

Innovators of Diabrid NobleClev[®] Technology



Therapeutic Peptides | Novel Biologics DS | Domain Ab fragments

Paras Biopharmaceuticals Finland Oy

Recombinant Biologics CDMO, Biosimilars & Bioprocess Enzymes
(Recombinant Proteins in *E. coli*, *Pichia*, and *Saccharomyces*)

About the company

Paras Biopharmaceuticals Finland is a biopharmaceutical technology development company. Paras Biopharmaceuticals works on technology development for Biologics / biosimilars and long therapeutic peptides. The company has successfully developed propriety Diabrid® Platform Technology for high expression of Biologics / biosimilars in specially designed genetically stable clones. The technology enables very economical production of quality biologics at industrial scale.

Paras Biopharmaceuticals is a joint venture by a team of scientists and technologists who have extensive research and industry experience and skills in the development of biologics and biosimilar technologies. Paras Biopharmaceuticals Finland engages in the development of biological processes and production technologies of biosimilar (off-patent biologics) expressed in *E.coli*, *Pichia pastoris*, and *Saccharomyces*.

Paras Biopharmaceuticals has well-equipped manufacturing facilities and a highly experienced team which has excellent track record of recombinant protein production in a state-of-art facility for European and US customers.

Paras Biopharmaceuticals Finland offers technology packages for therapeutic peptides, Biologics, and biosimilar DS for scale up production in the following categories.

- Osteoporosis
- Rheumatoid Arthritis
- Diabetes
- Oncology

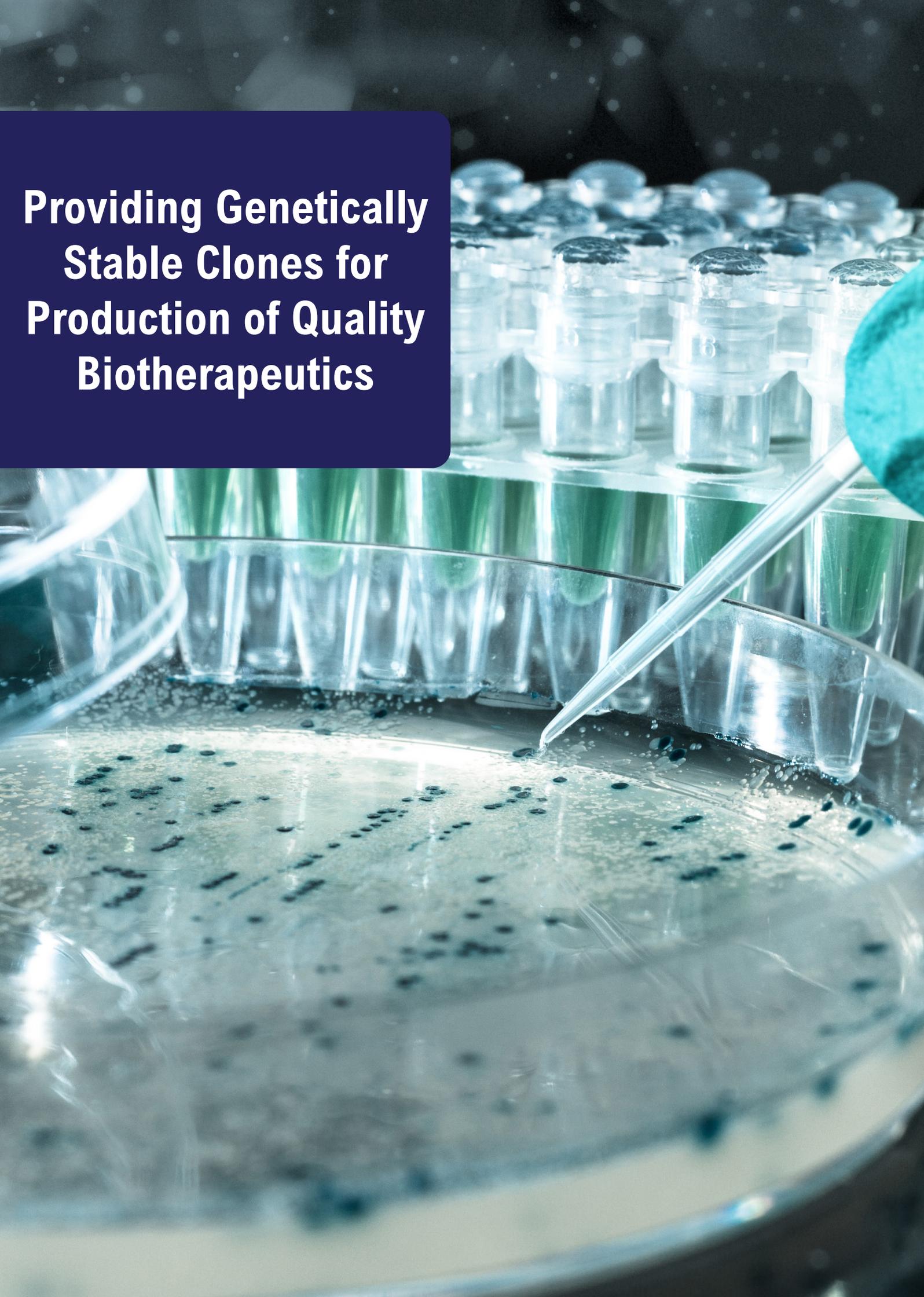


Paras target areas

Diabetes
Rheumatoid Arthritis
Osteoporosis
Oncology

All high-growth, high-value areas with multiple products coming off patent over the next 6 years.

**Providing Genetically
Stable Clones for
Production of Quality
Biotherapeutics**



Paras Biopharmaceuticals novel technologies

Paras Biopharmaceuticals has developed multiple novel technologies including:

1. Diabrid® technology
2. NobleCleav® technology
3. BioMultifold® technology
4. Cytofold StructQuant® technology

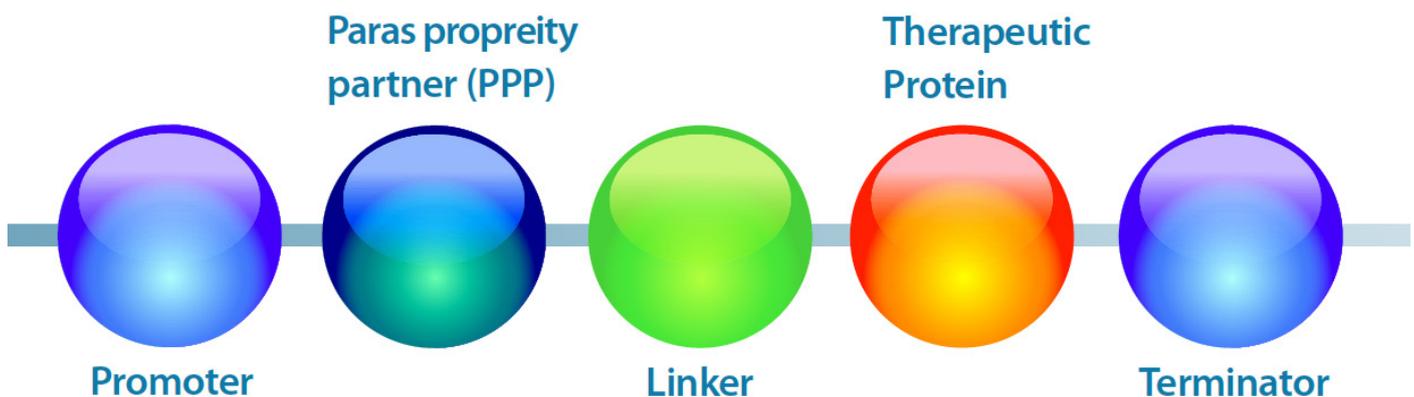
Diabrid® technology

Diabrid® Technology is a unique propriety technology for expression of recombinant therapeutic peptides and therapeutic proteins. The technology facilitates higher production of biologics in a manner that enhances the quality and bio-effectiveness of the molecules in addition to facilitating higher production. The technology also significantly brings down the cost of production of biologics. Diabrid® technology offers one of the most economical ways of producing quality biologics at industrial scale. Diabrid® Technology produces therapeutic peptides and Biosimilars / Biologics in a way that overcomes many limitations of traditional methods.

Advantage of Diabrid® Technology

Diabrid® Technology addresses two major problems in the recombinant biologics and therapeutic peptide industry:

1. Higher cost of biologics production
2. Large scale production of long therapeutic peptides which is very difficult (if not impossible) by chemical synthesis.



**Drug Substance &
Technology Package for
Scale-up Production of
Therapeutic Peptides and
Biosimilars / Novel Biologics**



Paras Biopharmaceuticals Finland Products

Diabetes (Analogue Insulin DS)

Paras Biopharmaceuticals Finland has developed a portfolio of diabetes products (DS) for type I and type II Diabetes Mellitus (DM). These include-

1. Biosimilar Rapid acting analog "Aspart" is produced with Paras Diabrid® Technology.
2. Biosimilar Long acting insulin "Glargine" is produced with High Expression Technology.

Rheumatoid arthritis (Biosimilar Candidate to Anakinra)

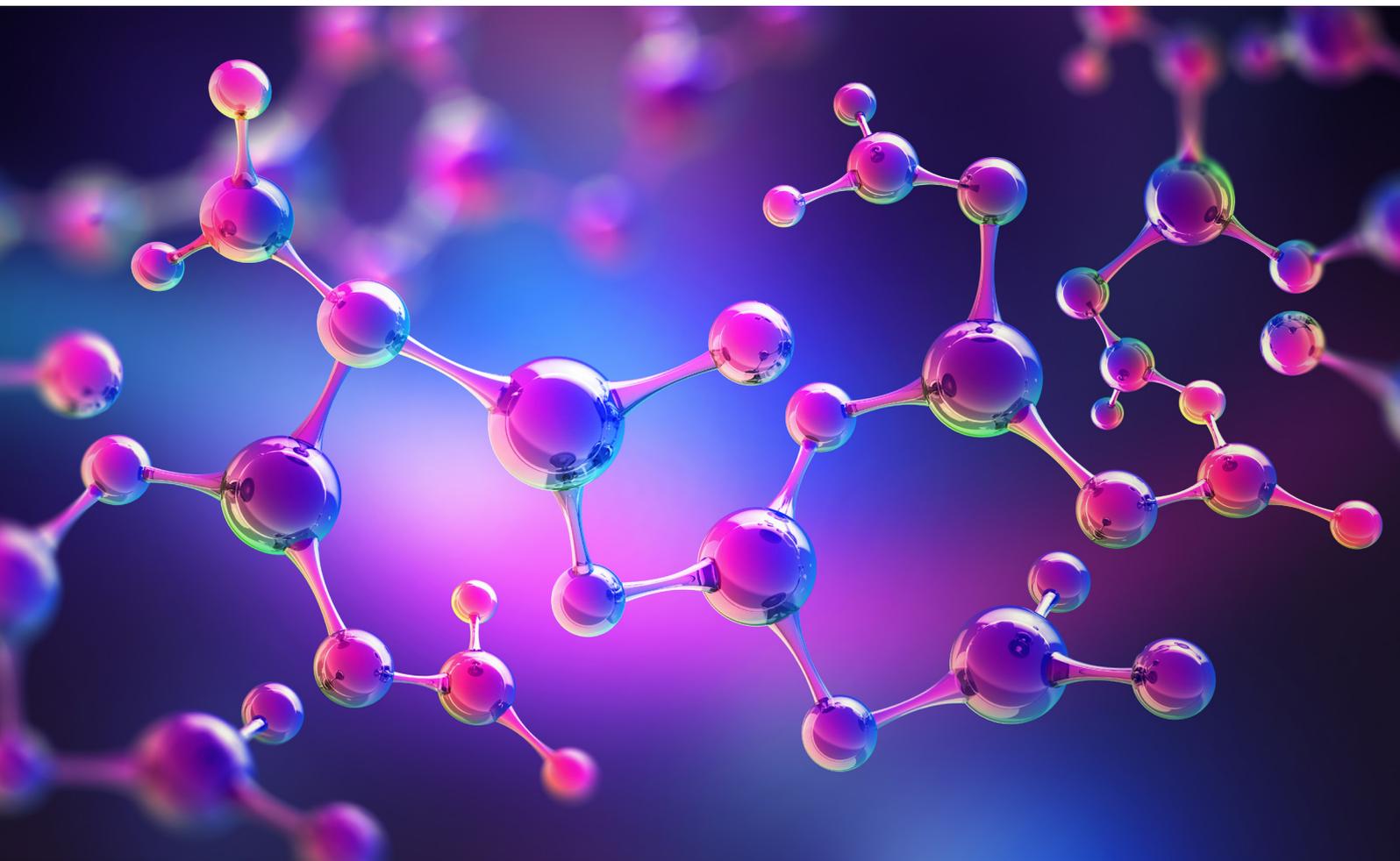
PB-RA-2010 is biosimilar candidate to Anakinra. It is a soon to be off patent product for Rheumatoid arthritis. PB-RA-2010 is a recombinant non-glycosylated version of IL-1RA produced in genetically modified *E.Coli* using recombinant DNA technology. It consists of 153 a.a. and possesses a molecular mass of 17.3 KDa. PB-RA-2010 is a biosimilar molecule that works as part of a group of recombinant products by blocking the biological activity of the IL-1 receptor. IL-1 is a key mediator of inflammation and a driver of auto inflammatory diseases in both adults and children.

Osteoporosis (Biosimilar Candidate to Teriparatide)

PB-Osteo-1010 is biosimilar candidate to Teriparatide, a recombinant form of the parathyroid hormone. Molecular weight of the final API is 4117 g/mol. PB-Osteo-1010 has been developed for use in post-menopausal women with osteoporosis possessing a high risk of fracture or with a history of osteoporosis fracture.

Biologics API -Technology Package

Paras Biopharmaceuticals Finland provides complete technology package for production of DS of recombinant Biologics / biosimilars. Technology package includes - Propriety designed robust production clones, reports on cloning, cell line (clone) development techniques, media optimization, fermentation, scale-up, product optimization, purification development, analytical methods (biosimilars fingerprinting with detailed report with MS/ proteomics) and product API characterization.



Paras Biopharmaceuticals' biologics candidates / technologies under development

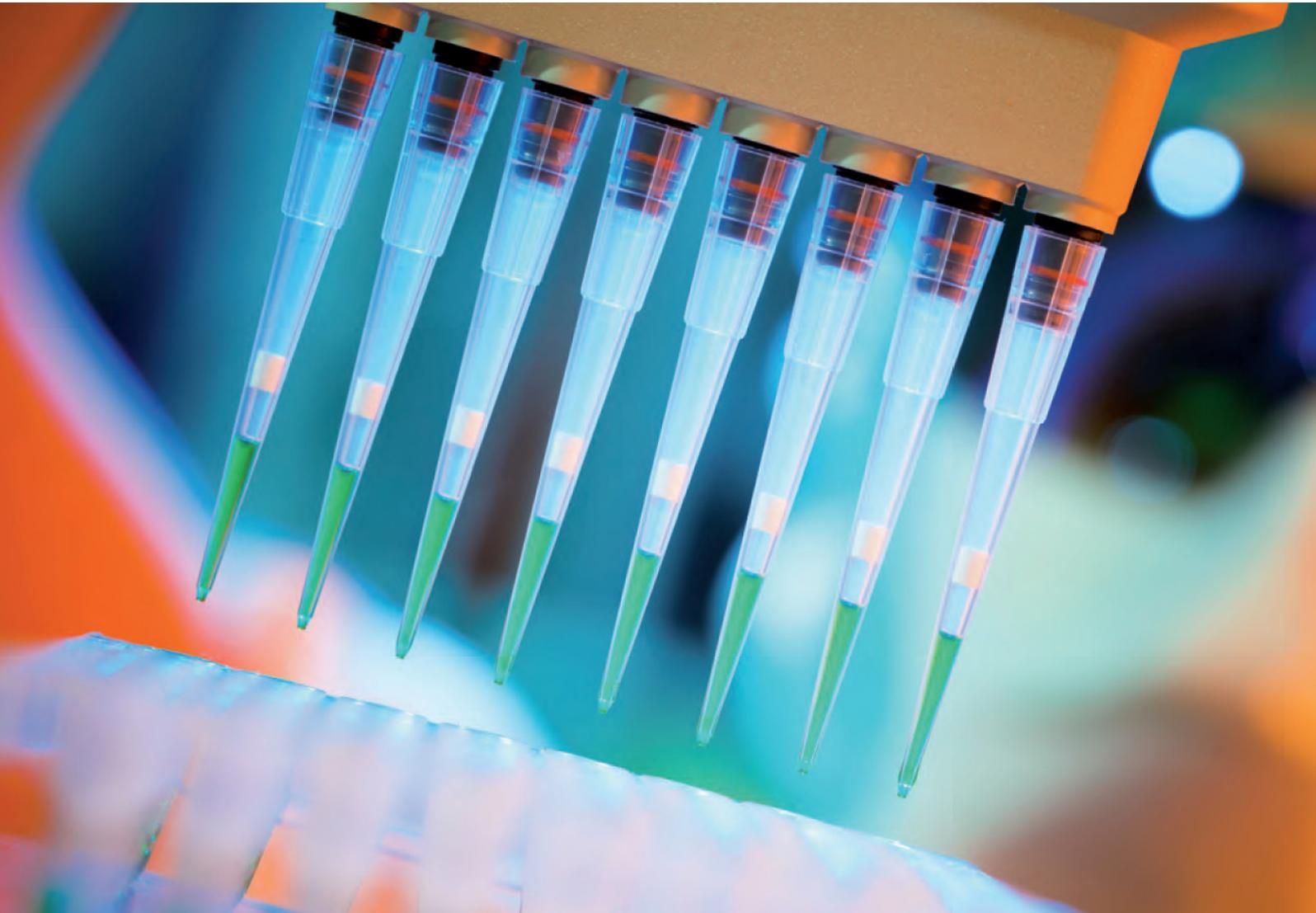
- Biosimilar candidate to Forteo® (Teriparatide)
- Biosimilar candidate to Kineret® (Anakinra)
- Biosimilar candidate to Novolog® (Insulin Aspart)
- Biosimilar candidate to Nplate® (Romiplostim)
- Biosimilar candidate to Elitek® (Rasburicase)

Disclaimer:

Products under patents are part of our research projects. These products may be offered for further development only in those countries where patents have expired. For the latest status, please contact Paras Biopharmaceuticals Finland Oy.

Forteo®, Kineret®, Elitek®, Nplate®, and Novolog® are registered trademarks of/marketed by Eli Lilly, Sobi/Amgen, Sanofi, Amgen, and Novo Nordisk respectively.





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