



Benta Biotechnology Unit

A Better Life Beyond Technology



Innovation For Patient Care

Benta has adopted cutting-edge technology to establish a state - of - the - art biotechnological facility, one of the few facilities of its kind in the region.

This unit can produce small and large scale therapeutic proteins derived from bacterial and mammalian cell lines.



State – Of – The – Art Manufacturing

Classified (A, C and D) and segregated areas have been dedicated to ensure quality manufacturing of recombinant and biological products as per the Good Manufacturing practices and International regulations:

- Research and Development
- Advanced Molecular Biology
- Bio-Analytical Quality Control Laboratories
- Buffer and Media Preparation
- Cell Culture and Fermentation
- Purification and Product Recovery
- Formulation and Filling Processes



Upstream, Downstream and Bio -Analytical Equipment

- Digital Molecular Imager
- AKTA Fast Protein Liquid Chromatography Systems
- 18 High Performance Liquid Chromatography (HPLC) Systems
- 3 Capillary Electrophoresis Machines
- 1D and 2D Electrophoresis Systems
- Multi- Functional Microplate Readers
- 6 Bioreactors and Fermenters (up to 150 Litres)
- Laboratory and Large Scale Proflux A60- Tangential Flow Filtration Systems
- Single – Use Mixing Systems
- Gradient Mastercyclers
- Ultra Centrifuges
- 8 Laminar Flow and Safety Cabinets
- Ultrasonic Sonifier
- Water for Injection System
- Gas Chromatography System



Our Biotech & Biological Products

- **Epotex** - Recombinant Human Erythropoietin
- **Neograstim** - Filgrastim (rHuG-CSF)
- **PEGrastim** – Pegfilgrastim
- **Becaplex** - Becaplermin (rHPDGF)
- **Prolog**- Insulin Lispro
- **Insunorm** - Insulin, Recombinant Human DNA origin
- **Glartus** - Recombinant Insulin Glargine
- **Parinox** - Enoxaparin sodium
- **Bevita** - Interferon beta 1-a
- **Rhesimune** - Anti - Rho D
- **Fertimon** - Recombinant FSH
- **Mabtin** - Trastuzumab
- **Recofact VII** - Eptacog alfa- a recombinant blood coagulation factor VIIa
- **Recofact VIII** - Moroctocog alfa-recombinant blood coagulation factor VIII with remote B domain



Cell Therapy

At BPI, medical breakthroughs and improving human wellbeing are at the heart of our values. Under the umbrella of Benta Encapsulife, we have developed biocompatible capsules for cell therapy through a biotechnology process.

The advanced living-cell encapsulation technology will allow the implementation of all types of cells into the human body without the usage of immunosuppressant drugs which will allow the treatment of many human diseases.

Our first capsule will be dedicated to the treatment of diabetic patients using encapsulated *B*-islets; This innovative technology was awarded a U.S patent for the world's first living-cell, bio-artificial organ to address multiple disorders.



Non – Invasive Sample Collection

BPI has embarked with many pioneering biotechnology projects; BPI has introduced MAWI DNA Technologies' Next Generation of Non-Invasive Sample Collection (iSWAB).

The revolutionary iSWAB product is a one of a kind Buccal Cells based DNA sample collection kit which rivals blood in term of delivery.

- Samples can be collected from any population segment including infants and elderly
- iSWAB tubes, unlike blood can be stored for years at room temperature without any sample degeneration
- Unlike existing swab based methods, iSWAB tubes are discarded after use not returned to the lab

BPI has also introduced a new Cell Line Transport system that can collect and transport viable cells up to four weeks without the need for storage in any freezing media or dry ice/ Nitrogen container.

Protein, RNA & DNA Preservation

BPI also provide in-house full service diagnostic tests and analysis for a wide spectrum of applications:

- HLA Testing
- Molecular Diagnostics
- Predisposition Diagnosis
- Nuclease Protection Assays
- RNA-seq
- Proteomics
- PCR
- Genotyping
- Gene Expression
- Immuno-Assays
- Pharmacogenomics
- Micro Arrays
- cDNA Library Construction
- Personalized Medicine and Epidemiology
- Preimplantation Genetic Diagnosis





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