REFERENCE PROJECT

BIOMEVA MANUFACTURING

Development of a qualification and validation concept in the fermentative production of biopharmaceuticals

BIOMEVA GmbH

Customer Profile

BIOMEVA GmbH is a contract manufacturer of biopharmaceuticals and serves customers worldwide according to international standards. Active ingredients for the pharmaceutical and biotechnology industries have been produced at the company headquarters in Heidelberg since 1993 – in fermentation plants with a working volume of up to 1,000 litres. Starting with production, the activities extend from cell banks to microbial fermentation to the purification of proteins. Established in-house analytical laboratories complete the range of services. Consistent implementation and compliance with European and US GMP directives is assured along the entire process chain.

The Project

In the course of planned approval for a pharmaceutical finished product in the market regulated by the US FDA, gempex GmbH conducted validation activities for a pharmaceutical active substance precursor at BIOMEVA. The active substance precursor consists of inclusion bodies (IBs) produced from genetically modified E. coli bacteria. The production process breaks down into the starter culture, main culture, harvesting and cell disruption steps as well as various washing steps with final drying. GMP-compliant production of the active substance precursor was required by regulation and the customer.
gempex GmbH was commissioned to submit, coordinate and subsequently implement a comprehensive qualification and validation concept. This included qualification of the manufacturing plants and facilities as well as validation of the manufacturing process and cleaning procedures.

The Task

The situation at BIOMEVA was reviewed and assessed with the help of a target/actual analysis. Based on the results, a validation concept was introduced that outlined and organised all qualification and validation activities required for implementation in a master plan. Risk analyses for production, cleaning and facilities/equipment were prepared, moderated and documented, and all required specifications were defined for the subsequent qualification (retrospective/prospective) and cleaning validation (prospective).

The Realisation

A special challenge was to plan and correspondingly realise the qualification and validation activities in the course of continuous, ongoing production. Among other things, parts of the manufacturing plant that had developed over time were adapted to the applicable requirements as well. Business operations were hardly affected at all thanks to systematic and efficient realisation. The participation of BIOMEVA's customer in all validation team meetings was another challenge. Constructive solutions were found through systematic moderation, even in case of differing interests. Improvements in the production processes were even generated and implemented as a result of the discussions in some cases. Thanks to good cooperation in the validation team, the conclusion of the validation activities was considered a complete success by all participants.

gempex GmbH supports leading companies in the chemical and pharmaceutical industries with the implementation of quality requirements according to GMP, GLP, DIN ISO 9000 and comparable quality assurance systems. Main activities are consulting and the professional execution of validation and qualification projects, including consultancy during design, construction and reconstruction of facilities. This includes ongoing support in all questions concerning the running GMP production plant.

Key Performance

- *Target / Actual Analysis*
- *Validation Concept*
- *Risk Analysis*
- *Retrospective Qualification*
- *DQ, IQ, OQ, PQ*
- *Cleaning Validation*
- *Process Validation*
- *Training*
- *Fermenter, centrifuge, homogenisator, utilities*
- *Multi-Product-Plant*
- *API, Biotechnology*