

Introduction to Aryogen

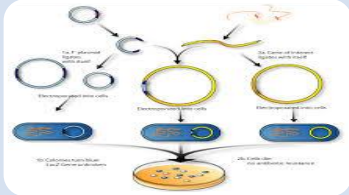


Overview

- Established in 2009
- First Market Authorization in 2012
- 40 million EURO start-up investment

- 22,000 m² Land Area
- 13,000 m² Production facility
- 4,400 m² Cleanrooms

R&D; Drug Development



EXPRESSION TECHNOLOGY

- High expression vector
- High expression cell selection
- GMP Cell Banking

Cell Growth Technology

- High concentration cell culture
- Feeding strategy
- Glycosylation control

Purification Technology

- High efficiency
- High Purity

Analytical Methods Technology

- Analysis development for determining the variants
- Comparability analysis

Development of manufacturing Process

Cell line Development

Upstream process establishment

Downstream process establishment

Specification establishment

Facility

- **API Production Capabilities:**

- Two Production lines (each 1,100 m²):
 - Recombinant Protein with Roller Bottle Culture System (RC)
 - Monoclonal Antibodies with Bioreactor Culture System (CC)
4,600 L up to 12,000 L Bioreactor



- **Finished Product Manufacturing Capabilities:**
 - Two Lines:
 - Vial Filling Line (From 0.5 ml to 50 ml)
 - Pre-filled Syringe Line (Up to 1 ml)



Products

AryoSeven (rFactor VIIa)



Zytux (Rituximab)



Altebrel (Etanercept)



AryoTrust (Trastuzumab)



Collaborations

- University of Applied Science & Technology, Iran



- Fraunhofer Institute, IGB, Germany



- UGA Biopharma, Germany



- Protagen Protein Service



- Pasteur Institute of Iran



- University of Loyola, USA



- University of York

