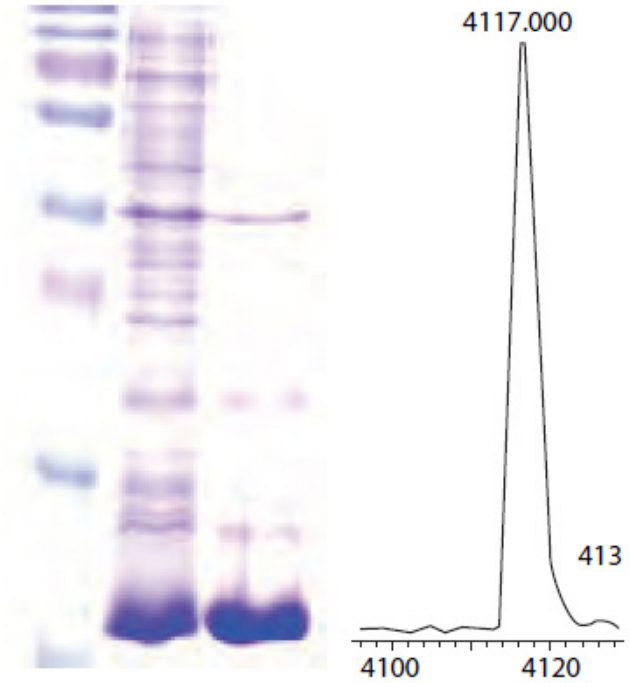
- Low cost
- Rapid growth
- High biomass
- Easy cultivation and manipulation
- FDA friendly

Paras Biopharmaceuticals Business Model



Paras Biopharma Product–Validation & Characterization

Paras Biopharma products are extensively characterized and validated. The SDS- PAGE and mass spectrometry analysis of the diabetes product and an osteoporosis product of Paras portfolio is shown below. Full fingerprinting of the protein includes validation of the appropriate primary, secondary and tertiary structures, control and validation of appropriate post translational modification and of quality and consistency of the initial expression through to the final product.



SDS- PAGE showing insulin analog production and MS data of Teriparatide

Technology Collaboration

Paras Biopharmaceuticals is actively looking for providing its core strengths to its partners to shorten the timelines to bring products to market. Paras Biopharma aims to provide very robust and optimized technology package including the following.

Reports on cloning, cell line (clone) development, media optimization, fermentation, scale-up, product optimization, purification development, analytical methods (detailed re- port, including MS/ proteomics) and product DS characterization.

Clone Development

Paras Biopharmaceuticals clone development is based on highly advanced and latest scientific and technological knowledge in codon utilization, sequence optimization plasmid selection, optimal strain selection, bioinformatics, oligo- synthesis, gene assembly, cloning, and the final product confirmation.

Core Strengths

- Codon optimization
- Detailed report on codon optimization
- Plasmid selection
- Documentation on clone development
- Sequences and product confirmations

Upstream Process Development

A robust upstream process development is critical in achieving the highest production efficiencies. This facilitates the greatest possible economic value and defines the feasibility of the commercial scale. Paras Biopharma team is highly experienced to provide exceptional process development to achieve the highest levels of production.

Core Strengths

- Selection and development of media in laboratory scale.
- Development of the most suitable process parameters for scale-up and large scale production.
- Achieving the best possible expression levels and production on the market today.

Purification Development

Paras Biopharmaceuticals utilizes highly advanced understanding of protein purification, thereby achieving the highest purification efficiencies and quality of the product. Paras Biopharma team have extensive experience of all chromatography columns and most advanced column packing systems. Our quality-by-design approach ensures process quality, robustness and cost savings.

Core strengths

- Resin screening for the highest yields.
- Minimize aggregation concepts in purification.
- Scale-up and scale-down approaches in determining the most economic outcome.
- Achieve the highest purification efficiencies.

Paras Biopharmaceuticals Finland Oy

For more details, write us to

Paras Biopharmaceuticals Finland Oy
Kiviharjunlenkki 10
90220 OULU, FINLAND

www.parasbiopharma.com
BD@parasbiopharma.com

Trademark

Biomultifold® Expression Technologies, Diabrid NobleClav® Technologies and Cytofold StructQuant® Protein Folding Technology are trademark of Paras Biopharmaceuticals Finland Oy.

Printed in Finland.