



KEMWELL

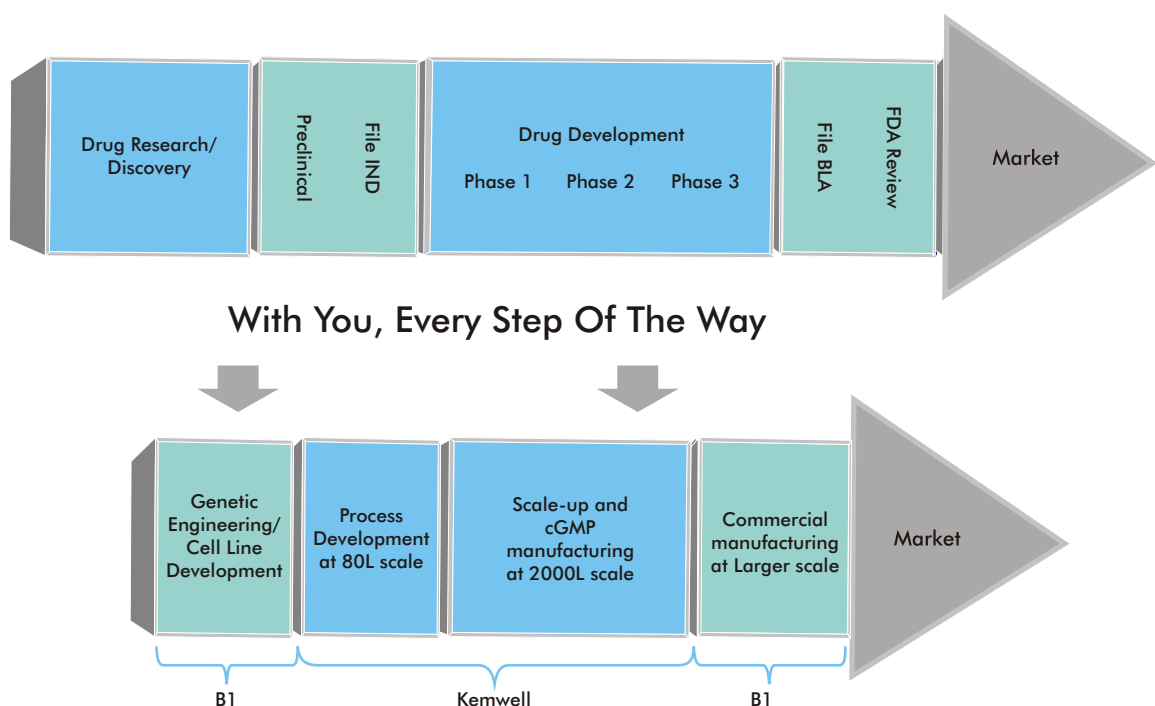
Trust over 20 years of experience
in contract manufacturing

Kemwell to build a biopharmaceutical manufacturing facility in Bangalore, India

Kemwell Biopharma will offer services ranging from full-service process development, manufacture, formulation and fill & finish at the cGMP manufacturing facility in Bangalore, India as a one-stop-shop through access to Boehringer Ingelheim's cell line development with the BI HEX[®] technology platform, followed by a preferred access to the large-scale commercial production of Boehringer Ingelheim at its facilities in Europe. With this cooperation, Kemwell and Boehringer Ingelheim will provide the customer with state-of-the-art technology from Europe along with the benefit of low cost manufacturing from India.

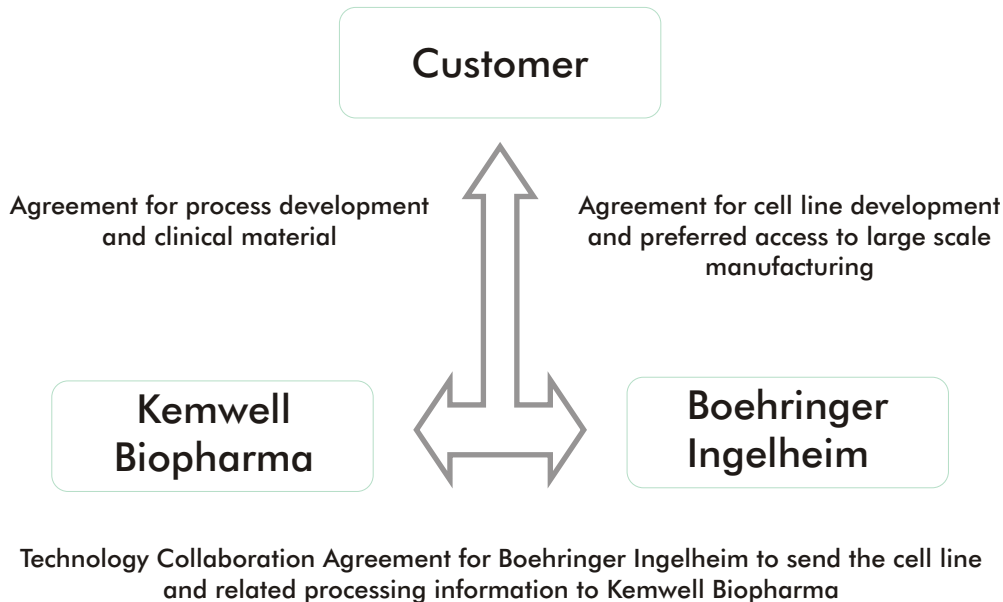
Process technology will originate from Boehringer Ingelheim and equipments in upstream and downstream in the new facility will comply with Boehringer Ingelheim's manufacturing technology. This will ensure seamless and quick technology transfer and scale-up between Kemwell's small scale and Boehringer Ingelheim's large scale manufacturing facility to reduce time to market for the customer.

The new Kemwell Biopharma 15,000 sq mt facility will be designed for process development, production, purification and formulation of biologics for early-phase preclinical and clinical studies. The facility will consist of a cGMP drug substance manufacturing facility and a sterile fill and finish facility for drug product with a floor for process development laboratories to support production of protein therapeutics from mammalian-cell culture or microbial fermentation.



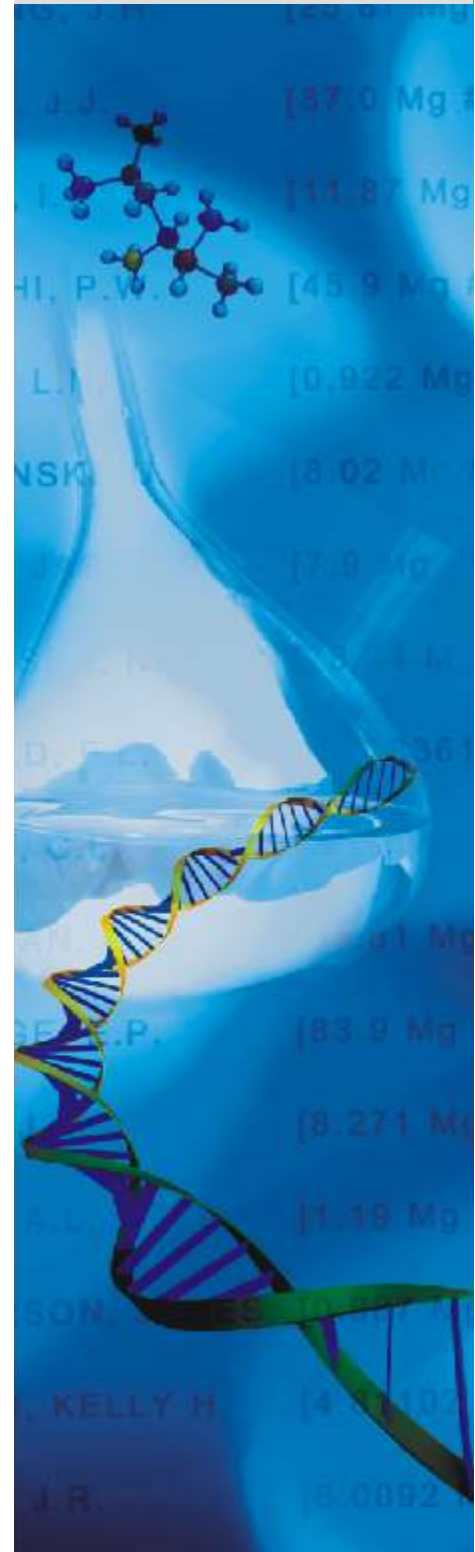
In a strategic collaboration with Boehringer Ingelheim, Germany

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Advantage Kemwell Biopharma

- Seamless transfers between Boehringer Ingelheim and Kemwell
- State-of-the-art technology
 - Speed to market
 - Competitive Pricing



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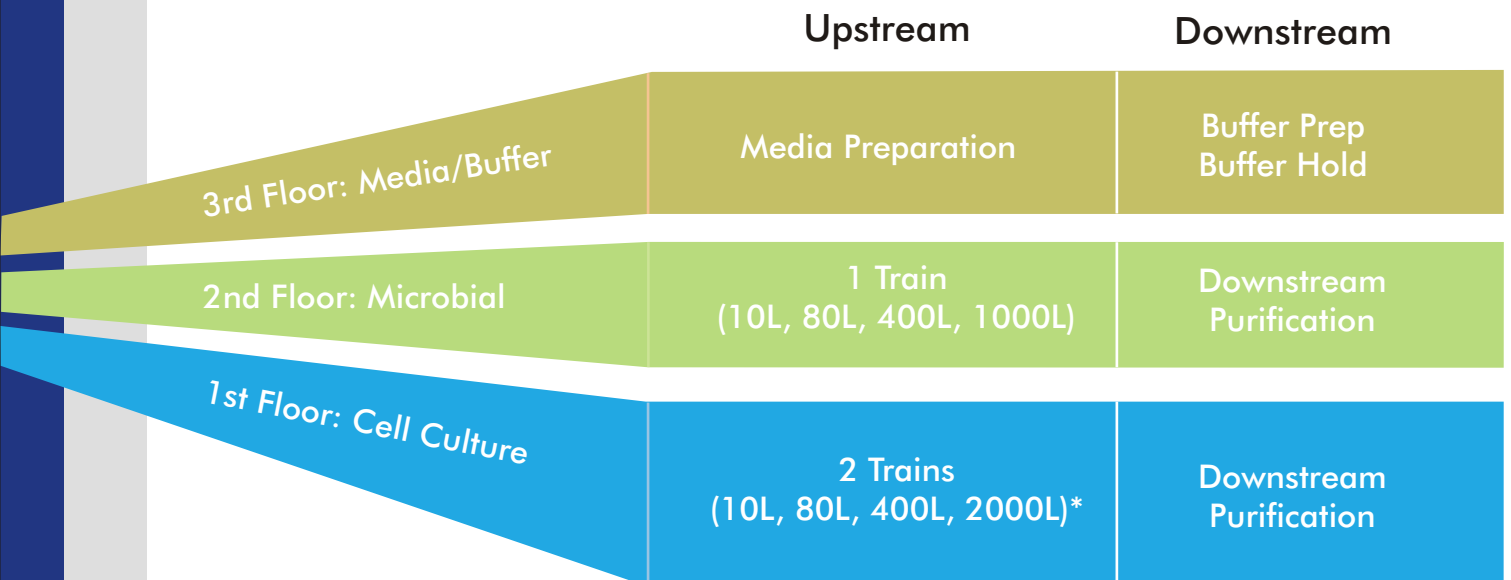
Upstream

Fermentation

- Fermentation for microbial and cell culture
- cGMP cell banking
- Inoculum areas
- Microbial fermentation up to 1000L
- Cell culture bioreactors up to 2000L
- Train of bioreactors (10L, 80L, 400L, 1000L/ 2000L)
 - Stainless steel
 - Fully automated eradicates human error
 - Specifications same as Boehringer Ingelheim's bioreactors/fermentors to ease tech transfer
 - Scalable from 80L (research and non-clinical lots) to 2,000L (cGMP manufacturing for clinical lots) to 12,000L (in Boehringer Ingelheim's plant)

Harvesting

- Centrifuge and depth/sterile filtration



*includes 1 train for future expansion

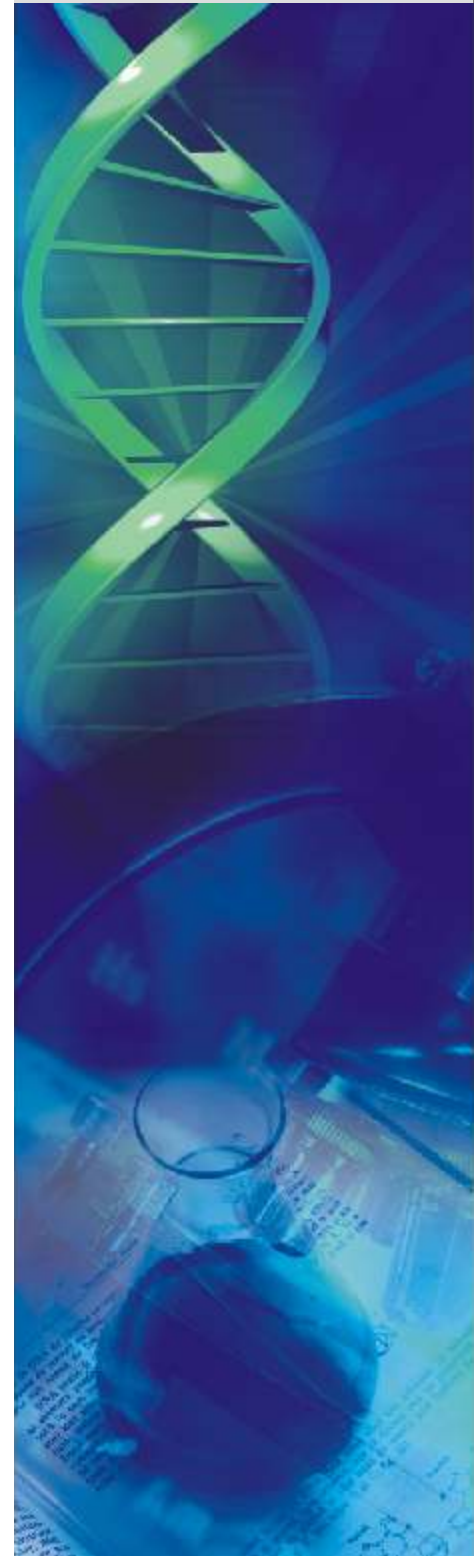
Downstream

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Purification

- Flexible layout to accommodate different processes
- Multiple chromatography and cross-flow filtration steps possible
- Columns of various diameters
- Virus inactivation and virus filtration
- Sterile filtration

Our processes are state-of-the-art
and can be customized
to serve your needs

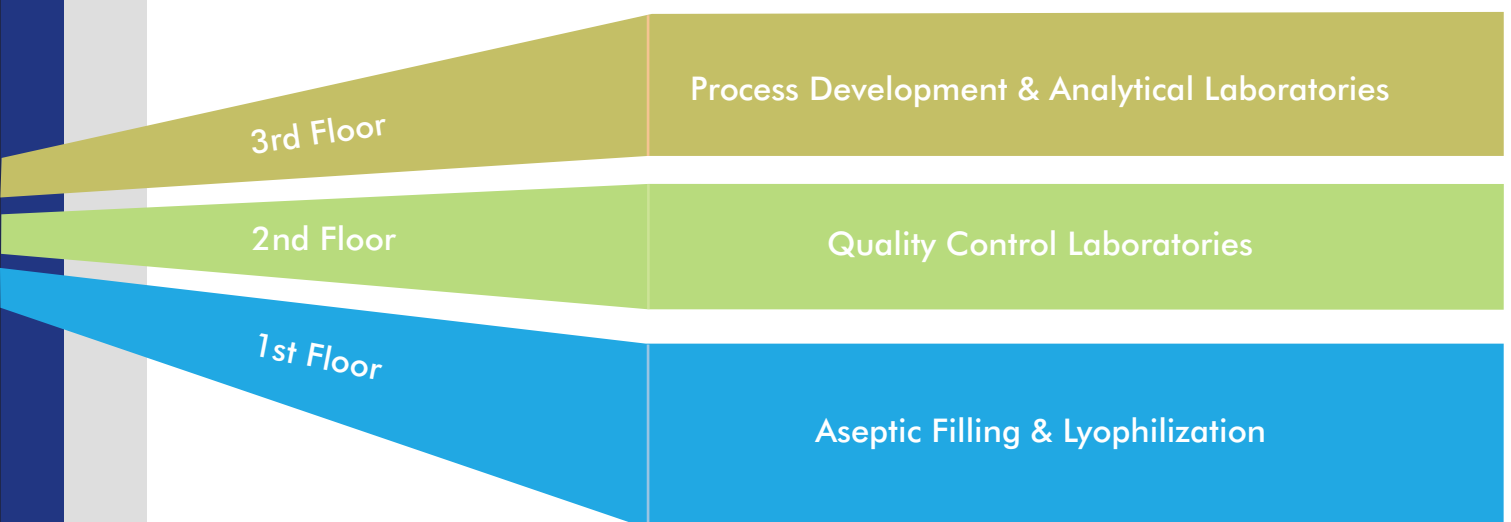


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Process Development Laboratories

We offer modern facilities and depth of experience to develop cost-effective and robust upstream and downstream processes for microbial and mammalian cell culture technologies

- Separate laboratories for microbial and cell culture process development as per GLP standards
- Material for research and pre-clinical studies
- Scale-up to 80L
- Equipment similar to cGMP plant



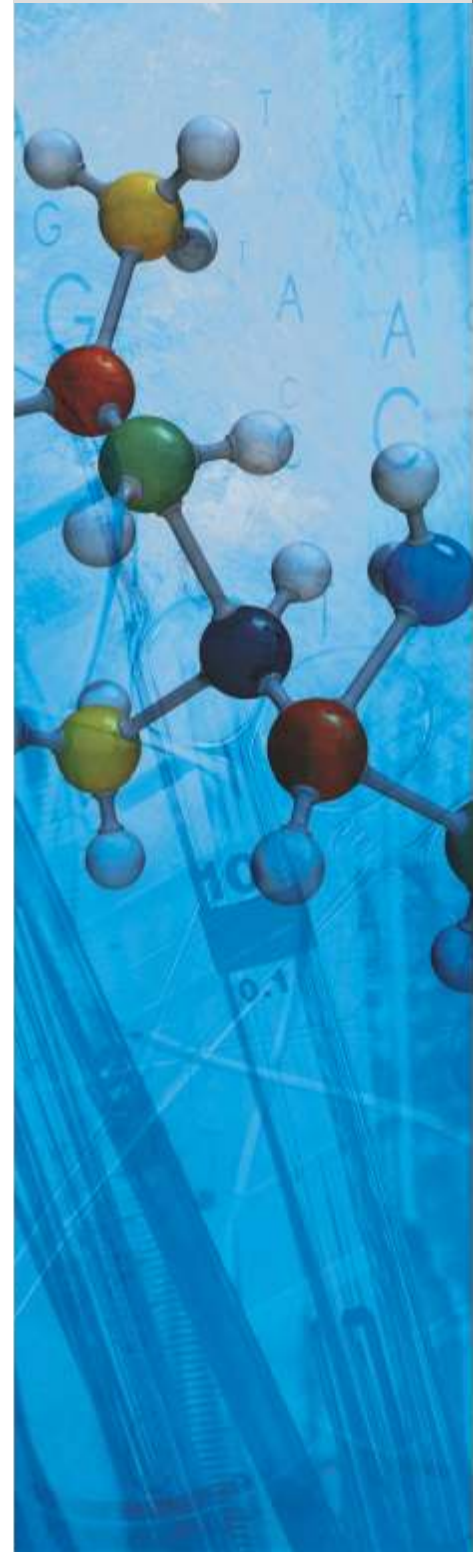
Aseptic Filling and Lyophilization

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We can service all your needs ranging from formulations development to aseptic filling and lyophilization in vials, to packaging of clinical trial supplies

- Vial filling and lyophilization capabilities
- Separate blending and filtration rooms
- Fill volumes from 2ml to 20ml
- Capacity of 30,000 vials per batch (4ml fills)

Our goal is to deliver to every client
quality service, every time



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About Us



The Boehringer Ingelheim group is one of the world's 20 leading pharmaceutical companies. Headquartered in Ingelheim, Germany, it operates globally with 138 affiliates in 47 countries and nearly 41,300 employees. Since it was founded in 1885, the family-owned company has been committed to researching, developing, manufacturing and marketing novel products of high therapeutic value for human and veterinary medicine. Boehringer Ingelheim has more than 25 years experience in biopharmaceutical development and manufacturing with a track record of 14 products brought to the market. The two manufacturing sites in Germany and in Austria are approved by the major authorities FDA, EMEA and MHLW and can supply the global market.

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Kemwell is one of India's leading providers of contract manufacturing and development services for pharmaceutical products for over 20 years. Operating four manufacturing facilities in India and one in Sweden, Kemwell employs over 1000 people and maintains a 100% commitment to pure-play contract services. Kemwell's customers include blue-chip pharmaceutical companies such as Bayer, GlaxoSmithKline, Johnson & Johnson, Novartis and Pfizer.



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